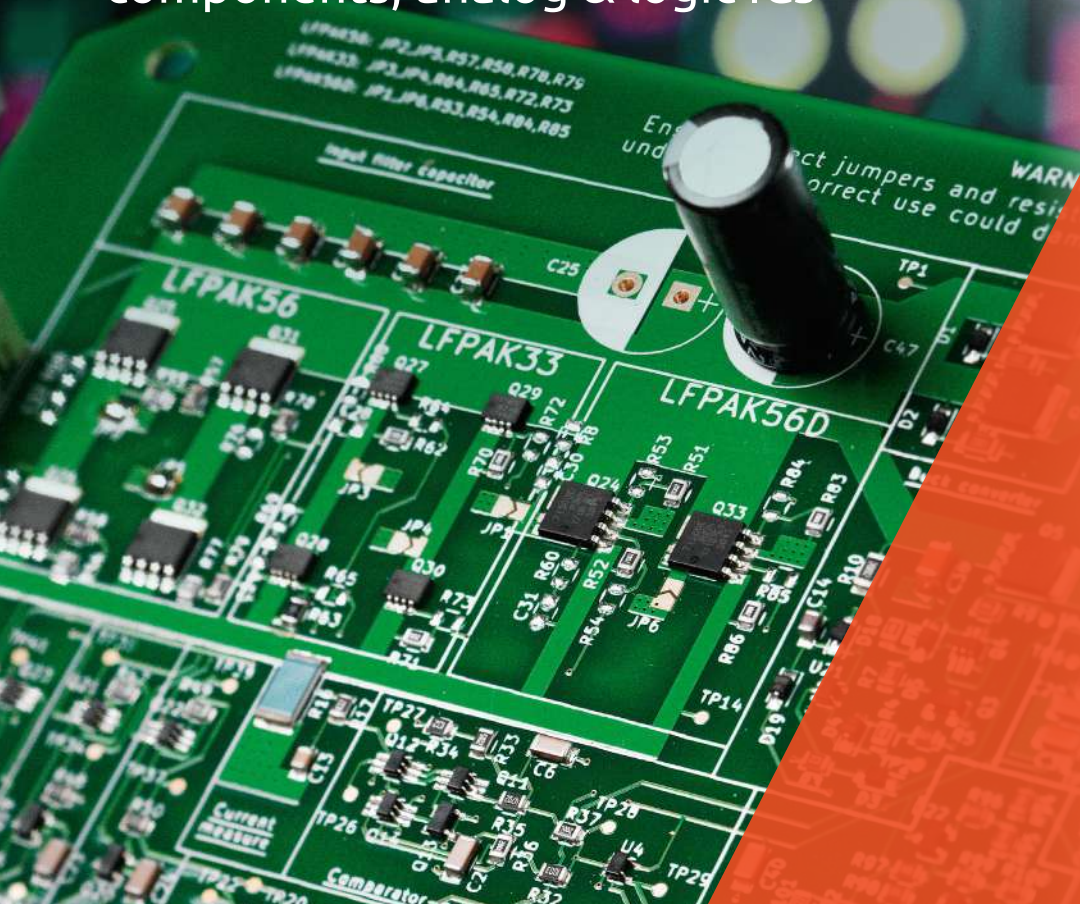


# Selection Guide

## 2022

Discrete, MOSFET and GaN FET components, analog & logic ICs



nexperia

EFFICIENCY WINS.

# MORE EXPERTISE



Bipolar transistors



Diodes



ESD protection, TVS, filtering and signal conditioning



MOSFETS



Analog & logic ICs



Power GaN FETs

Every piece of electronics in the world can benefit from Nexperia efficiency. That's every design, from the simplest phone charger or light switch to the most complex hybrid automobile. Efficiency means we produce the world's most essential semiconductors, the finishing touches that empower electronic designs everywhere. That's all we do, **more or less.**



LESS COMPLEXITY



# Introduction

Welcome to the 2022 edition of the Nexperia Selection Guide. Here we present all our discrete, MOSFET and GaN FET components, and analog & logic ICs in one single document to give you a complete overview of our portfolio. It includes as well the first components of the upcoming SiC Schottky diode portfolio. We hope that makes it even easier for you to find the right product for your design.

Our extensive portfolio offers a wide range of general purpose devices and those that meet the stringent standards set by the automotive industry. They are housed in some of the most advanced, industry-leading small packages that combine power and thermal efficiency with best-in-class quality levels.

Alongside quality and efficiency, Nexperia customers value reliability and a consistent supply they can trust. We produce consistently reliable semiconductor components at high volume (Over 100 billion annually) and we work at every step to safeguard the long-term availability of our manufacturing processes and products, to ensure secure supply for all our customers.

We have a long history and broad experience. That ensures we can support you with the dedicated in-house technical support you need - from simplifying selection via quick-reference material to simple-to-use design tools and application insights. All to help drive up efficiency in your designs.

## All the functionality you need in one spot

Just like on our website, you will find the Selection Guide is split into our six key product areas. There is also a dedicated section on packages, highlighting the latest package innovations and packing options.

### Bipolar transistors

- › Resistor-equipped, low  $V_{CEsat}$  and small-signal transistors
- › Standard SMD, leadless and clip-bond packages

### Diodes

- › Broad choice of Zener, Schottky and switching diodes
- › Ultra-small, low-profile surface-mount package options
- › SiC Schottky diodes in surface-mount and through hole package options

### ESD protection, filtering and signal conditioning

- › Extensive range of protection in ultra-small form factors
- › Optimized for signal integrity, robustness and system protection

### MOSFETs

- › Low  $R_{DS(on)}$  devices from < 20 V to > 200 V
- › True power packages with solid wireless -clip for smart efficiency

### Power GaN FETs

- › Efficient and effective high-power FETs at 650 V
- › Industry-standard TO-247 and copper-clip surface mount package technology, CCPAK

### Analog & logic ICs

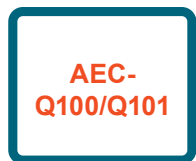
- › Comprehensive portfolio operating from 0.7 V to 15.0 V
- › Unrivalled package innovation and lowest power logic solutions

### Packages

- › The next generation of packaging for volume production
- › Package cross-reference and packing options

As an innovative company we are continually adding to our product portfolio, so to discover all our latest product information you should visit our website – [www.nexperia.com](http://www.nexperia.com)

# Our commitment: quality and reliability



## AEC-Q100/Q101 qualified

We qualify our products according to the automotive AEC-Q100/Q101 standard and even exceed its requirements, for instance when doing extended lifetime testing.



## Go for quality

All our processes and manufacturing plants are subject to regular international and internal audits, including the following:

- › ISO9001
- › IATF 16949 for automotive sites
- › ISO14001
- › OHSAS18001



## Design for excellence

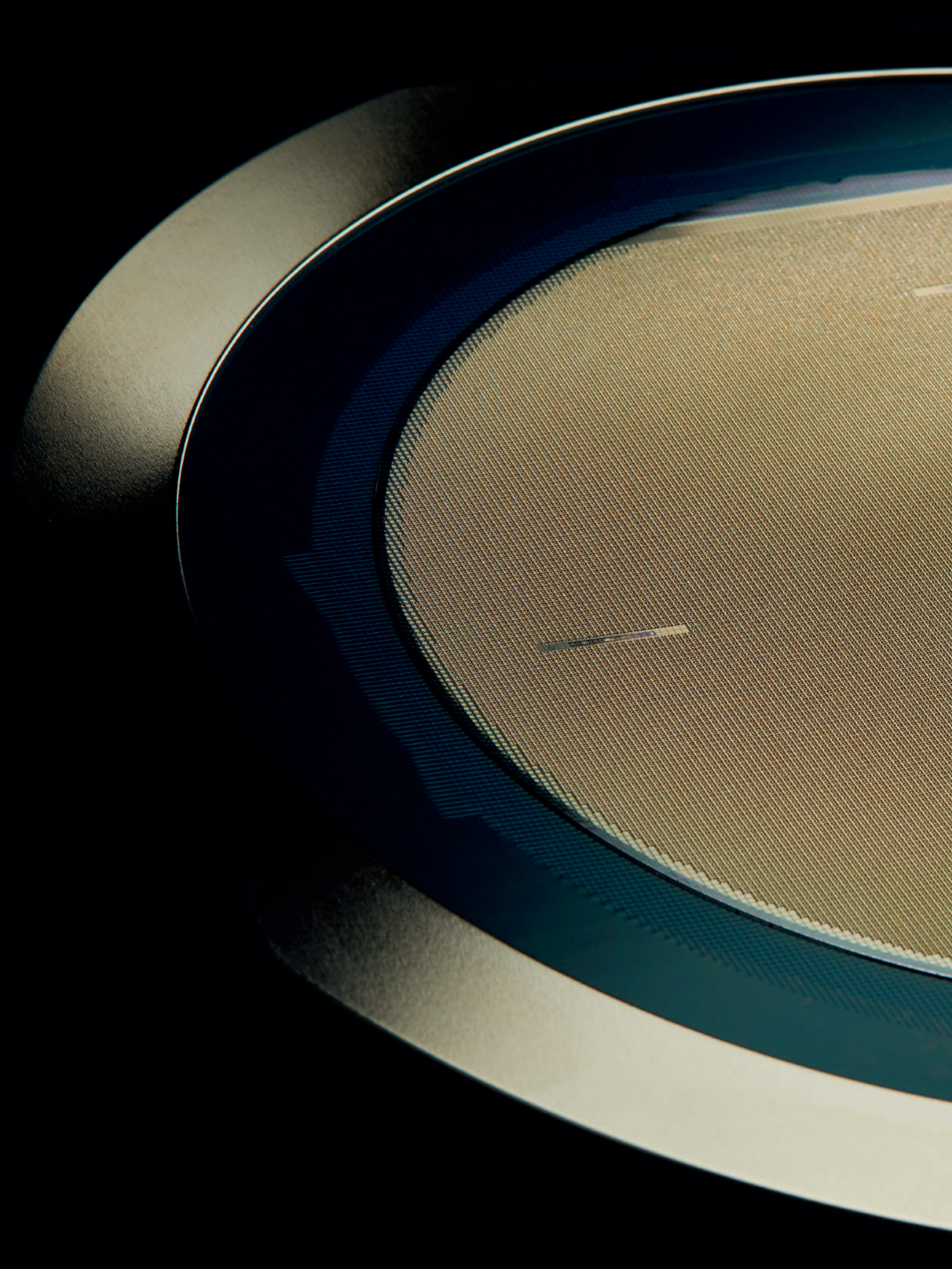
Nexperia's Design for Excellence (DfX) program ensures that each new development builds on past learning and that best practices are always employed. The result is continual product improvement.



## Zero defects

Zero defects is our standard through the organisation. A rigorous 8-discipline approach and thorough 5-why analysis ensure strong improvements are constantly made to our products and processes.

**Rigorous attention to detail and commitment to quality have yielded a very low product failure rate of a single-digit part per billion (ppb).**



# Selection Guide 2022

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## New products

As an innovative company we invest significantly in R&D, and continually expand our portfolio with the latest generation of technology and products. Here is a snapshot of our most recent releases, but don't forget to visit the website for the most up-to-date information - [www.nexperia.com](http://www.nexperia.com)

## Bipolar transistors

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General purpose bipolar transistors	<b>MJD41C(-Q)</b>	100 V, 6 A NPN high power bipolar transistor	<b>26</b>
	<b>MJD42C(-Q)</b>	100 V, 6 A PNP high power bipolar transistor	<b>26</b>
	<b>MJD2873(-Q)</b>	50 V, 2 A NPN high power bipolar transistor	<b>26</b>
	<b>MJD148(-Q)</b>	45 V, 4 A NPN high power bipolar transistor	<b>26</b>
	<b>MJD31CH-Q*</b>	100 V, 3 A NPN high power bipolar transistor	<b>26</b>
	<b>BCM847B5H-Q</b>	45 V, 100 mA NPN/NPN matched double transistor	<b>25</b>
	<b>BC8465H-Q</b>	65 V, 100 mA NPN/NPN general-purpose double transistor	<b>25</b>
	<b>BC847B5H-Q</b>	45 V, 100 mA NPN/NPN general-purpose double transistor	<b>25</b>
	<b>BC846B5H-Q</b>	65 V, 100 mA NPN/NPN general-purpose double transistor	<b>25</b>
	<b>BCM846B5H-Q</b>	65 V, 100 mA NPN/NPN matched double transistor	<b>25</b>
	<b>BCM857B5H-Q</b>	45 V, 100 mA PNP/PNP matched double transistor	<b>25</b>
	<b>BC8565H-Q</b>	65 V, 100 mA PNP/PNP general-purpose double transistor	<b>25</b>
	<b>BC857B5H-Q</b>	45 V, 100 mA PNP/PNP general-purpose double transistor	<b>25</b>
	<b>BC856B5H-Q</b>	65 V, 100 mA PNP/PNP general-purpose double transistor	<b>25</b>
	<b>BCM856B5H-Q</b>	65 V, 100 mA PNP/PNP matched double transistor	<b>25</b>
	<b>BC847BPNH-Q</b>	45 V, 100 mA NPN/PNP general-purpose double transistor	<b>25</b>
	<b>BC846BPNH-Q</b>	65 V, 100 mA NPN/PNP general-purpose double transistor	<b>25</b>
	<b>PUMD6H-Q</b>	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistor	<b>25</b>
	<b>PUMH7H-Q</b>	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistor	<b>25</b>
	<b>PUMB3H-Q</b>	50 V, 100 mA PNP/PNP Resistor-Equipped double Transistor	<b>25</b>
Low $V_{CEsat}$ high voltage transistors	<b>PB554310PAS-Q</b>	10V, 3A NPN low $V_{CEsat}$ transistor in DFN2020D-3	<b>31</b>
LED Drivers	<b>NCR320PAS</b>	250 mA LED driver in DFN2020D-6	<b>27</b>
	<b>NCR321PAS</b>	250 mA LED driver in DFN2020D-6	<b>27</b>
	<b>NCR420PAS</b>	150 mA LED driver in DFN2020D-6	<b>27</b>
	<b>NCR421PAS</b>	150 mA LED driver in DFN2020D-6	<b>27</b>
Resistor Equipped Transistors (RETs)	<b>PDTA124XQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>42</b>
	<b>PDTA114YQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>42</b>
	<b>PDTC143XQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>42</b>
	<b>PDTC114EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>42</b>
	<b>PDTA143EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>42</b>
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	<b>PDTA124EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTA123JQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>

\* high gain version

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Resistor Equipped Transistors (RETs)	<b>PDTA114EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTA143ZQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC143ZQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC123JQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC144EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC143EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC114YQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC124EQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTC124XQB (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1110D-3	<b>40</b>
	<b>PDTA124XQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA144EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA124EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC123JQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC143EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC124XQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA143EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA143XQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA123JQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA114YQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTA114EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
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	<b>PDTC143XQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC144EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC114YQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC114EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PDTC124EQC (-Q)</b>	50V, 100mA single resistor-equipped transistors in DFN1412D-3	<b>40</b>
	<b>PIMN31 (-Q)</b>	500 mA, 50 V NPN/NPN double resistor-equipped transistor	<b>42</b>
	<b>PIMC31 (-Q)</b>	500 mA, 50 V NPN/PNP double resistor-equipped transistor	<b>42</b>
	<b>PIMP31 (-Q)</b>	500 mA, 50V PPN/PNP double resistor-equipped transistor	<b>42</b>
	<b>PIMN32 (-Q)</b>	500 mA, 50V NPN/NNP double resistor-equipped transistor	<b>42</b>
	<b>PIMC32 (-Q)</b>	500 mA, 50V NPN/PNP double resistor-equipped transistor	<b>42</b>
<b>PIMP32 (-Q)</b>	500 mA, 50V PPN/PNP double resistor-equipped transistor	<b>42</b>	

## Diodes

Category	Products	Description	Page
Zener diodes	<b>BZX58550-Q series</b>	50µA Zener Series in SOD523	50
	<b>BZX38450-Q series</b>	50µA Zener Series in SOD323	50
	<b>BZX8450-Q series</b>	50µA Zener Series in SOT23	50
	<b>BZX8850S-Q series</b>	50µA Zener Series in DFN1006BD-2	50
	<b>MM3Z series</b>	Standard Zeners Series in SOD323	50
	<b>MM5Z series</b>	Standard Zener Series in SO523	50
	<b>SZMM3Z series</b>	Automotive Grade Standard Zeners Series in SOD323	50
	<b>SZMM5Z series</b>	Automotive Grade Standard Zeners Series in SOD523	50
	<b>BZX884S-Q series</b>	Standard Zener Series in DFN1006BD-2	50
	<b>BZX384-Q series</b>	High precision Zener Series in SOD323	50
	<b>BZT52H-A (-Q) series</b>	High precision Zener Series in SOD123F	51
Switching diodes	<b>BAV99QC (-Q)</b>	Dual series high-speed switching diode in DNF1412D-3	56
	<b>BAS16LS (-Q)</b>	High-speed switching diode in DFN1006BD-2	56
	<b>BAS21LS (-Q)</b>	High-speed switching diode DFN1006BD-2	57
	<b>BAS21QB (-Q)</b>	High-speed switching diode DFN1110D-3	57
	<b>BAS21QC(-Q)</b>	High-speed switching diode DFN1412D-3	57
	<b>BAS30LS (-Q)</b>	High-speed 300V switching diode DFN1006BD-2	57

Category	Products	Description	Page
Recovery rectifiers	<b>PNE20060EPE (-Q)</b>	200 V, 6A hyperfast recovery rectifier in CFP15B	<b>59</b>
	<b>PNE20040CPE (-Q)</b>	200 V, 2x2A dual common cathode hyperfast recovery rectifier in CFP15B	<b>59</b>
	<b>PNE20060CPE (-Q)</b>	200 V, 2 x 3 A dual common cathode hyperfast recovery rectifier in CFP15B	<b>59</b>
	<b>PNE20080CPE (-Q)</b>	200 V, 2 x 4 A dual common cathode hyperfast recovery rectifier in CFP15B	<b>59</b>
	<b>PNE200100CPE (-Q)</b>	200 V, 2 x 5 A dual common cathode hyperfast recovery rectifier in CFP15B	<b>59</b>
Schottky diodes and rectifiers	<b>PMEG45T10EXD(-Q)</b>	45V, 1A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG60T10ELXD(-Q)</b>	60V, 1A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG100T10ELXD(-Q)</b>	100V, 1A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG45T20EXD(-Q)</b>	45V, 2A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG60T20ELXD(-Q)</b>	60V, 2A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG100T20ELP(-Q)</b>	100V, 2A Trench Schottky rectifier in CFP5	<b>66</b>
	<b>PMEG100T20ELXD(-Q)</b>	100V, 2A Trench Schottky rectifier in CFP2-HP	<b>66</b>
	<b>PMEG4030ETR(-Q)</b>	40V, 3A Schottky rectifier in CFP3	<b>66</b>
	<b>PMEG100T30ELP(-Q)</b>	100V, 3A Trench Schottky rectifier in CFP5	<b>66</b>
	<b>PMEG100T50ELP(-Q)</b>	100V, 5A Trench Schottky rectifier in CFP5	<b>66</b>
	<b>BAS40LS (-Q)</b>	General-purpose Schottky diode DFN1006BD-2	<b>63</b>
	<b>BAS70LS (-Q)</b>	General-purpose Schottky diode DFN1006BD-2	<b>63</b>
	<b>BAT54LS (-Q)</b>	Schottky barrier diode DFN1006BD-2	<b>63</b>
	<b>BAT54QB (-Q)</b>	Schottky barrier diode DFN1110D-3	<b>63</b>
	<b>BAT54QC (-Q)</b>	Schottky barrier diode DFN1412D-3	<b>63</b>

## ESD protection, TVS, filtering and signal conditioning

Category	Products	Description	Page
Classic In-Vehicle Networks	PESD11VN24-LS	1 channel for LIN/CAN   DFN1006BD-2	74
	PESD11VN27-LS	1 channel for LIN/CAN   DFN1006BD-2	74
	PESD2CANFD24U-T	2 channel for CAN (FD) up to 12 Mbit/s   SOT23	74
	PESD2CANFD24V-T	2 channel for CAN (FD) up to 5 Mbit/s   SOT23	74
	PESD2CANFD24L-T	2 channel for CAN (FD) up to 2 Mbit/s   SOT23	74
	PESD2CANFD27U-T	2 channel for CAN (FD) up to 12 Mbit/s   SOT23	74
	PESD2CANFD27V-T	2 channel for CAN (FD) up to 5 Mbit/s   SOT23	74
	PESD2CANFD27L-T	2 channel for CAN (FD) up to 2 Mbit/s   SOT23	74
	PESD2CANFD24U-U	2 channel for CAN (FD) up to 12 Mbit/s   SOT323	74
	PESD2CANFD24V-U	2 channel for CAN (FD) up to 5 Mbit/s   SOT323	74
	PESD2CANFD24L-U	2 channel for CAN (FD) up to 2 Mbit/s   SOT323	74
	PESD2CANFD27U-U	2 channel for CAN (FD) up to 12 Mbit/s   SOT323	74
	PESD2CANFD27V-U	2 channel for CAN (FD) up to 5 Mbit/s   SOT323	74
	PESD2CANFD27L-U	2 channel for CAN (FD) up to 2 Mbit/s   SOT323	74
	PESD2CANFD24U-QB	2 channel for CAN (FD) up to 12 Mbit/s   DFN1110D-3	74
	PESD2CANFD24V-QB	2 channel for CAN (FD) up to 5 Mbit/s   DFN1110D-3	74
	PESD2CANFD27U-QB	2 channel for CAN (FD) up to 12 Mbit/s   DFN1110D-3	74
	PESD2CANFD27V-QB	2 channel for CAN (FD) up to 5 Mbit/s   DFN1110D-3	74
	PESD2CANFD24U-QC	2 channel for CAN (FD) up to 12 Mbit/s   DFN1412D-3	74
	PESD2CANFD24V-QC	2 channel for CAN (FD) up to 5 Mbit/s   DFN1412D-3	74
	PESD2CANFD27U-QC	2 channel for CAN (FD) up to 12 Mbit/s   DFN1412D-3	74
	PESD2CANFD27V-QC	2 channel for CAN (FD) up to 5 Mbit/s   DFN1412D-3	74
	PESD2CANFD36UT-Q	2 channel for CAN (FD) up to 12 Mbit/s   SOT23	72
	PESD2CANFD36VT-Q	2 channel for CAN (FD) up to 5 Mbit/s   SOT23	72
	PESD2CANFD36LT-Q	2 channel for CAN (FD) up to 2 Mbit/s   SOT23	72
	PESD2CANFD36UU-Q	2 channel for CAN (FD) up to 12 Mbit/s   SOT323	72
PESD2CANFD36VU-Q	2 channel for CAN (FD) up to 5 Mbit/s   SOT323	72	
PESD2CANFD36LU-Q	2 channel for CAN (FD) up to 2 Mbit/s   SOT323	72	
Automotive Ethernet	PESD1ETH1GLS-Q	1 channel OPEN Alliance Ethernet 100/1000BASE-T1   SOD882BD	75
	PESD1ETH1GXLS-Q	1 channel OPEN Alliance Ethernet 100/1000BASE-T1   SOD882BD	75
	PESD2ETH100-T	2 channel for OPEN Alliance Ethernet 100BASE-T1   SOT23	75
	PESD2ETH1G-T	2 channel for OPEN Alliance Ethernet 100/1000BASE-T1   SOT23	75
	PESD2ETH1GXT-Q	2 channel for OPEN Alliance Ethernet 100/1000BASE-T1   SOT23	75
Infotainment/SerDes	PESD4USB3U-TBR	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176	76
	PESD4USB5U-TBR	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176	76
	PESD4USB3B-TBR	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176	76
	PESD4USB5B-TBR	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176	76
	PESD4USB3U-TBS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176D	76
	PESD4USB5U-TBS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176D	76
	PESD4USB3B-TBS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176D	76
	PESD4USB5B-TBS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1176D	76
	PESD4USB3U-TTS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1165D	76
	PESD4USB5U-TTS	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1165D	76

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Infotainment/SerDes	<b>PESD4USB3B-TTS</b>	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1165D	<b>76</b>
	<b>PESD4USB5B-TTS</b>	4 channel for infotainment/SerDes up to 12 Gbit/s   SOT1165D	<b>76</b>
ESD protection for high-speed data lines	<b>PESD3V3X2UT</b>	2 line unidir low C 3.3V ESD protection device   SOT23	<b>78</b>
	<b>PESD3V3F2UT</b>	2 line unidir low C 3.3V ESD protection device   SOT23	<b>78</b>
	<b>PESD5V0X2UT</b>	2 line unidir low C 5V ESD protection device   SOT23	<b>78</b>
	<b>PESD5V0F2UT</b>	2 line unidir low C 5V ESD protection device   SOT23	<b>78</b>
	<b>PESD5V0H1BSN</b>	Extremely low capacitance ESD protection   SOD992B	<b>78</b>
	<b>PESD1V2Y1BSF</b>	Extremely low V <sub>t1</sub> ESD protection for superspeed data lines   SOD962-2	<b>78</b>
	<b>PESD5V0R1BCSF</b>	Ultra low insertion- and return-loss ESD protection for USB4   SOD962-2	<b>78</b>
	<b>PESD5V0R1BDSF</b>	Ultra low insertion- and return-loss ESD protection for USB4   SOD962-2	<b>78</b>
	<b>PESD9V0C1BSF</b>	1 line 9V VRWM, ultra low capacitance and clamping ESD protection   SOD962	<b>78</b>
	<b>PESD9V0Z1BDSF</b>	1 line 9V VRWM, ultra low capacitance and clamping ESD protection   SOD962	<b>78</b>
	<b>PESD9V0W1BDSF</b>	1 line 9V VRWM, ultra low capacitance and clamping high surge ESD protection   SOD962	<b>78</b>
	<b>PESD12VW1BCSF</b>	1 line 12V VRWM, ultra low capacitance and clamping high surge ESD protection   SOD962	<b>78</b>
	<b>PESD15VW1BCSF</b>	1 line 15V VRWM, ultra low capacitance and clamping high surge ESD protection   SOD962	<b>78</b>
	<b>PESD4V0X2UM</b>	2 line ultra low capacitance and clamping high surge ESD protection   SOT883	<b>79</b>
	<b>PESD5V0C2BDF</b>	2 line ultra low capacitance and clamping ESD protection   SOT8013	<b>79</b>
	<b>PESD4V0Z2BCDF</b>	2 line ultra low capacitance and clamping high surge ESD protection   SOT8013	<b>79</b>
	General purpose ESD protection devices	<b>PESD3V3S1ULS</b>	1 line unidirectional ESD protection   DFN1006BD-2
<b>PESD5V0S1ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD8V0S1ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD12V51ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD15V51ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD24V51ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD36V51ULS</b>		1 line unidirectional ESD protection   DFN1006BD-2	<b>81</b>
<b>PESD5V5V1BCSN</b>		1 line bidirectional ultra low clamping ESD protection   SOD962	<b>82</b>
<b>PESD3V3S1BSF</b>		1 line bidirectional ultra low clamping ESD protection   SOD962	<b>82</b>
<b>PESD5V5U1BCSF</b>		1 line bidirectional ultra low clamping ESD protection   SOD962	<b>82</b>
<b>PESD16VV1BSF</b>		1 line bidirectional ESD protection   SOD962	<b>82</b>
<b>PESD18VV1BBSF</b>		1 line bidirectional ESD protection   SOD962	<b>82</b>
<b>PESD3V3T1BLS</b>		1 line bidirectional ESD protection   DFN1006BD-2	<b>83</b>
<b>PESD5V0V1BLS</b>		1 line bidirectional ESD protection   DFN1006BD-2	<b>83</b>
<b>PESD12VV1BLS</b>		12V bidirectional ESD protection   DFN1006BD-2	<b>83</b>
<b>PESD3V3L1BSL</b>		1 line bidirectional ESD protection   SOD882	<b>83</b>
<b>PESD5V0L1BSL</b>		1 line bidirectional ESD protection   SOD882	<b>83</b>
<b>PESD7V0L1BSL</b>		1 line bidirectional ESD protection   SOD882	<b>83</b>
<b>PESD12VL1BSL</b>		1 line bidirectional ESD protection   SOD882	<b>83</b>
<b>PESD24VV2BT</b>		2 line bidirectional ESD protection   SOT23	<b>84</b>
<b>PESD27VV2BT</b>		2 line bidirectional ESD protection   SOT23	<b>84</b>
<b>PESD3V3L4BHC</b>	4 line bidirectional ESD protection   SOT8006	<b>84</b>	
Common Mode Filter with integrated ESD protection	<b>PCMF1HDMI2BA-C</b>	1 line pair HDMI2.1 12G Common Mode Filter with ESD protection   WLCSP5	<b>85</b>
	<b>PCMF2HDMI2BA-C</b>	2 line pair HDMI2.1 12G Common Mode Filter with ESD protection   WLCSP10	<b>85</b>
	<b>PCMF3HDMI2BA-C</b>	3 line pair HDMI2.1 12G Common Mode Filter with ESD protection   WLCSP15	<b>85</b>

## MOSFETs

Category	Products	Description	Page
Automotive MOSFETs	<b>BUK750R5-40H</b>	40 V, 0.5 mΩ standard level AEC-Q101 qualified Trench MOSFET in LFPAK88	<b>93</b>
	<b>BUK752R0-40H</b>	40 V, 2.0 mΩ standard level AEC-Q101 qualified Trench MOSFET in LFPAK88	<b>93</b>
	<b>BUK752R5-40H</b>	40 V, 2.5 mΩ standard level AEC-Q101 qualified Trench MOSFET in LFPAK88	<b>93</b>
	<b>BUK7V4R2-40H</b>	40 V, 4.2 mΩ standard level AEC-Q101 qualified Trench MOSFET in LFPAK56D half-bridge	<b>94</b>
	<b>BUK9V13-40H</b>	40 V, 13 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D half-bridge	<b>94</b>
	<b>BUK9K13-40H</b>	40 V, 13 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D	<b>94</b>
	<b>BUK9K25-40RA</b>	40 V, 29 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D using repetitive avalanche technology	<b>94</b>
	<b>BSS84AKQB</b>	50 V, 7500 mΩ P-channel AEC-Q101 qualified Trench MOSFET in DFN1110D-3	<b>102</b>
	<b>BUK9K13-60RA</b>	60 V, 12.5 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D using repetitive avalanche technology	<b>96</b>
	<b>BUK9K35-60RA</b>	60 V, 35 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D using repetitive avalanche technology	<b>96</b>
	<b>BUK9K52-60RA</b>	60 V, 55 mΩ logic level AEC-Q101 qualified Trench MOSFET in LFPAK56D using repetitive avalanche technology	<b>96</b>
	<b>2N7002KQB</b>	60 V, 850 mΩ N-channel AEC-Q101 qualified Trench MOSFET in DFN1110D-3	<b>102</b>
Power MOSFETs	<b>PXN6R2-25QL</b>	25 V, 6.2 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN7R7-25QL</b>	25 V, 7.7 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN4R7-30QL</b>	30 V, 4.7 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN5R4-30QL</b>	30 V, 5.4 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN6R7-30QL</b>	30 V, 6.7 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN8R3-30QL</b>	30 V, 8.3 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN9R0-30QL</b>	30 V, 9.1 mΩ N-channel Trench MOSFET in MLPAK33	<b>103</b>
	<b>PXN010-30QL</b>	30 V, 10.2 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN017-30QL</b>	30 V, 17.4 mΩ N-channel Trench MOSFET in MLPAK33	<b>105</b>
	<b>PXN018-30QL</b>	30 V, 18 mΩ N-channel Trench MOSFET in MLPAK33	<b>103</b>
	<b>PSMN4R2-40VSH</b>	40 V, 4.2 mΩ standard level Trench MOSFET in LFPAK56D half-bridge	<b>107</b>
	<b>PSMN013-40VLD</b>	40 V, 13 mΩ standard level Trench MOSFET in LFPAK56D half-bridge	<b>107</b>
	<b>PSMN1R5-50YLH</b>	50 V, 1.75 mΩ logic level Trench MOSFET in LFPAK56E	<b>106</b>
	<b>PSMN2R0-55YLH</b>	55 V, 2.1 mΩ logic level Trench MOSFET in LFPAK56E	<b>106</b>
	<b>PXN012-60QL</b>	60 V, 11.5 mΩ logic level Trench MOSFET in MLPAK33	<b>107</b>
	<b>PSMN3R5-80YSF</b>	80 V, 3.5 mΩ standard level Trench MOSFET in LFPAK56E	<b>109</b>
	<b>PSMN4R2-80YSE</b>	80 V, 4.2 mΩ enhanced logic level Trench MOSFET in LFPAK56E with enhanced SOA	<b>109</b>
	<b>PSMN3R9-100YSF</b>	100 V, 4.3 mΩ standard level Trench MOSFET in LFPAK56E	<b>109</b>
	<b>PSMN4R8-100YSE</b>	100 V, 4.8 mΩ enhanced logic level Trench MOSFET in LFPAK56E with enhanced SOA	<b>109</b>
Small-signal MOSFETs	<b>PMPB07R3VP</b>	12 V, 8.6 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB08R4VP</b>	12 V, 8.6 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB11R2VP</b>	12 V, 9.6 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB09R5VP</b>	12 V, 12 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMV13XNEA</b>	20 V, 17 mΩ N-channel Trench MOSFET in SOT23	<b>117</b>
	<b>PMX100UN</b>	20 V, 210 mΩ N-channel Trench MOSFET in DFN0603-3	<b>112</b>
	<b>PMX400UP</b>	20 V, 500 mΩ P-channel Trench MOSFET in DFN0603-3	<b>112</b>
	<b>PMPB07R3EN</b>	30 V, 8.6 mΩ N-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB08R5XN</b>	30 V, 10 mΩ N-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB08R6EN</b>	30 V, 10.5 mΩ N-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB12R5EP</b>	30 V, 15 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>



## MOSFETs

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Small-signal MOSFETs	<b>PMPB12R7EP</b>	30 V, 15.5 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB14R0EP</b>	30 V, 16 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>112</b>
	<b>114 PMPB14R7EP</b>	30 V, 18 mΩ P-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMPB16R5XNE</b>	30 V, 19 mΩ N-channel Trench MOSFET in DFN2020M-6	<b>114</b>
	<b>PMCB60XN</b>	30 V, 50 mΩ N-channel Trench MOSFET in DSN1006	<b>115</b>
	<b>PMV50XNEA</b>	30 V, 60 mΩ N-channel Trench MOSFET in SOT23	<b>117</b>
	<b>NXV55UN</b>	30 V, 66 mΩ N-channel Trench MOSFET in SOT23	<b>115</b>
	<b>NXV90EP</b>	30 V, 120 mΩ P-channel Trench MOSFET in SOT23	<b>119</b>
	<b>NXV100XP</b>	30 V, 140 mΩ P-channel Trench MOSFET in SOT23	<b>119</b>
	<b>BSH103BK</b>	30 V, 270 mΩ N-channel Trench MOSFET in SOT23	<b>117</b>
	<b>NX6008NBKS</b>	60 V, 2700 mΩ N-channel Trench MOSFET in TSSOP6	<b>120</b>
	<b>NX6008NBK</b>	60 V, 2800 mΩ N-channel Trench MOSFET in SOT23	<b>117</b>
	<b>NX6008NBKW</b>	60 V, 2800 mΩ N-channel Trench MOSFET in SC-70	<b>117</b>
	<b>NX138AKM</b>	60 V, 4200 mΩ N-channel Trench MOSFET in DFN1006-3	<b>112</b>
	<b>NX138AKH</b>	60 V, 4200 mΩ N-channel Trench MOSFET in DFN0606-3	<b>112</b>

## Analog &amp; logic ICs

Category	Products	Description	Page
Automotive analog & logic ICs	<b>74LV4051PW-Q100</b>	8-channel analog multiplexer/demultiplexer in SOT403-1	<b>128</b>
	<b>74HC73D-Q100</b>	Dual JK flip-flop with reset; negative-edge trigger in SOT108-1	<b>134</b>
	<b>74AVC4T774-Q100</b>	4-bit dual supply translating transceiver in SOT403-1	<b>138</b>
	<b>74LVC1G16-Q100</b>	Single buffer in SOT353-1	<b>145</b>
	<b>74AUP1G14-Q100</b>	Low-power Schmitt trigger inverter in SOT1269-1	<b>149</b>
	<b>74AUP1G17-Q100</b>	Single buffer with Schmitt-trigger input in SOT353-1	<b>149</b>
	<b>74LVC1G14-Q100</b>	Single inverter with Schmitt-trigger inputs in SOT886	<b>149</b>
	<b>74AUP1T08-Q100</b>	Low-power 2-input AND gate with voltage-level translator in SOT353-1	<b>150</b>
	<b>74AUP1T97-Q100</b>	Low-power configurable gate with voltage-level translator in SOT363	<b>150</b>
	<b>HEF4067B</b>	16-channel analog multiplexer/demultiplexer	<b>165</b>

# Bipolar Discretes Q-portfolio

Introducing a new semiconductor quality that is addressing the growing support levels enhanced by ACES and prepares Bipolar Discretes for future automotive designs.

## The largest automotive innovations are still ahead of us

- › Autonomous Driving, connectivity, electrified- and shared mobility (ACES) will shape the future of automobility and redefine the manner of moving from place to place.
- › ACES amplify the need for proven reliability in increasingly challenging environments and for extended operating times [e.g. over-night operation of xEV on-board chargers].
- › Essential quality of all components is key for mission-critical functions and amplified by regulatory pressures and reduces prospective service cost or even the risk of personal injuries.

## Nexperia introduces future-proof automotive portfolio for Bipolar Discretes | The Q-Portfolio

- › On top of all automotive standards (e.g. AEC-Q101) Nexperia always enhanced its preeminent quality level by close consultation of its industry leading customer base (e.g. via regular audits).
- › With our dedicated automotive portfolio of Bipolar Discretes (e.g. BAV99-Q) we gear up to address the growing quality and support levels enhanced by ACES.
- › Moreover, we offer an additional option of standard types if an automotive grade is not required.

### Quality | Moving beyond AEC-Q101

Continuously adopting the latest quality standards exceeding AEC-Q101 by new mission profiles (VDE ITG MN5.7), extended firewalls and more.

### Supply | Incorporate particular industry needs

Guaranteed longevity of >10 years, <2 years date code, supply prioritization, IATF Certification and use of VDA A-rated in-house front- and backend.



## The Q-portfolio

### Service | Unique support for unique customers

Additional support offer including PPAPs, extended PCN implementation time and more.

### Performance | Tailored investments to suit automotive needs

Drive CAPEX investments into dedicated automotive portfolio executed via BCamX Product Creation Process compliant to automotive APQP.

### Our promise:

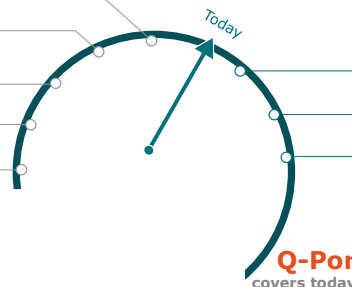
- › With our Q-Portfolio you automatically benefit from the adoption of future automotive standards.
- › We continue to guarantee all performance specifications stated in the data-sheets.
- › The transfer to Q-Portfolio has no impact on (1) confirmed shipments, (2) product supply chain or (3) negotiated contract prices.

## The Q-portfolio – Q for Quality

Based on today's automotive requirements, the Q-portfolio will adopt future quality standards

### Today's automotive quality

- IATF Certification
- Regular Audits on
  - ISO9001/IATF 16949 Automotive
  - ISO14001 Environmental
  - VDA A-rating
  - and many more
- JEDEC J-STD-046
- "PAT" testing
- AEC-Q101 incl.
  - 1000h HTRB, H3TRB
  - 1000 Cycle TCT
  - 96h Autoclave
  - Intermittent Operating Life (IOL)
  - ...



### Future automotive quality requirements

- New Mission Profiles (e.g. VDE ITG MN5.7)
- Extended Firewalls (e.g. AOI, X-Ray)
- Zero-Defect Programs (e.g. zero delamination, reliability monitoring, etc.)
- ...

**Q-Portfolio**  
covers today's and future automotive requirements

## Service options

With the introduction of the Q-portfolio, Bipolar Discretes offers 2 portfolio options, depending on each customer service level requirement.

Q-Portfolio		Standard Portfolio
• 2x JEDEC   180 days <sup>1)</sup>	<b>PCN handling</b>	• JEDEC   90 days
• Supported	<b>PPAP</b>	• Not supported
• Minimum of 10 years	<b>Longevity</b>	• Minimum of 5 years
• <2 years	<b>Date Code</b>	• <4 years
• Very high	<b>Supply Priority<sup>2)</sup></b>	• High

## Product overview

Q-portfolio types will be offered across all Bipolar Discretes product groups. Types can be recognized by the -Q ending of the part name.

Small Signal Diodes		Small Signal Transistors		Power Rectifiers		Power Transistors		BISS Transistors		ESD Protection	
ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package	ProductType	Package
BAS316	SOD323	BC17-40	SOT23	PMEG100V080ELPD	SOT128	BCX56-16	SOT89	PBSS5255PAPS	SOT111	PESD24VL1BA	SOD323
BAV99	SOT23	BC847C	SOT23	PMEG4005EJ	SOD323	BCP56-16T	SOT223	PBSS5240T	SOT23	PESD21VN24-T	SOT23
BAS21	SOT23	BC817-25	SOT23	PMEG4010CEJ	SOD323	BCX53-16	SOT89	PBSS5350T	SOT23	PESD15VL1BA	SOT23
BAT54S	SOT23	BC807-40	SOT23	PMEG4050EP	SOD128	BCP53-16	SOT223	PBSS4350T	SOT23	PESD15VL1BA	SOT23
BAV99W	SOT323	BC846B	SOT23	PMEG6010ER	SOD323	BSR41	SOT89	PBSS4140T	SOT23	PESD15VL1BA	SOT23
BAV70	SOT23	BC807-40	SOT23	BAT760	SOD323	BCX56	SOT89	PBSS4350Z	SOT23	PESD15VL1BA	SOT23
BAS321	SOD323	BC847BPN	SOT363	PMEG4010BEA	SOD323	BCX56-10	SOT89	PBSS4240T	SOT89	PESD15VL1BA	SOT23
BAT54C	SOT23	BC847B	SOT23	PMEG6030EP	SOD128	BCX52-16	SOT89				
BAS16VY	SOT363	PUMD3	SOT363	PMEG10010ELR	SOD123	PBSS5350X	SOT123				
BAT46WJ	SOD323	PUMD9	SOT363	PMEG4010ER	SOD123	BCV100	SOT123				
BAV70W	SOT323	BC807-25	SOT23	PMEG6010CEJ	SOD323	BCX56-10	SOT89				
BAT54SW	SOT323	BC847B5	SOT363	PMEG6030EP	SOD128	BCX52-16	SOT89				
BAV99S	SOT363	PDT114ET	SOT23	PMEG10010ELR	SOD123	PBSS5350X	SOT123				
BAT54	SOT23	BC817-40W	SOT323	PMEG4010ER	SOD123	BCV100	SOT123				
BAS16	SOT23	BC856B	SOT23	PMEG6020ER	SOD123	BCV100	SOT123				
BAT54CW	SOT323	BC857B5	SOT363	PMEG10010ELR	SOD123	BCV100	SOT123				
BAV199	SOT23	BC847CW	SOT323	PMEG10010ELR	SOD123	BCV100	SOT123				
BAT54A	SOT23	PUMH9	SOT23	PMEG10010ELR	SOD123	BCV100	SOT123				
BAW56	SOT23			PMEG10010ELR	SOD123	BCV100	SOT123				
BAT54AW	SOT23			PMEG10010ELR	SOD123	BCV100	SOT123				

Future Bipolar Discretes Portfolio (exemplary)	
Standard Portfolio	Q-Portfolio
BAS316	BAS316-Q
BAV99	BAV99-Q
BAS21	BAS21-Q
...	...



# Bipolar transistors

1

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# General purpose bipolar transistors








## Transistors single NPN

Package						Automotive-qualified						
						SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1110D-3 (SOT8015)	DFN1412D-3 (SOT8009)
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.47	1.4 x 1.2 x 0.47
P <sub>tot</sub> (mW)						250	200	750	250	250	280	325
V <sub>CE0</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)								
25	100	450	1200	100		PMST5089						
30	100	110 - 200	450 - 800	100	BC848B	BC848W						
		350	900	100		PMST5088						
32	100	110 - 420	220 - 800	100	BCW31 / 32 / 33							
		180 - 380	310 - 630	250	BCW60B / C / D							
45	100	110 - 420	220 - 800	100	BC847 / A / B / C (-Q)	BC847W / AW / BW (-Q) / CWw	BC847AQA / BQA / CQA (-Q)	BC847AM / BM / CM	BC847AMB / BMB / CMB	BC847AQB / BQB / CQB (-Q)	BC847AQC / BQC / CQC (-Q)	
		120 - 380	220 - 630	100	BCX70G / H / J / K							
		110 - 200	220 - 450	100	BCW71 / 72							
50	100	210 - 290	340 - 460	100 - 150	2PD601ART 2PD601ARL 2PD601ASL	2PD601ARW / SW (-Q)						
		250	650	100	PMBT6428	PMST6428						
60	100	110 - 200	220 - 450	100	BCV71 / 72							
65	100	110 - 200	220 - 450	100	BC846 / A / B (-Q)	BC846W / AW / BW (-Q)		BC846BM	BC846BMB			
50	150	120 - 200	240 - 400	80	NXP3875Y / G							
	150	120 - 270	270 - 560	100				2PC4081Q / R / S		2PC4617QM / RM	2PC4617QMB / RMB	
	200	210	340	100	2PD601BRL							
45	500	100 - 250	250 - 600	100	BC817 / -16 / -25 / -40 (-Q)	BC817W / -16W / -25W / -40W (-Q)	BC817-25QA / -40QA			BC817-16QB / -25QB / -40QB (-Q)	BC817-16QC / -25QC / -40QC (-Q)	
		100	600	100	BCX19							
50	500	85 - 170	170 - 340	140 - 180	2PD602AQL 2PD602ARL 2PD602ASL	2PD1820AR / S						
60	500	50	-	100		PMSTA05						
80	500	100	-	50	PMBTA06	PMSTA06						
80	500	100-160	250-400	100	BC816-16 / -25	BC816-16W / -25W						
45	800	100-250	250-600	100	BCW66F/G/H							
30	100	125 - 220	500 - 800	100	BC858B	BC858W						


## Transistors single PNP

Package						Automotive-qualified						
						SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1110D-3 (SOT8015)	DFN1412D-3 (SOT8009)
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.47	1.4 x 1.2 x 0.47
P <sub>tot</sub> (mW)						250	200	750	250	250	280	325
V <sub>CE0</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min/typ	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)								
32	100	120 - 215	260 - 500	100	BCW29 / 30							
		180 - 380	310 - 630	100	BCW61B / C / D							
45	100	210 - 290	340 - 460	70 - 80	2PB709ART 2PB709ARL 2PB709ASL	2PB709ARW / SW						
		180 - 380	310 - 630	100	BCX71H / J / K							
		120 - 215	260 - 500	100	BCW69 / 70							
60	100	120	260	150	BCW89							
65	100	125 - 200	250 - 475	100	BC856 / A / B	BC856W / AW / BW		BC856BM	BC856BMB	BC856AQB / BQB / CQB	BC856AQC / BQC / CQC (-Q)	
100	100	30	-	50	BSS63							
50	150	120 - 270	270 - 560	100		2PA1576Q / R / S		2PA1774QM / RM / SM	2PA1774QMB / RMB / SMB			
	200	210	340	100	2PB709BRL							
25	500	290	460	100	2PB709BSL							
		100	600	80	BCX18							
45	500	100 - 250	250 - 600	80	BC807 / -16 / -25 / -40 (-Q)	BC807W / -16W / -25W / -40W (-Q)	BC807-25QA / -40QA			BC807-16QB / -25QB / -40QB (-Q)	BC807-16QC / -25QC / -40QC (-Q)	
		100	600	80	BCX17							
50	500	85 - 170	170 - 340	100 - 140	2PB710ARL 2PB710ASL	2PB1219AQ / R / S						





## Transistors single PNP

						Automotive-qualified						
						SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1110D-3 (SOT8015)	DFN1412D-3 (SOT8009)
Package												
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.47	1.4 x 1.2 x 0.47
P <sub>tot</sub> (mW)						250	200	750	250	250	280	325
V <sub>CEO</sub> (V)						60	80	80	80	80	80	80
I <sub>C</sub> (mA)						500	500	500	500	500	500	500
h <sub>FE</sub> min/typ						100	100	100	100	100	100	100
h <sub>FE</sub> max						-	-	-	-	-	-	-
f <sub>T</sub> min (MHz)						50	50	50	50	50	50	50
							PMSTA55					
							PMBTA06 (-Q)	PMSTA06				
							BC806-16 / -25	BC806-16W / -25W				
							BCW68F/G/H					

## High performance transistors (superior power dissipation)

							Automotive-qualified
							SOT23
Package							
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							775
Polarity							
V <sub>CEO</sub> (V)		V <sub>ebo</sub> (V)		I <sub>C</sub> (mA)		f <sub>T</sub> min (MHz)	
NPN	45	5	0.5	100	250	100	BC817K-16
				160	400	100	BC817K-25
				250	600	100	BC817K-40
PNP	45	5	0.5	100	250	80	BC807K-16
				160	400	80	BC807K-25
				250	600	80	BC807K-40

## Transistors double

						Automotive-qualified			
						SOT457 (SC-74)	SOT363 (SC-88)	DFN1412-6 (SOT1268)	DFN1010B-6 (SOT1216)
Package									
Size (mm)						2.9 x 1.5 x 1.0	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.5	1.0 x 1.0 x 0.37
P <sub>tot</sub> (mW)						750	300	480	350
Polarity									
V <sub>CEO</sub> (V)		I <sub>C</sub> (mA)		h <sub>FE</sub> min		h <sub>FE</sub> max		f <sub>T</sub> min (MHz)	
NPN	40	100	120	450	100		PUMX1		
	45	100	200	450	100	BC847DS	BC847BS	BC847RA	BC847QAS
			110	-	100		BC846S		
	65	100	200	450	100	BC846DS	BC846BS		
			120	560	100		PUMX2		
45	500	160	400	80	BC817DS		BC817RA		
PNP	40	100	120	450	100	PIMT1	PUMT1		
	45	100	200	450	100		BC857BS (-Q)	BC857RA	BC857QAS
			110	-	100		BC856S		
	65	100	200	450	100		BC856BS		
			160	400	80	BC807DS		BC807RA	
45	500	160	400	80					
NPN / PNP	40	100	120	450	100		PUMZ1		
	45	100	200	450	100		BC847BPN (-Q)	BC847RAPN	BC847QAPN
			120	560	100	PIMZ2	PUMZ2		
	65	100	200	450	100		BC846BPN (-Q)		
	45	500	160	160	100 / 800	BC817DPN		BC817RAPN	

## Switching transistors single

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT23	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)	
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37	
P <sub>tot</sub> (mW)							1700	1300	250	200	250	250	750	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)								
NPN	40	200	100	300	180	1200			PMBS3904	PMSS3904				
	15	600	40	120	500	20			PMBT2369	PMST2369				
	40	200	100	300	300	250			MMBT3904					
	30	600	100	300	250	250			PMBT3904	PMST3904	PMBT3904M	PMBT3904MB	PMBT3904QA	
	40	600	100	300	250	250			PZT4401	PXT4401	PMBT4401	PMST4401		
					300	250					MMBT2222A			
									PZT2222A	PXT2222A	PMBT2222A	PMST2222A	PMBT2222AM	PMBT2222AMB
40	800	100	300	300	250				BSR14					
PNP	40	100	100	300	150	700			PMBS3906	PMSS3906				
	40	200	100	300	250	300			MMBT3906					
	40	600	100	300	200	350			PZT4403	PXT4403	PMBT4403	PMST4403		
						365			PMBT2907					
						300					PMST2907A			
	60	600	100	300	200	365				BSR16				
									PZT2907A	PXT2907A	PMBT2907A		PMBT2907AM	PMBT2907AMB




## Switching transistors double

Package							SOT363 (SC-88)	SOT457 (SC-74)	DFN1412-6 (SOT1268)
Size (mm)							2.0 x 1.25 x 0.95	2.9 x 1.5 x 1.0	1.4 x 1.2 x 0.5
P <sub>tot</sub> (mW)							300	750	480
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	t <sub>off</sub> (ns)			
NPN	40	200	100	300	300	250		PMBT3904YS	
	40	600	100	300	250	250		PMBT4401YS	
					300	250		PMBT2222AYS	
PNP	40	200	100	300	250	300		PMBT3906YS	
	40	600	100	300	200	350		PMBT4403YS	
	60	600	100	300	200	365		PMBT2907AYS	
NPN / PNP	40	200	100	300	300 / 250	250 / 300		PMBT3946YPN	
					300 / 200	250 / 365		NMB2227A	







175 °C capable products

Types in **bold** represent new products

									Automotive-qualified				
Package									SOT223 (SC-73)	SOT23		SOT363 (SC-88)	
													
Size (mm)									6.5 x 3.5 x 1.65		2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)									1700	415	950	675	300
Polarity	V <sub>CEO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)	hFE1/hFE2	VBE1 - VBE2 (mV)					
NPN	45	6	0.1	200	450	100	0.9 <sup>1)</sup>	2				<b>BCM847BSH-Q</b>	
				100	250	250					BC817K-16H		
		7	0.5	160	400	400				BC817K-25H			
				250	600	600			BC817K-40H				
	65	6	0.1	110	-	-							<b>BC846SH-Q</b>
				200	450	100	0.9	2				<b>BC847BSH-Q</b>	
		7	1	63	250	100							<b>BC846BSH-Q</b>
				100	160	100			BCP56H				<b>BCM846BSH-Q</b>
	80	7	0.5	100	250	100							
				160	400	100			BCP56-10H				
		8	0.1	100	250	100					BC816-16H		
				160	400	100			BC816-25H				
PNP	45	5	0.1	200	450	100	0.9 <sup>1)</sup>	2				<b>BCM857BSH-Q</b>	
				100	250	80						BC807-16H	
		7	0.5	160	400	80					BC807-25H		
				250	600	80					BC807-40H		
	65	5	0.1	110	-	100							<b>BC856SH-Q</b>
				200	450	100	0.9	2				<b>BC857BSH-Q</b>	
		6	0.1										<b>BC856BSH-Q</b>
													<b>BCM856BSH-Q</b>
	80	7	1	63	250	100							
				100	100	100			BCP53H				
		8	0.5	100	250	100							
				160	400	80			BCP53-10H				
45	7	0.1	200	450	100							<b>BC847BPNH-Q</b>	
			100	250	80							<b>BC846BPNH-Q</b>	
	6	0.1										<b>PUMD6H-Q</b>	
												<b>PUMH7H-Q</b>	
50	5	0.1										<b>PUMB3H-Q</b>	
NPN/NPN PNP/PNP	50	5	0.1	200	-		only R1 (4.7kΩ)						

<sup>1)</sup> IC1 / IE2

Medium power transistors

							Automotive-qualified					
Package							SOT223 (SC-73)	SOT89 (SC-62)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)		
												
Size (mm)							6.5 x 3.5 x 1.65		4.5 x 2.5 x 1.5		2.0 x 2.0 x 0.62	
P <sub>tot</sub> (mW)							1700		1300		1300	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)							
NPN	20	2	85 - 160	375	40	BCP68 / -25	BC868 / -25	BC68PA / BC68-25PA	BC68PAS / BC68-25PAS			
	45	1	63 - 100	160 - 250	100	BCP54 / -10 / -16 BCP54T / -10T / -16T	BCX54 / -10 / -16 BCX54T / -10T / -16T	BC54PA / BC54-10PA / BC54-16PA	BC54PAS / BC54-10PAS / BC54-16PAS			
						BCP55(-Q) / -10(-Q) / -16(-Q) BCP55T / -10T / -16T	BCX55 / -10 / -16 BCX55T / -10T / -16T	BC55PA / BC55-10PA / BC55-16PA	BC55PAS / BC55-10PAS / BC55-16PAS			
	60	1	63 - 100	160 - 250	100	BSP41	BSR41(-Q)					
						100	300	100				
	80	1	63 - 100	160 - 250	100	BCP56(-Q) / -10(-Q) BCP56T(-Q) / -10T(-Q) / -16T(-Q)	BCX56 / -10 / -16 BCX56T / -10T / -16T	BC56PA / BC56-10PA / BC56-16PA	BC56PAS / BC56-10PAS / BC56-16PAS			
40 - 100						120 - 300	100	BSP43	BSR43(-Q)			
PNP	20	2	85 - 160	250 - 375	40	BCP69 / -16 / -25	BC869 / -16 / -25	BC69PA / BC69-16PA / BC69-25PA	BC69PAS / BC69-16PAS / BC69-25PAS			
	45	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP51 / -10 / -16 BCP51T / -10T / -16T	BCX51 / -10 / -16 BCX51T / -10T / -16T	BC51PA / BC51-10PA / BC51-16PA	BC51PAS / BC51-10PAS / BC51-16PAS			
						BCP52 / -10 / -16 BCP52T / -10T / -16T	BCX52 / -10 / -16 BCX52T / -10T / -16T	BC52PA / BC52-10PA / BC52-16PA	BC52PAS / BC52-10PAS / BC52-16PAS			
	60	1	63 - 100	160 - 250	100	BSP31	BSR30 / 31					
						40 - 100	120 - 300	100				
	80	1	63 - 100	160 - 250	115 <sup>1)</sup> - 145 <sup>1)</sup>	BCP53 / -10 / -16 BCP53T / -10T / -16T	BCX53 / -10 / -16 BCX53T / -10T / -16T	BC53PA / BC53-10PA / BC53-16PA	BC53PAS / BC53-10PAS / BC53-16PAS			
40 - 100						120 - 300	100	BSP32 / 33	BSR33			

<sup>1)</sup> Typical value

## General Purpose Power Transistors

Types in **bold** represent new products

Package							Package
Size (mm)							Size (mm)
P <sub>tot</sub> (mW)							P <sub>tot</sub> (mW)
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min MHz	Polarity	Automotive-qualified	
50	2	120	360	65	NPN	Yes	<b>MJD2873(-Q)</b>
45	4	40	375	3	NPN	Yes	<b>MJD148(-Q)</b>
80	8	60	-	160	NPN	No	MJD44H11
					PNP	No	MJD45H11
					NPN	Yes	MJD44H11A
					PNP	Yes	MJD45H11A
100	3	25	50	3	NPN	No	MJD31C
					PNP	No	MJD32C
		NPN	Yes		MJD31CA		
		PNP	Yes		<b>MJD31CH-Q*</b>		
	6	25	50		PNP	Yes	MJD32CA
					NPN	Yes	<b>MJD41C(-Q)</b>
		30	-		NPN	Yes	<b>MJD42C(-Q)</b>
					PNP	Yes	<b>MJD42C(-Q)</b>



\* high gain version

## General purpose high voltage transistors

Package						Automotive-qualified				
						SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	SOT23	SOT323 (SC-70)
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)						1700	1300	750	250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>T</sub> min (MHz)					
NPN	140	300	60	250	100				PMBT5550	PMST5550
	160	300	80	250	100				PMBT5551 / BSR19A(-Q)	PMST5551
	250	100	50		60	BF722	BF622		BF822(-Q)	
			40		50	BF720	BF620		BF820(-Q)	BF820W
	350	100	40		70	PZTA42	PXTA42		PMBTA42	PMSTA42
	400	300	50	200	20	BSP19	BST39			
PNP	100	100	30		50				PMBTA44	
	250	100	50		60	BF723			BSS63	
			50		60		BF623		BF823	
			50		60		BF621		BF821	
300	100	40		50	PZTA92	PXTA92		PMBTA92(-Q)	PMSTA92	
2 x NPN	300	100	40		50			PMBTA42DS		




For high-voltage transistors with increased performance please refer to our high-voltage low V<sub>CEsat</sub> transistor portfolio on page 23.

## PNP LED driver


			Automotive-qualified	
			SOT457	SOT23
Package				
Size (mm)			2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)			750	480
Maximum supply voltage V <sub>s</sub> max (V)		Typical stabilized output current I <sub>out</sub> typ (mA)	Maximum stabilized output current I <sub>out</sub> max (mA)	
18		10	-	
		20	-	
40		10	65	
		20	65	
		50	65	
			NCR401U	
			NCR402U	
			NCR405U	
				NCR401T
				NCR402T

## NPN LED driver

Types in **bold** represent new products




				Automotive-qualified		
				SOT457 (SC-74)	SOT223 (SC-73)	DFN2020D-6 (SOT1118D)
Package						
Size (mm)				2.9 x 1.5 x 1.0	6.5 x 3.5 x 1.65	2 x 2 x 0.62
P <sub>tot</sub> (mW)				750	1250	530
Maximum supply voltage V <sub>s</sub> max (V)	Maximum Enable voltage VEN max (V)	Typical stabilized output current I <sub>out</sub> typ (mA)	Maximum stabilized output current I <sub>out</sub> max (mA)			
16	25	10	250	NCR320U		
	4.5			NCR321U		
40	40	10	150	NCR420U		
	4.5			NCR421U		
16	25	10	250	NCR320Z		
	4.5			NCR321Z		
40	40	10	150	NCR420Z		
	4.5			NCR421Z		
16	25	10	250	<b>NCR320PAS</b>		
	4.5			<b>NCR321PAS</b>		
40	40	10	150	<b>NCR420PAS</b>		
	4.5			<b>NCR421PAS</b>		

## Constant current source


Automotive-qualified					
Package	SOT353 (SC-88A)				
					
Size (mm)	2.0 x 1.25 x 0.95				
P <sub>tot</sub> (mW)	335				
Type	PSSI2021SAY				
Description	Maximum supply voltage	Maximum supply current	Typical stabilized output current	Minimum stabilized output current	Maximum stabilized output current
Parameter	V <sub>s</sub> max (V)	I <sub>s</sub> max (mA)	I <sub>out</sub> typ (μA)	I <sub>out</sub> min (mA)	I <sub>out</sub> max (mA)
Value	75	2.2	15	0.015	50

## General purpose bipolar transistors



### Darlington transistors

					Automotive-qualified			
					SOT223 (SC-73)	SOT89 (SC-62)	SOT23	
Package								
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)					1700	1300	250	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	f <sub>r</sub> min (MHz)				
NPN	30	500	10000	125			PMBTA13	
			20000		PZTA14	PXTA14	PMBTA14	
	45	1000	500	2000	200	BSP50	BST50	BCV27
				10000	220		BCV49	BCV47(-Q)
	80	1000	2000	2000	200	BSP51	BST51	
				BSP52	BST52			
PNP	30	500	20000	125			PMBTA64	
			220			BCV28	BCV26	
	45	1000	500	2000	200	BSP60	BST60	
				10000	220		BCV48	BCV46
	80	1000	2000	2000	200	BSP61	BST61	
				BSP62	BST62			









### Schmitt-triggers

							Automotive-qualified
							SOT143B
Package							
Size (mm)							2.9 x 1.3 x 1.0
P <sub>tot</sub> (mW)							250
Polarity	V <sub>CEO</sub> (V) TR1	V <sub>CEO</sub> (V) TR2	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	V <sub>CEsat</sub> typ (mV)	
NPN	30	6	100	110	800	250	BCV63 / B
PNP	30	6	100	220	475	250	BCV64B

### Low noise transistors











							Automotive-qualified	
							SOT23	SOT323 (SC-70)
Package								
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P <sub>tot</sub> (mW)							250	200
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Noise figure max (dB)	h <sub>FE</sub> min	h <sub>FE</sub> max	f <sub>r</sub> min (MHz)		
NPN	30	100	4	200	450	100	BC849B	BC849BW
				420	800	100	BC849C	BC849CW
	45	100	4	200	450	100	BC850B	BC850BW
				420	800	100	BC850C	BC850CW
PNP	30	100	4	220	475	100	BC859B	BC859BW
				420	800	100	BC859C	BC859CW
	45	100	4	220	475	100	BC860B	BC860BW
				420	800	100	BC860C	BC860CW

Matched pair transistors - part 1

							Automotive-qualified			
Package							SOT143B	SOT457 (SC-74)	LFAK56D (SOT1205)	
Size (mm)							2.9 x 1.3 x 1.0	2.9 x 1.5 x 1.0	5 x 6 x 1.1	
P <sub>tot</sub> (mW)							250	750	1250	
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)				
NPN	30	100	110	800	0.7 <sup>1)</sup>	n.a.	BCV61/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	n.a.	BCM61B			
						2		BCM847DS		
	80	100	63	250	0.95	n.a.	BCM56DS			
100	3000	150	-	0.95	n.a.			PHPT610035NK		
Configuration										
PNP	30	100	100	800	0.7 <sup>1)</sup>	n.a.	BCV62/A/B/C			
	45	100	200	450	0.9 <sup>1)</sup>	n.a.	BCM62B			
						2		BCM857DS		
	65	100	200	450	0.9	2		BCM856DS		
	80	100	63	250	0.95	n.a.		BCM53DS		
100	3000	150	-	0.9	n.a.			PHPT610035PK		
Configuration										

<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>


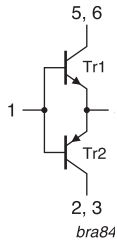

Matched pair transistors - part 2

							Automotive-qualified				
Package							SOT353 (SC-88A)	SOT363 (SC-88)	SOT1216 (DFN1010B-6)		
Size (mm)							2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37		
P <sub>tot</sub> (mW)							300	300	350		
Polarity	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	h <sub>FE</sub> min	h <sub>FE</sub> max	h <sub>FE1</sub> /h <sub>FE2</sub>	V <sub>BE1</sub> - V <sub>BE2</sub> (mV)					
NPN	45	100	200	450	0.9 <sup>1)</sup>	2		BCM847BS			
					0.95	2	PMP4501G	PMP4501Y	BCM847QAS	PMP4501QAS	
					0.98	2	PMP4201G	PMP4201Y			
	65	100	200	450	0.9	2		BCM846BS			
Configuration											
PNP	45	100	200	450	0.9 <sup>1)</sup>	2		BCM857BS			
					0.95	2	PMP5501G	PMP5501Y	BCM857QAS	PMP5501QAS	
					0.98	2	PMP5201G	PMP5201Y			
	65	100	200	450	0.9	2		BCM856BS			
Configuration											



<sup>1)</sup> I<sub>C1</sub> / I<sub>E2</sub>

## General purpose bipolar transistors

### MOSFET driver

			Automotive-qualified			
$V_{CE0}$ (V)	$I_c$ (A)	$I_{cm}$ [A]	Type	Package	Remark	Configuration
30	0.1	0.2	BCV65	SOT143B 	General-purpose transistors	
40	0.6	1	PMD2001D	SOT457 	Switching transistors with reduced storage time	
	1	2	PMD3001D		Low $V_{CEsat}$	

### Medium frequency transistors

						Automotive-qualified	
						SOT23	SOT323 (SC-70)
Package							
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
$P_{tot}$ (mW)						250	200
Polarity	$V_{CE0}$ (V)	$I_c$ (mA)	$h_{FE}$ min	$h_{FE}$ max	$f_T$ typ (MHz)		
NPN	15	100	40	-	500	BF570	
	20	25		85	>275	BFS20	BFS20W
		30	65	225	260	BFS19	
	40	25	67	220	380	BF840	
PNP	30	25	25	50	250	BF824	BF824W
	40		50	-	>325	BF550	

Low  $V_{CEsat}$  transistors single NPN up to 2000 mW

Types in **bold** represent new products

Package							Automotive-qualified				
							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020D-3 (SOT1061D)	DFN2020-3 (SOT1061)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)							1700	1650	750	1300	1300
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
10	3	5	325 / -	0.5	2	25 (max value)				<b>PBSS4310PAS-Q</b>	
12	5.3	10.6	300 / 530	0.5	2	18		PBSS301NX			
	5.8	11.6	300 / 530	0.5	2	18	PBSS301NZ				
20	3	5	220 / 390	0.5	2	40		PBSS4320X			
	4	15	300 / 450	0.5	2	30		PBSS301ND			
	5	10	300 / 450	0.5	2	35		PBSS4520X			
	5.3	10.6	300 / 570	0.5	2	20		PBSS302NX			
	5.8	10.2	300 / 570	0.5	2	20	PBSS302NZ				
	6	7	280 / 440	0.5	2	20					PBSS4620PA
	7	15	300 / 550	0.5	2	12		PBSS4021NX			
	8	20	300 / 550	0.5	2	9	PBSS4021NZ				
30	3	5	300 / 490	0.5	2	45		PBSS4330X			
	3	5	300 / 465	0.5	2	40				PBSS4330PAS <sup>2)</sup>	PBSS4330PA
	3.5	6	300 / 500	0.5	2	70			PBSS4032ND <sup>3)</sup>		
	4.7	10	300 / 500	0.5	2	57		PBSS4032NX <sup>3)</sup>			
	5.1	10.2	300 / 480	0.5	2	20		PBSS303NX			
	5.4	10	300 / 500	0.5	2	57	PBSS4032NZ <sup>3)</sup>				
	5.5	11	300 / 480	0.5	2	20	PBSS303NZ				
40	2	3	300 / -	0.5	5	140		PBSS4240X			
	4	15	300 / 520	0.5	2	35			PBSS302ND		
		10	300 / 500	0.5	2	21		PBSS4540X			
	5	10	300 / 500	0.5	2	25	PBSS4540Z				
50	2	5	300 / -	0.5	2	90 <sup>3)</sup>		PBSS4250X			
	3	5	200 / 280	0.5	2	65			PBSS4350D(-Q)		
			300 / 460	0.5	2	50		PBSS4350X			
200 / 280			0.5	2	60 <sup>1)</sup>	PBSS4350Z					
60	1	2	170 / -	0.5	10	200 <sup>2)</sup>		PBSS4160X			
	3	6	200 / 360	0.5	5	45				PBSS4360PAS <sup>2)</sup>	
			200 / -	0.5	5	45	PBSS4360Z	PBSS4360X			
			345 / 570	0.5	2	40			PBSS303ND		
	4.7	9.4	300 / 520	0.5	2	25		PBSS304NX			
	5.2	10.4	300 / 520	0.5	2	25	PBSS304NZ				
	6	7	280 / 440	0.5	2	22					PBSS4560PA
6.2	15	300 / 500	0.5	2	17		PBSS4041NX				
7	15	300 / 500	0.5	2	13	PBSS4041NZ					
80	3	6	240 / 360	0.5	2	40			PBSS304ND		
	4	10	250 / 400	0.5	2	25		PBSS4480X			
	4.6	9.2	300 / 470	0.5	2	25		PBSS305NX			
	5.1	10.2	300 / 470	0.5	2	25	PBSS305NZ				
	5.6	7	270 / 425	0.5	2	25					PBSS4580PA
100	1	3	150 / 290	0.25	10	75			PBSS8110D		
			150 / 290	0.25	10	73		PBSS8110X			
			150 / 290	0.25	10	73	PBSS8110Z				
	3	4	170 / 275	0.5	2	45			PBSS305ND		
	4.5	9	200 / 330	0.5	2	27		PBSS306NX			
	5.1	10.2	200 / 330	0.5	2	27	PBSS306NZ				
5.2	6	180 / 285	0.5	2	30					PBSS8510PA	

<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

<sup>2)</sup> 175°C capable

Low  $V_{CEsat}$  transistors single NPN up to 750 mW

Package							Automotive-qualified					
							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)							480	350	430	250	250	750
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A						
15	0.5	1	200 / 325	0.01	2	-			PBSS2515M	PBSS2515MB		
20	1	3	350 / 470	0.1	2	110 <sup>2)</sup>	PBSS4120T					
	2	5	220 / 330	0.1	2	45	PBSS4320T					
	4.3	8	300 / 550	0.5	2	21	PBSS4021NT					
30	1	1.5	230 / 380	0.5	2	90					PBSS4130QA	
		3	300 / 450	0.5	2	120 <sup>2)</sup>	PBSS4130T					
	2	3	300 / 450	0.5	2	70	PBSS4230T					
			230 / 380	0.5	2	75					PBSS4230QA	
2.6	5	300 / 500	0.5	2	80	PBSS4032NT <sup>3)</sup>						
40	0.5	1	200 / 550	0.01	2	200 <sup>2)</sup>			PBSS2540M	PBSS2540MB		
			300 / 440	0.5	5	130		PBSS4140U				
			300 / 510	0.5	5	120	PMMT491A					
	2	3	300 / 420	0.5	5	130	PBSS4140T					
350 / 470			0.1	2	70			PBSS4240Y				
300 / 450	0.5	2	70	PBSS4240T(-Q)								
50	2	5	300 / 495	0.5	2	60	PBSS4350T(-Q)					
60	1	1.5	150 / 240	0.5	2	90					PBSS4160QA	
			200 / 420	0.5	5	120		PBSS4160U				
		200 / 350	0.5	5	110	PBSS4160T						
	2	3	150 / 240	0.5	2	75					PBSS4260QA	
3.8	8	300 / 500	0.5	2	29	PBSS4041NT						
100	1	3	150 / 400	0.25	10	80				PBSS8110Y		
			150 / 300	0.25	10	70	PBSS8110T(-Q)					

<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching



Low  $V_{CEsat}$  transistors single PNP up to 2000 mW

Package							Automotive-qualified				
							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020D-3 (SOT1061D)	DFN2020-3 (SOT1061)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P <sub>tot</sub> (mW)							1700	1650	750	1300	1300
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A					
12	5.3	10.6	250 / 400	0.5	2	20		PBSS301PX			
	5.7	11.4	250 / 400	0.5	2	20	PBSS301PZ				
20	3	5	200 / -	0.5	2	80 <sup>2)</sup>			PBSS5320D		
			220 / 450	0.5	2	50		PBSS5320X			
	4	15	250 / 400	0.5	2	35			PBSS301PD		
	5	10	300 / 430	0.5	2	45			PBSS5520X		
	5.1	10.2	250 / 370	0.5	2	25			PBSS302PX		
	5.5	11	250 / 370	0.5	2	25	PBSS302PZ				
	6	7	230 / 345	0.5	2	25					PBSS5620PA
	6.2	15	250 / 400	0.5	2	18		PBSS4021PX			
30	2.7	5	200 / 350	0.5	2	87			PBSS4032PD <sup>3)</sup>		
			200 / 380	0.5	2	50		PBSS5330X			
	3	5	200 / 320	0.5	2	45				PBSS5330PAS <sup>2)</sup>	PBSS5330PA
			4.2	10	200 / 350	0.5	2	70		PBSS4032PX <sup>3)</sup>	
	4.4	10	200 / 350	0.5	2	70	PBSS4032PZ <sup>3)</sup>				
	5.1	10.2	250 / 400	0.5	2	25			PBSS303PX		
	5.3	10.6	250 / 400	0.5	2	25	PBSS303PZ				
6	7	200 / 335	0.5	2	25					PBSS5630PA	
40	2	3	215 / -	0.5	5	170			PBSS5240X		
			4	15	200 / 310	0.5	2	46			PBSS302PD
	4	10	250 / 370	0.5	2	33			PBSS5540X		
			250 / 350	0.5	2	40 <sup>1)</sup>	PBSS5540Z				
50	2	5	200 / -	0.5	2	90 <sup>2)</sup>			PBSS5250X		
			3	5	200 / 300	0.5	2	70			PBSS5350D
	200 / 375	0.5			2	70			PBSS5350X		
200 / 300	0.5	2	70	PBSS5350Z							
60	3	6	130 / 220	0.5	5	55				PBSS5360PAS <sup>2)</sup>	
			130 / -	0.5	5	55	PBSS5360Z	PBSS5360X			
			180 / 265	0.5	2	55			PBSS303PD		
	4.2	8.4	200 / 295	0.5	2	35			PBSS304PX		
	4.5	9	200 / 295	0.5	2	35	PBSS304PZ				
	5	6	170 / 260	0.5	2	35					PBSS5560PA
80	3	5	155 / 225	0.5	2	55			PBSS304PD		
			180 / 265	0.5	2	40					PBSS5580PA
	4	10	200 / 300	0.5	2	35			PBSS5480X		
			200 / 280	0.5	2	36			PBSS305PX		
	4.5	9	200 / 280	0.5	2	36	PBSS305PZ				
100	1	3	150 / 350	0.5	5	100				PBSS9110D	
			150 / 350	0.5	5	90			PBSS9110X		
			150 / -	0.5	5	90	PBSS9110Z				
	2	3	175 / 275	0.5	2	65			PBSS305PD		
	2.7	4	180 / 295	0.5	2	45					PBSS9410PA
3.7	7.4	200 / 300	0.5	2	45				PBSS306PX		
4.1	8.2	200 / 300	0.5	5	45	PBSS306PZ					

<sup>1)</sup> I<sub>C</sub> / I<sub>B</sub> = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

<sup>2)</sup> 175°C capable

Low  $V_{CEsat}$  transistors single PNP up to 750 mW

Package							Automotive-qualified					
							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P <sub>tot</sub> (mW)							480	350	430	250	250	750
V <sub>CE0</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A						
15	0.5	1	200/260	0.01	2	150				PBSS3515M	PBSS3515MB	
20	1	2	300/450	0.1	2	125 <sup>2)</sup>	PBSS5120T					
		3	225/-	0.5	2	80 <sup>2)</sup>	PBSS5220T					
	2	5	220/420	0.5	2	50	PBSS5320T(-Q)					
	3.5	8	250/400	0.5	2	35	PBSS4021PT					
30	1	3	260/350	0.5	2	110	PBSS5130T					
	2	3	300/450	0.1	2	70	PBSS5230T					
	2.4	5	200/320	0.5	2	95	PBSS4032PT <sup>3)</sup>					
40	0.5	1	200/380	0.01	2	220				PBSS3540M	PBSS3540MB	
			300/520	0.1	5	130		PBSS5140U				
			300/800	0.1	5	130	PMMT591A					
	300/510	0.1	5	130	PBSS5140T							
	2	3	300/-	0.1	2	110 <sup>2)</sup>			PBSS5240Y			
			300/450	0.1	2	70	PBSS5240T(-Q)					
50	2	3	200/-	0.5	2	90 <sup>2)</sup>	PBSS5250T					
			PBSS5250TH									
	3	3	200/-	0.5	2	90 <sup>2)</sup>	PBSS5350TH					
			200/360	0.5	2	55	PBSS5350T(-Q)					
60	1	1.5	120/185	0.5	2	125					PBSS5160QA	
		2	150/250	0.5	5	135		PBSS5160U				
			150/250	0.5	5	120	PBSS5160T(-Q)					
	1.7	2.5	120/185	0.5	2	105					PBSS5260QA	
	2.7	8	200/300	0.5	2	49	PBSS4041PT					
100	1	3	150/-	0.25	5	93			PBSS9110Y			
			150/350	0.5	5	95	PBSS9110T(-Q)					

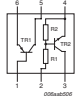
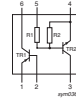
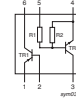
<sup>1)</sup> IC / IB = 20 <sup>2)</sup> V<sub>CEsat</sub> (max) <sup>3)</sup> Optimized for high-speed switching

# Low $V_{CEsat}$ transistors double

Package										Automotive-qualified			
										SOT457 (SC-74)	DFN2020-6 (SOT1118)	DFN2020D-6 (SOT1118D)	SOT363 (SC-88)
Size (mm)										2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62	2.0 x 1.25 x 0.95
$P_{tot}$ (mW)										750	1300	1300	430
$V_{CE0}$ (V)	$I_C$ (A)	Polarity	$h_{FE}$ min/typ	@ $I_C$ (A)	@ $V_{CE}$ (V)	$V_{CEsat}$ typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A	$V_{CEsat}$ max (mV)	@ $I_C$ (A)	@ $I_B$ (A)				
15	0.5	NPN/PNP	200	0.1	2	-	250	0.5	0.05				
20	2	NPN/NPN	230	0.5	2	60	90	0.5	0.05				
	2	PNP/PNP	210	0.5	2	70	110	0.5	0.05				
30	1	NPN/NPN	210	0.5	2	75	100	0.5	0.05				
		PNP/PNP	170	0.5	2	85	140	0.5	0.05				
		NPN/PNP	210/170	0.5	2	75/85	100/140	0.5	0.05				
	2	NPN/NPN	230	0.5	2	60	80	0.5	0.05				
		PNP/PNP	210	0.5	2	75	110	0.5	0.05				
		NPN/PNP	230/210	0.5	2	60/75	80/100	0.5	0.05				
40	1	NPN/PNP	300/250	0.5	5	130/150	500	1	0.1				
	2	NPN/PNP	300/250	0.5	5	80/100	400/530	2	0.2				
55	2	PNP/PNP	140/200	0.5	2	80/120	300/450	2	0.2				
60	1	2 x NPN	200	0.5	5	115	250	1	0.1				
		2 x PNP	150	0.5	5	120	330	1	0.1				
		NPN/PNP	200/150	0.5	5	115/120	250/330	1	0.1				
	1	NPN/NPN	150	0.5	2	90	120	0.5	0.05				
		PNP/PNP	120	0.5	2	125	180	0.5	0.05				
		NPN/PNP	150/120	0.5	2	90/125	120/180	0.5	0.05				
	2	NPN/NPN	210	0.5	2	70	90	0.5	0.05				
		PNP/PNP	140	0.5	2	100	140	0.5	0.05				
		NPN/PNP	210/140	0.5	2	70/100	90/140	0.5	0.05				
120	1	NPN/NPN	240	0.1	2	90	120	0.5	0.05				
		PNP/PNP	190	0.1	2	150	220	0.5	0.05				
		NPN/PNP	240/190	0.1	2	90/150	120/220	0.5	0.05				

<sup>1)</sup>  $I_C/I_B=20$  <sup>2)</sup> Device mounted on a ceramic PCB, Al<sub>2</sub>O<sub>3</sub>, standard footprint <sup>3)</sup> Optimized for high-speed switching

Low  $V_{CEsat}$  transistors load switches

Package				Automotive-qualified					
				SOT457 (SC-74)		SOT363 (SC-88)			
Size (mm)				2.9 x 1.5 x 1.0		2.0 x 1.25 x 0.95			
P <sub>tot</sub> (mW)				750 <sup>1)</sup>	600 <sup>1)</sup>	300 <sup>2)</sup>			
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	V <sub>CEsat</sub> max (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A	R1, R2 (kΩ)						
15	0.5	250	2.2			PBLS1501Y			
			4.7			PBLS1502Y			
			10			PBLS1503Y			
			22			PBLS1504Y			
20	1	150	2.2		PBLS2001D				
			4.7		PBLS2002D				
			10		PBLS2003D				
			22		PBLS2004D				
	1.8	70	2.2	PBLS2021D					
			4.7	PBLS2022D					
			10	PBLS2023D					
			22	PBLS2024D					
40	0.5	350	2.2			PBLS4001Y			
			4.7			PBLS4002Y			
			10			PBLS4003Y			
			22			PBLS4004Y			
	1	170	4.7			PBLS4005Y			
			2.2		PBLS4001D				
			4.7		PBLS4002D				
			10		PBLS4003D				
			22		PBLS4004D				
			47		PBLS4005D				
			60	1	180	2.2		PBLS6001D	
						4.7		PBLS6002D	
10		PBLS6003D							
22		PBLS6004D							
1.5	100	4.7			PBLS6005D				
		2.2		PBLS6021D					
		4.7		PBLS6022D					
		10		PBLS6023D					
			22	PBLS6024D					

<sup>1)</sup> Device mounted on a ceramic PCB, Al<sub>2</sub>O<sub>3</sub>, standard footprint  
<sup>2)</sup> Device mounted on an FR4 PCB, single-sided copper, tin-plated, and standard footprint


## Low $V_{CEsat}$ high voltage transistors

Package					Automotive-qualified				
					SOT223 (SC-73)	SOT89 (SC-62)	DFN1010D-3 (SOT1215)	SOT23	
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	1.1 x 1.0 x 0.37	2.9 x 1.3 x 1.0	
$P_{tot}$ (mW)					1700	1300	750	250	
Polarity	$V_{CEO}$ [max] (V)	$I_C$ (A)	$h_{FE}$ [min]	$h_{FE}$ [max]					
NPN	150	0.5	100	300	PBHV8515QA			PBHV8115TLH	
			70						PBHV8115T
		1	100				PBHV8115X		
							PBHV8115Z		
					PBHV8215Z				
	180	1	100				PBHV8118T		
	400	0.5	100	PBHV8540Z		PBHV8540X		PBHV8540T	
		1	100	PBHV8140Z					
	500	0.15	50				PBHV8550X		
	600	0.1	70	PBHV2160Z				PMBTA45	
		0.5	70	PBHV8560Z					
PNP	140	4	100	PBHV9414Z					
	150	0.5	100	PBHV9515QA			PBHV9115TLH		
			70	300				PBHV9115T	
		1	100				PBHV9115X		
							PBHV9115Z		
				PBHV9215Z					
	400	0.25	100				PBHV9040X		PBHV9040T
				PBHV9040Z					
				PBHV9540Z					
	500	0.5	140	450	PBHV9540X				
		0.15	100				PBHV9050T		
	600	0.25	100	PBHV9050Z					
0.1		70	PBHV3160Z						
			0.5	70	PBHV9560Z				


## Low $V_{CEsat}$ transistors PNP - N-channel MOSFET combination

Package												Automotive-qualified
												DFN2020-6 (SOT1118)
Size (mm)												2.0 x 2.0 x 0.62
$P_{tot}$ (mW)												1300
$V_{CEO}$ (V)	$I_C$ (A)	$h_{FE}$ min	$h_{FE}$ max	@ $I_C$ (mA)	@ $V_{CE}$ (V)	$R_{CEsat}$ typ (mΩ)	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (A)	$R_{Dson}$ typ (mΩ)		
40	2	300	800	100	5	240	30	0.7	0.66	390	PBSM5240PF	
		100	-	100	5	240	30	0.7	0.66	390	PBSM5240PFH	

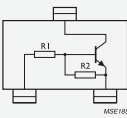
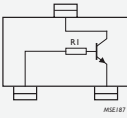
Low  $V_{CEsat}$  power transistors single (175 °C capable)

Package								LFPAK56 (SOT669)
								
Size (mm)								5 x 6 x 1.1
P <sub>tot</sub> (mW)								1250
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> [max] (A)	h <sub>FE</sub> min/typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	Polarity	Automotive-qualified	
40	6	14	200 / 400	0.5	2	NPN	Yes	PHPT60406NY
		12		0.5	2	PNP	Yes	PHPT60406PY
	10	20	200 / 400	0.5	2	NPN	Yes	PHPT60410NY
				0.5	2	PNP	Yes	PHPT60410PY
	15	30	200 / 400	0.5	2	NPN	Yes	PHPT60415NY
				0.5	2	PNP	Yes	PHPT60415PY
60	3	8	200 / 400	0.5	2	NPN	Yes	PHPT60603NY
				0.5	2	PNP	Yes	PHPT60603PY
	6	14	200 / 400	0.5	2	NPN	Yes	PHPT60606NY
		12	150 / 250	0.5	2	PNP	Yes	PHPT60606PY
	10	20	200 / 400	0.5	2	NPN	Yes	PHPT60610NY
			150 / 250	0.5	2	PNP	Yes	PHPT60610PY
100	2	6	150 / 250	0.5	10	NPN	No	PHPT61002NYC
			150 / 220	0.5	10	PNP	No	PHPT61002PYC
			120/220	0.5	10	NPN	No	PHPT61002NYCLH
			100/180	0.5	10	PNP	No	PHPT61002PYCLH
	3	8	150 / 250	0.5	10	NPN	Yes	PHPT61003NY
			150 / 220	0.5	10	PNP	Yes	PHPT61003PY
	6	12	150 / 250	0.5	10	NPN	Yes	PHPT61006NY
			150 / 220	0.5	10	PNP	Yes	PHPT61006PY
	10	20	150 / 250	0.5	10	NPN	Yes	PHPT61010NY
			150 / 220	0.5	10	PNP	Yes	PHPT61010PY

Low  $V_{CEsat}$  power transistors double (175 °C capable)

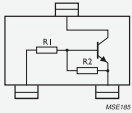
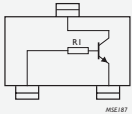
Package												Automotive-qualified
												LFPAK56D (SOT1205)
												
Size (mm)												5 x 6 x 1.1
P <sub>tot</sub> (mW)												1250
V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	I <sub>CM</sub> (A)	h <sub>FE</sub> typ	@ I <sub>C</sub> (A)	@ V <sub>CE</sub> (V)	V <sub>CEsat</sub> typ (mV); I <sub>C</sub> = 0.5 A; I <sub>B</sub> = 0.05 A	V <sub>CEsat</sub> max (mV)	@ I <sub>C</sub> (A)	@ I <sub>B</sub> (A)	Polarity	h <sub>FE1</sub> /h <sub>FE2</sub>	
100	3	6	150	0.5	10	50	300	3	0.2	2XNPN	-	PHPT610030NK
						70	400	3	0.2	2XPNP	-	PHPT610030PK
						50 / 70	300 / 400	3	0.2	NPN/PNP	-	PHPT610030NPK
						50	300	3	0.2	2XNPN	0.95	PHPT610035NK
						70	400	3	0.2	2XPNP	0.9	PHPT610035PK

## 50 V/100 mA single RETs (Part 1)

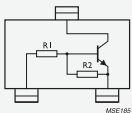
Package					Automotive-qualified			
					SOT23		SOT323 (SC-70)	
Size (mm)					2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95	
P <sub>tot</sub> (mW)					250		200	
V <sub>CE0</sub> (V)	I <sub>c</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP
50	100		1	1		PDTA113ET		PDTA113EU
			2.2	2.2	PDTC123ET	PDTA123ET	PDTC123EU	PDTA123EU
			4.7	4.7	PDTC143ET	PDTA143ET	PDTC143EU	PDTA143EU
			10	10	PDTC114ET (-Q)	PDTA114ET	PDTC114EU	PDTA114EU
			22	22	PDTC124ET (-Q)	PDTA124ET	PDTC124EU	PDTA124EU
			47	47	PDTC144ET	PDTA144ET	PDTC144EU	PDTA144EU
			100	100	PDTC115ET	PDTA115ET	PDTC115EU	PDTA115EU
			1	10		PDTA113ZT		PDTA113ZU
			2.2	10	PDTC123YT	PDTA123YT	PDTC123YU	PDTA123YU
			2.2	47	PDTC123JT	PDTA123JT	PDTC123JU	PDTA123JU
			4.7	10	PDTC143XT	PDTA143XT	PDTC143XU	PDTA143XU
			4.7	47	PDTC143ZT	PDTA143ZT	PDTC143ZU	PDTA143ZU
			10	47	PDTC114YT	PDTA114YT	PDTC114YU	PDTA114YU
			22	47	PDTC124XT	PDTA124XT	PDTC124XU	PDTA124XU
		47	10	PDTC144VT	PDTA144VT	PDTC144VU	PDTA144VU	
		47	22	PDTC144WT	PDTA144WT	PDTC144WU	PDTA144WU	
			2.2	-	PDTC123TT	PDTA123TT	PDTC123TU	PDTA123TU
			4.7	-	PDTC143TT	PDTA143TT	PDTC143TU	PDTA143TU
			10	-	PDTC114TT	PDTA114TT	PDTC114TU	PDTA114TU
			22	-	PDTC124TT	PDTA124TT	PDTC124TU	PDTA124TU
			47	-	PDTC144TT	PDTA144TT	PDTC144TU	PDTA144TU
			100	-	PDTC115TT	PDTA115TT	PDTC115TU	PDTA115TU

## Resistor equipped transistors (RETs)

### 50 V/100 mA single RETs (Part 2)

Package					Automotive-qualified					
					DFN1006-3 (SOT883)		DFN1006B-3 (SOT883B)		DFN1010D-3 (SOT1215)	
Size (mm)					1.0 x 0.6 x 0.48		1.0 x 0.6 x 0.37		1.1 x 1.0 x 0.37	
P <sub>tot</sub> (mW)					250		250		750	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP	NPN	PNP
50	100		1	1		PDTA113EM		PDTA113EMB		
			2.2	2.2	PDTC123EM	PDTA123EM	PDTC123EMB	PDTA123EMB		
			4.7	4.7	PDTC143EM	PDTA143EM	PDTC143EMB	PDTA143EMB	PDTC143EQA	PDTA143EQA
			10	10	PDTC114EM	PDTA114EM	PDTC114EMB	PDTA114EMB	PDTC114EQA	PDTA114EQA
			22	22	PDTC124EM	PDTA124EM	PDTC124EMB	PDTA124EMB	PDTC124EQA	PDTA124EQA
			47	47	PDTC144EM	PDTA144EM	PDTC144EMB	PDTA144EMB	PDTC144EQA	PDTA144EQA
			100	100	PDTC115EM	PDTA115EM	PDTC115EMB	PDTA115EMB		
			1	10		PDTA113ZM		PDTA113ZMB		
			2.2	10	PDTC123YM	PDTA123YM	PDTC123YMB	PDTA123YMB		
			2.2	47	PDTC123JM	PDTA123JM	PDTC123JMB	PDTA123JMB	PDTC123JQA	PDTA123JQA
		4.7	10	PDTC143XM	PDTA143XM	PDTC143XMB	PDTA143XMB	PDTC143XQA	PDTA143XQA	
		4.7	47	PDTC143ZM	PDTA143ZM	PDTC143ZMB	PDTA143ZMB	PDTC143ZQA	PDTA143ZQA	
		10	47	PDTC114YM	PDTA114YM	PDTC114YMB	PDTA114YMB	PDTC114YQA	PDTA114YQA	
		22	47	PDTC124XM	PDTA124XM	PDTC124XMB	PDTA124XMB			
		47	10	PDTC144VM	PDTA144VM	PDTC144VMB	PDTA144VMB			
		47	22	PDTC144WM	PDTA144WM	PDTC144WMB	PDTA144WMB			
		2.2	-	PDTC123TM	PDTA123TM	PDTC123TMB	PDTA123TMB			
		4.7	-	PDTC143TM	PDTA143TM	PDTC143TMB	PDTA143TMB			
		10	-	PDTC114TM	PDTA114TM	PDTC114TMB	PDTA114TMB			
		22	-	PDTC124TM	PDTA124TM	PDTC124TMB	PDTA124TMB			
47	-	PDTC144TM	PDTA144TM	PDTC144TMB	PDTA144TMB					
100	-	PDTC115TM	PDTA115TM	PDTC115TMB	PDTA115TMB					
										

### 50 V/100 mA single RETs (Part 3)

Package					Automotive-qualified			
					DFN1110D-3 (SOT8015)		DFN1412D-3 (SOT8009)	
Size (mm)					1.1 x 1.0 x 0.47		1.4 x 1.2 x 0.47	
P <sub>tot</sub> (mW)					280		325	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN	PNP	NPN	PNP
50	100		4.7	4.7	PDTC143EQB (-Q)	PDTA143EQB (-Q)	PDTC143EQC (-Q)	PDTA143EQC (-Q)
			10	10	PDTC114EQB (-Q)	PDTA114EQB (-Q)	PDTC114EQC (-Q)	PDTA114EQC (-Q)
			22	22	PDTC124EQB (-Q)	PDTA124EQB (-Q)	PDTC124EQC (-Q)	PDTA124EQC (-Q)
			47	47	PDTC144EQB (-Q)	PDTA144EQB (-Q)	PDTC144EQC (-Q)	PDTA144EQC (-Q)
			22	47	PDTC124XQB (-Q)	PDTA124XQB (-Q)		
			22	47	PDTC124XQC (-Q)	PDTA124XQC (-Q)		
			2.2	10				
			2.2	47	PDTC123JQB (-Q)	PDTA123JQB (-Q)	PDTC123JQC (-Q)	PDTA123JQC (-Q)
			4.7	10	PDTC143XQB (-Q)	PDTA143XQB (-Q)	PDTC143XQC (-Q)	PDTA143XQC (-Q)
			4.7	47	PDTC143ZQB (-Q)	PDTA143ZQB (-Q)	PDTC143ZQC (-Q)	PDTA143ZQC (-Q)
			10	47	PDTC114YQB (-Q)	PDTA114YQB (-Q)	PDTC114YQC (-Q)	PDTA114YQC (-Q)



## 50 V/100 mA double RETs

Package					Automotive-qualified										
					DFN1010B-6 (SOT1216)			DFN1412-6 (SOT1268)			SOT363 (SC-88)				
Size (mm)					1.1 x 1.0 x 0.37			1.4 x 1.2 x 0.5			2.0 x 1.25 x 0.95				
P <sub>tot</sub> (mW)					350			480			300				
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN / NPN		NPN / PNP		PNP / PNP		NPN / NPN	NPN / PNP	PNP / PNP		
50	100	R1 = R2	2.2	2.2								PUMH20	PUMD20	PUMB20	
			4.7	4.7								PUMH15	PUMD15	PUMB15	
			10	10	PQMH11	PQMD3	PQMB11	PRMH11	PRMD3	PRMB11	PUMH11 (-Q)	PUMD3 (-Q)	PUMB11 (-Q)		
			22	22		PQMD2			PRMD2		PUMH1	PUMD2	PUMB1		
			47	47	PQMH2	PQMD12		PRMH2	PRMD12		PUMH2 (-Q)	PUMD12 (-Q)	PUMB2		
			100	100							PUMH24	PUMD24	PUMB24		
		R1 ≠ R2	2.2	47	PQMH10	PQMD10		PRMH10	PRMD10		PUMH10 (-Q)	PUMD10	PUMB10		
			4.7	10							PUMH18	PUMD18	PUMB18		
			4.7	47	PQMH13	PQMD13		PRMH13	PRMD13		PUMH13	PUMD13 (-Q)	PUMB13 (-Q)		
			10	47	PQMH9			PRMH9			PUMH9 (-Q)	PUMD9 (-Q)	PUMB9 (-Q)		
			22	47		PQMD16			PRMD16		PUMH16	PUMD16	PUMB16		
			47	22							PUMH17	PUMD17	PUMB17		
		Only R1	47 / 2.2	47 / 47									PUMD48 (-Q)		
			2.2	-								PUMH30	PUMD30	PUMB30	
			4.7	-								PUMH7	PUMD6	PUMB3	
10	-									PUMH4	PUMD4 (-Q)	PUMB4			
22	-									PUMH19	PUMD19	PUMB19			
47	-								PUMH14	PUMD14	PUMB14				





## 80 V/100 mA single/double RETs

Package					Automotive-qualified						
					SOT23		SOT323 (SC-70)		SOT363 (SC-88)		
Size (mm)					2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		2.0 x 1.25 x 0.95		
P <sub>tot</sub> (mW)					250		200		300		
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN		PNP		NPN / NPN	NPN / PNP	PNP / PNP
80	100	R1 = R2	10	10	NHDTTC114ET	NHDTA114ET	NHDTTC114EU	NHDTA114EU	NHUMH11	NHUMD3	NHUMB11
			22	22	NHDTTC124ET	NHDTA124ET	NHDTTC124EU	NHDTA124EU	NHUMH1	NHUMD2	NHUMB1
			47	47	NHDTTC144ET	NHDTA144ET	NHDTTC144EU	NHDTA144EU	NHUMH2	NHUMD12	NHUMB2
		R1 ≠ R2	2.2	47	NHDTTC123JT	NHDTA123JT	NHDTTC123JU	NHDTA123JU	NHUMH10	NHUMD10	NHUMB10
			4.7	47	NHDTTC143ZT	NHDTA143ZT	NHDTTC143ZU	NHDTA143ZU	NHUMH13	NHUMD13	NHUMB13
			10	47	NHDTTC114YT	NHDTA114YT	NHDTTC114YU	NHDTA114YU	NHUMH9	NHUMD9	NHUMB9


## Resistor equipped transistors (RETs)

### 50 V/500 mA single/double RETs






Types in **bold** represent new products

Package					Automotive-qualified										
					SOT457 (SC-74)			SOT23		SOT323 (SC-70)		DFN1010D-3 (SOT1215)			
															
Size (mm)					2.9 x 1.5 x 1.0			2.9 x 1.3 x 1.0		2.0 x 1.25 x 0.95		1.1 x 1.0 x 0.37			
P <sub>tot</sub> (mW)					750			250		200		750			
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	Configuration	R1 (kΩ)	R2 (kΩ)	NPN / NPN	NPN / PNP	PNP / PNP	NPN	PNP	NPN	PNP	NPN	PNP		
50	500	R1 = R2	1	1				PDTD113ET	PDTB113ET	PDTD113EU	PDTB113EU	PDTD113EQA	PDTB113EQA		
			2.2	2.2				PDTD123ET	PDTB123ET	PDTD123EU	PDTB123EU	PDTD123EQA	PDTB123EQA		
			4.7	4.7				PDTD143ET	PDTB143ET	PDTD143EU	PDTB143EU	PDTD143EQA	PDTB143EQA		
			10	10				PDTD114ET	PDTB114ET	PDTD114EU	PDTB114EU	PDTD114EQA	PDTB114EQA		
		R1 ≠ R2	1	10	<b>PIMN31 (-Q)</b>	<b>PIMC31 (-Q)</b>	<b>PIMP31 (-Q)</b>	PDTD113ZT	PDTB113ZT	PDTD113ZU	PDTB113ZU	PDTD113ZQA	PDTB113ZQA		
			2.2	10	<b>PIMN32 (a-Q)</b>	<b>PIMC32 (-Q)</b>	<b>PIMP32 (-Q)</b>	PDTD123YT	PDTB123YT	PDTD123YU	PDTB123YU	PDTD123YQA	PDTB123YQA		
			4.7	10				PDTD143XT	PDTB143XT	PDTD143XU	PDTB143XU	PDTD143XQA	PDTB143XQA		
		Only R1	2.2	-				PDTD123TT	PDTB123TT						

### 40V/600 mA Performance-based RETs

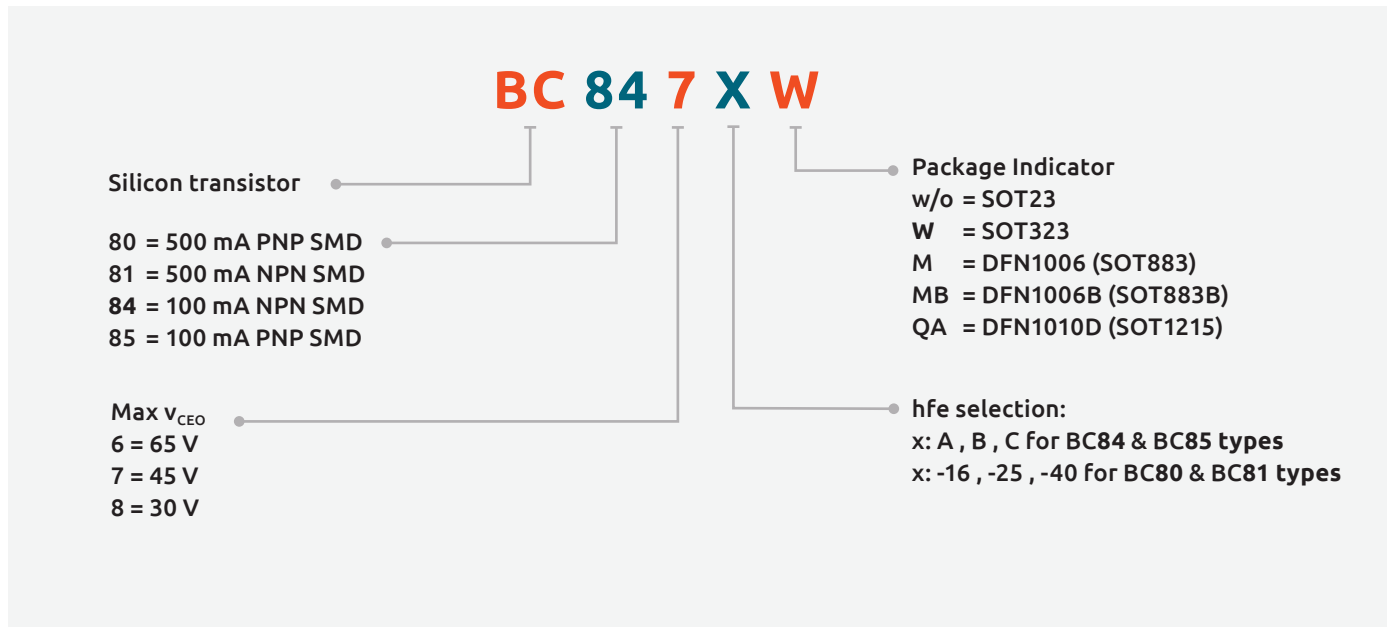
Package					Automotive-qualified	
					SOT23	
						
Size (mm)					2.9 x 1.3 x 1.0	
P <sub>tot</sub> (mW)					250	
V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)		R1 (kΩ)	R2 (kΩ)	NPN	PNP
40	600	R1 = R2	1	1	PBRN113ET <b>(-Q)</b>	PBRP113ET <b>(-Q)</b>
			2.2	2.2	PBRN123ET <b>(-Q)</b>	PBRP123ET <b>(-Q)</b>
		R1 ≠ R2	1	10	PBRN113ZT <b>(-Q)</b>	PBRP113ZT <b>(-Q)</b>
			2.2	10	PBRN123YT <b>(-Q)</b>	PBRP123YT <b>(-Q)</b>

## 3-terminal adjustable shunt regulators

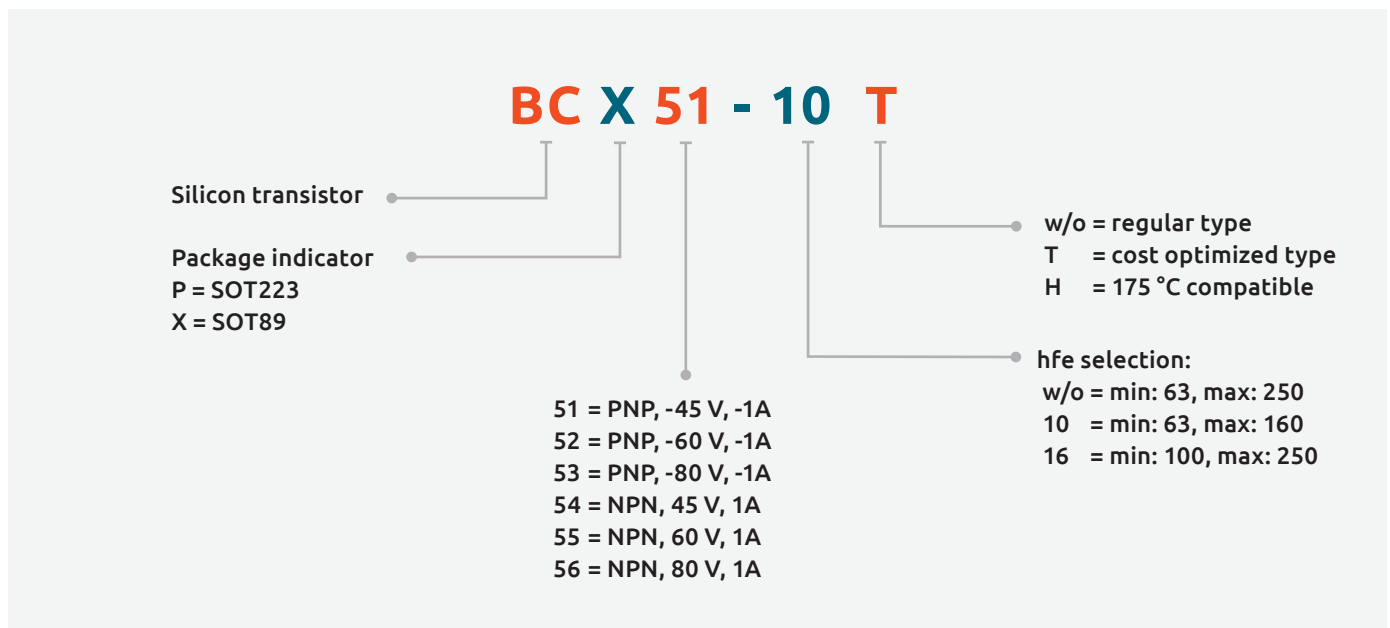
Automotive-qualified													
Type name	Pinning configuration	T <sub>amb</sub> (C°)	V <sub>ref</sub>		Package	Size(mm)	P <sub>tot</sub> (mW)	V <sub>KA</sub> (V)	I <sub>K</sub> (mA)				
TLVH431NCDBZR	Normal pinning	0 to 70	1.5%	1.24		2.9 x 1.3 x 1.0	480	20	80				
TLVH431NIDBZR	Normal pinning	-40 to 85											
TLVH431NQDBZR	Normal pinning	-40 to 125											
TLVH431NMQDBZR	MIRrored pinning												
TLVH431NACDBZR	Normal pinning	0 to 70	1%	1.24							480	20	80
TLVH431NAIDBZR	Normal pinning	-40 to 85											
TLVH431NAQDBZR	Normal pinning	-40 to 125											
TLVH431NAMQDBZR	MIRrored pinning												
TL431CDBZR	Normal pinning	0 to 70	2%	2.495		580	36	100					
TL431IDBZR	Normal pinning	-40 to 85											
TL431QDBZR	Normal pinning	-40 to 125											
TL431FDT	Normal pinning												
TL431MFD	MIRrored pinning	1%	2.495						580	36	100		
TL431ACDBZR	Normal pinning											0 to 70	
TL431AIDBZR	Normal pinning											-40 to 85	
TL431AQDBZR	Normal pinning											-40 to 125	
TL431AFDT	Normal pinning												
TL431AMFDT	MIRrored pinning	0.5%	2.495			580	36	100					
TL431BCDBZR	Normal pinning											0 to 70	
TL431BIDBZR	Normal pinning											-40 to 85	
TL431BQDBZR	Normal pinning			-40 to 125									
TL431BFDT	Normal pinning												
TL431BMFDT	MIRrored pinning												

## Nomenclatures

### General purpose bipolar transistors



### General purpose power transistors



## General purpose power transistors

**BC 51 - 10 - PAS**

Silicon transistor

51 = PNP, -45 V, -1A  
 52 = PNP, -60 V, -1A  
 53 = PNP, -80 V, -1A  
 54 = NPN, 45 V, 1A  
 55 = NPN, 60 V, 1A  
 56 = NPN, 80 V, 1A

Package indicator  
 PA = SOT1061  
 PAS = SOT1061D

hfe selection:  
 w/o = min: 63, max: 250  
 10 = min: 63, max: 160  
 16 = min: 100, max: 250

Low  $V_{CEsat}$  transistors**PBSS 2 5 15 M**NexPeria **BISS**  
technology transistor

2, 4 = NPN  
 3, 5 = PNP

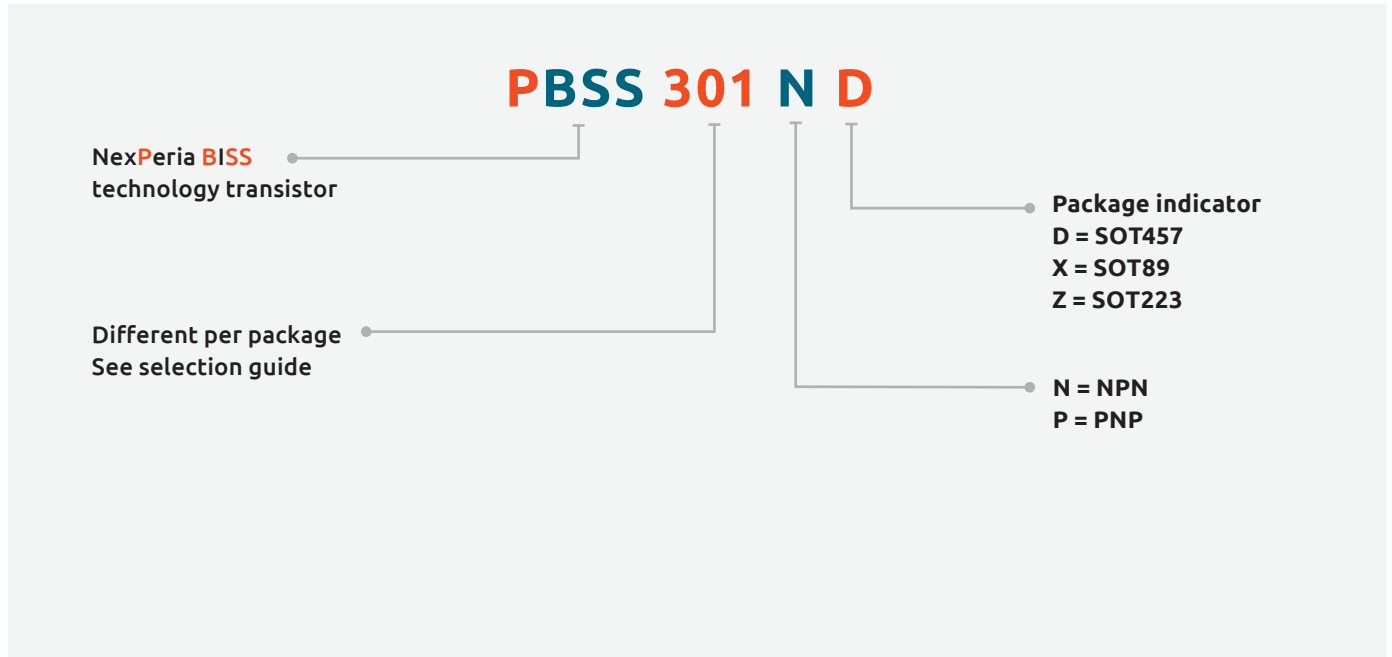
$I_{cmax}$   
 1 = 1 A  
 2 = 2 A  
 3 = 3 A  
 4 = 4 A  
 5 = see selection guide

Package Indicator  
 D = SOT457  
 M = SOT883  
 T = SOT23  
 U = SOT323  
 X = SOT89  
 Z = SOT223  
 MB = SOT883B  
 QA = SOT1215  
 PA = DFN2020-3  
 PAS = DFN2020D-3  
 Y = SOT363

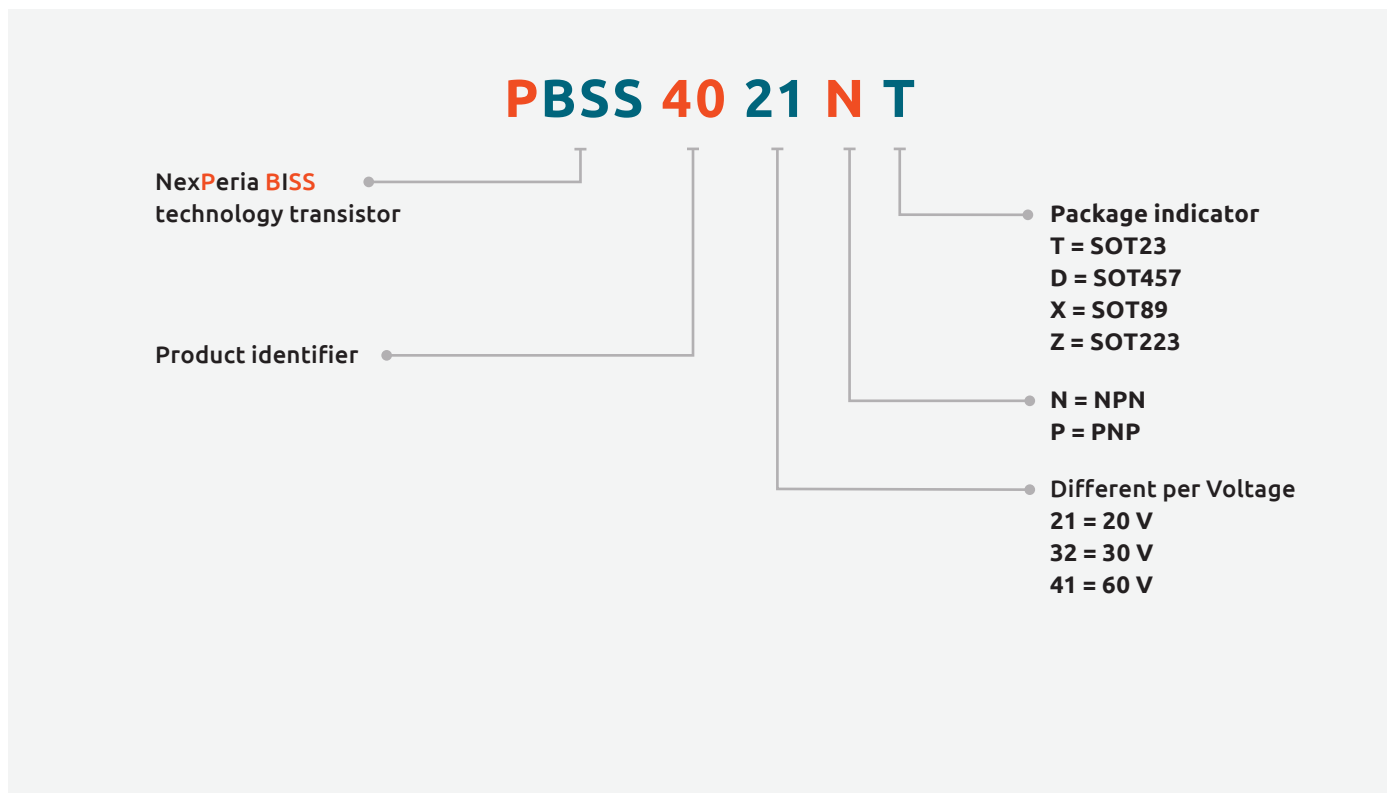
$V_{ceo}$   
 15 = 15 V  
 20 = 20 V  
 30 = 30 V  
 40 = 40 V  
 50 = 50 V  
 60 = 60 V  
 80 = 80 V

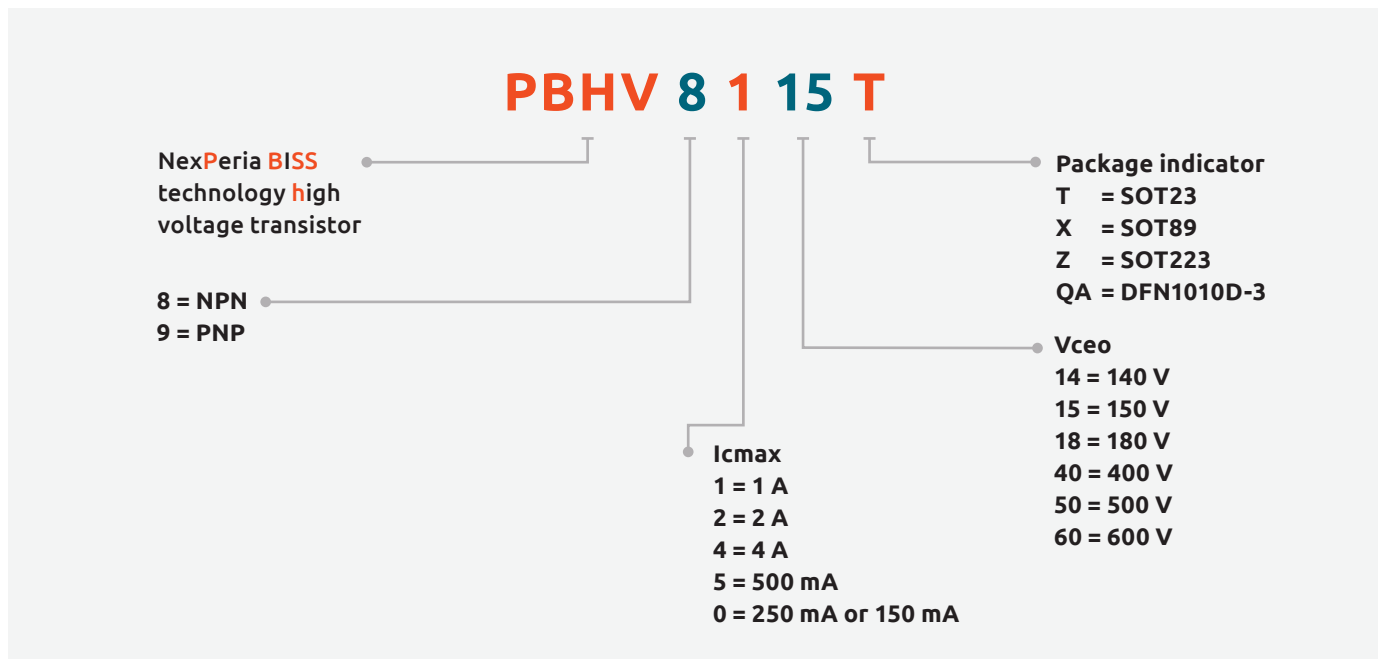
## Nomenclatures

### 3rd generation Low $V_{CEsat}$ transistors

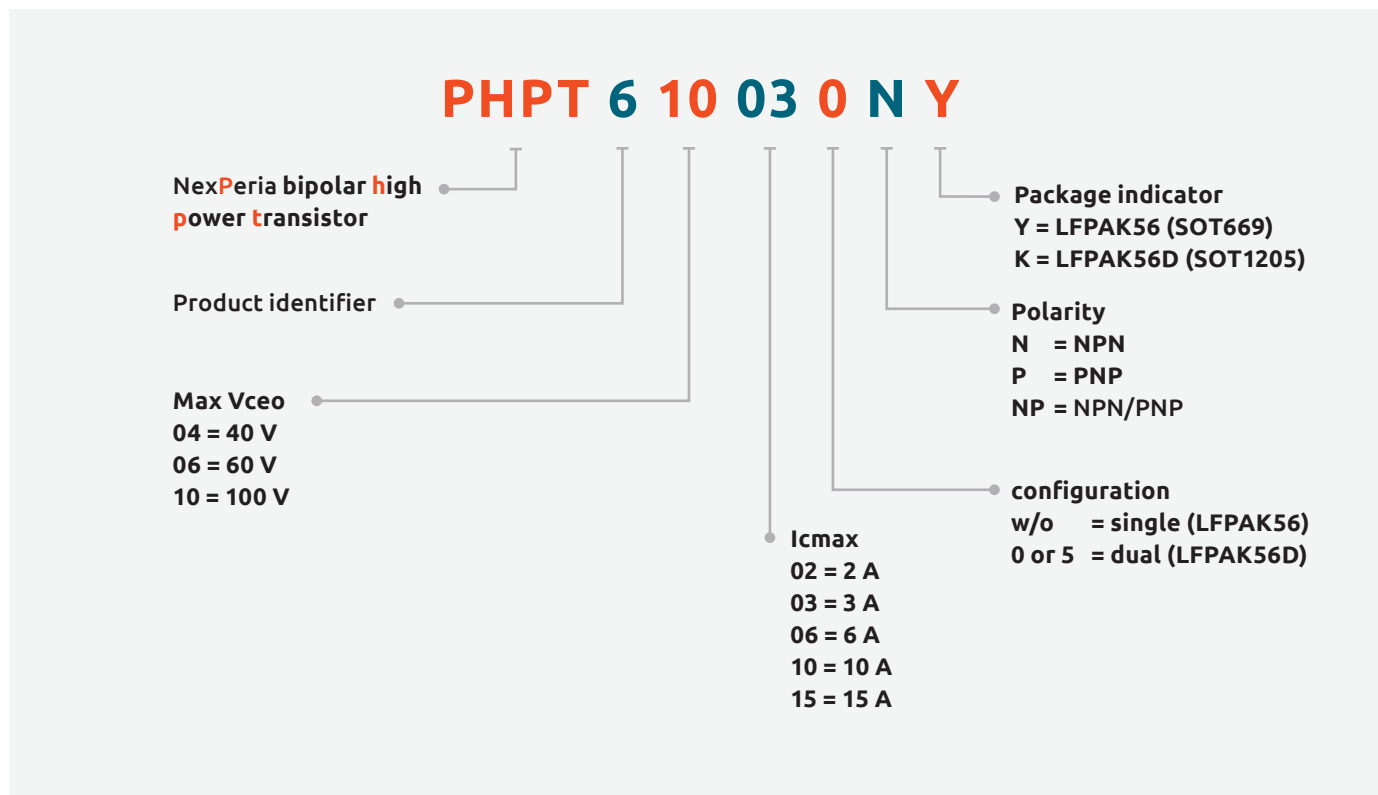


### 4th generation Low $V_{CEsat}$ transistors



High-voltage Low  $V_{CEsat}$  transistors

## Transistors in a LFPACK SMD package



























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# Zener diodes

## General purpose Zener diodes Part 1

Types in **bold** represent new products

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)		
200	40	2.4~75	B, C	Europe	Single		<b>BZX8845-Q series</b>	DFN1006BD-2 (SOD882BD) 	Yes	1.0 x 0.6 x 0.47	365	
		BZX8845 series	No									
		<b>BZX8850S-Q series</b>	<b>Yes</b>									
		BZX8850S series	No									
200	40	2.4~75	B, C	Europe	Single		BZX884 series	DFN1006-2 (SOD882) 	Yes	1.0 x 0.6 x 0.48	250	
		2.4~36	B, B2	Japan			PZUxBL series		Yes			
200	40	2.4~75	B, C	Europe	Single		BZX585 series	SOD523 (SC-79) 	Yes	1.2 x 0.8 x 0.6	300	
		2.4~36	B				<b>SZMM5Z series</b>		Yes			
		1.8~75	C				<b>MM5Z series</b>		No			
			C				<b>BZX58550-Q series</b>		Yes			
						BZX58550 series		No				
200	30	100	C	Europe	Back-to-back		BZB100A		Yes	1.7 x 1.25 x 0.95	300	
		2.4~36	B2	Japan	Single		PZUxBA series					320
			B, B1, B2, B3				PDZ-B series				400	
250	40	2.4~75	B	Europe	Single		<b>SZMM3Z series</b>	SOD323 (SC-76) 	Yes	1.7 x 1.25 x 0.95	300	
			A,B,C				<b>MM3Z series</b>		No			
							<b>BZX384-Q series</b>		<b>Yes</b>			
		1.8~75	A,B,C				BZX384 series		No			
			C				<b>BZX38450-Q series</b>		Yes			
							BZX38450 series		No			
200	60	100	C	Europe	Single		BZX100A	SOD323F (SC-90) 	Yes	1.7 x 1.25 x 0.7	550	
		40	B, B1, B2, B3	Japan			PZUxB series					
250	40	2.4~75	B, C	Europe	Single		BZX84J series		Yes		500	
		2.4~30	B				TDZxJ series					
250	40	2.4~75	B, C	Europe	Single		BZT52 series	SOD123 	Yes	2.7 x 1.6 x 1.2	590	
200		2.4~36	B	Japan			PDZ-GW series				625	
250	-	3.0~30	About 2.5%	Special	Single		NZH series	SOD123F 	Yes	2.6 x 1.6 x 1.1	1000	
		40	2.4~75	A, B, C			Europe				BZT52H series	830
200	40	2.4~75	B, C	Europe	Dual c.a.		BZB84 series	SOT23 	Yes	2.9 x 1.3 x 1.0	250	
		2.4~75	C				BZX84-Q series					
		2.4~75	C				BZX84 series					
		1.8~75	C				<b>BZX8450-Q series</b>					
			A, B, C			BZX8450 series		No				
250	30	5~6.8	0.2 V	Ave	Single		PLVA600A series		Yes			

## General purpose Zener diodes Part 2




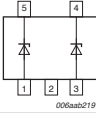

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
200	40	2.4~15	C	Europe	Dual c.a.	BZB784 series	SOT323 (SC-70)	Yes	2.0 x 1.25 x 0.95	350
			B, C		Single	BZX84W series				
200	40	10	B2	Japan	Dual isolated	PZU10DB2 series	SOT353 (SC-88A)	Yes	2.0 x 1.25 x 0.95	300
400	40	2.4~75	C	Europe	Single	BZV90 series	SOT223 (SC-73)	Yes	6.5 x 3.5 x 1.65	1500
250	40	2.4~75	C	Europe	Single	BZV49 series	SOT89 (SC-62)	Yes	4.5 x 2.5 x 1.5	
250	40	2.4~75	B, C	Europe	Single	BZV55 series	SOD80C (MiniMelf)	No	3.5 x 1.5 x 1.5	400
500	-	3.3~24	C	Europe	Single	1N47xxA series	SOD66 (DO-41)	No	4.8 x 2.6 x 0.81	1000
	60	3.6~75		Europe						
250	-	2.1~36	About 2%	Special	Single	NZX series	SOD27 (DO-35)	No	4.25 x 1.85 x 0.56	400
	40	2.4~75	B, C	Europe						

A-Selection Zener Diodes (1%  $V_Z$  tolerance)







$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
250	40	2.4~75	A	Europe	Single	BZX384-A (-Q) series	SOD323 (SC-76)	No	1.7 x 1.25 x 0.95	300
250	40	2.4~75	A	Europe	Single	BZT52H-A (-Q) series	SOD123F	Yes	2.6 x 1.6 x 1.1	830
200	40	2.4~75	A	Europe	Single	BZX84-A series	SOT23	Yes	2.9 x 1.3 x 1.0	250

## Zener diodes









### Low Leakage (low $I_r$ ) Zener Diodes

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)	
200	40	5.1~10	B, B2	Japan	Single		PZUxBL series	DFN1006-2 (SOD882)	Yes	1.0 x 0.6 x 0.48	250
200	40	5.1~10	B, B1, B2, B3	Japan	Single		PZUxBA series	SOD323 (SC-76)	Yes	1.7 x 1.25 x 0.95	300
200	40	5.1~10	B, B1, B2, B3	Japan	Single		PZUxB series	SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.7	550
200	40	10	B2	Japan	Dual isolated		PZU10DB2 series	SOT353 (SC-88A)	Yes	2.0 x 1.25 x 0.95	300
250	30	5~6.8	0.2 V	Ave	Single		PLVA600A series	SOT23	Yes	2.9 x 1.3 x 1.0	250



### Low Differential Resistance (low $R_z$ ) Zener Diodes

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_Z$ nom (V)	$V_Z$ tolerance	Note	Configuration	Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)	
200	40	2.4~36	B, B1, B2, B3		Single		PZUxBA series	SOD323 (SC-76)	Yes	1.7 x 1.25 x 0.95	300
200	40	2.4~36	B2	Japan	Single		PZUxB series	SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.95	300
200	40	2.4~36	B, B2	Japan	Single		PZUxBL series	DFN1006-2 (SOD882)	Yes	1.0 x 0.6 x 0.48	250
200	40	2.4~36	B	Japan	Single		PDZ-GW series	SOD123	Yes	2.7 x 1.6 x 1.2	625
200	40	2.4~36	B2	Japan	Single		PDZ-B series	SOD323F (SC-90)	Yes	1.7 x 1.25 x 0.95	300
250	30	5~6.8	0.2 V	Ave	Single		PLVA600A series	SOT23	Yes	2.9 x 1.3 x 1.0	250

50µA Zener Diodes ( $V_z$  @ 50µA)

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_z$ nom (V)	$V_z$ tolerance	Note	Configuration		Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
200	40	1.8~7.5	C	Europe	Single		BZX8850s-Q series BZX8850s series	DFN1006BD-2 (SOD882BD) 	Yes No	1.0 x 0.6 x 0.47	365
200	40	1.8~7.5	C	Europe	Single		BZX58550-Q series BZX58550 series	SOD523 (SC-79) 	Yes No	1.2 x 0.8 x 0.6	300
250	40	1.8~7.5	C	Europe	Single		BZX38450-Q series BZX38450 series	SOD323 (SC-76) 	Yes No	1.7 x 1.25 x 0.95	300
200	40	1.8~7.5	C	Europe	Single		BZX8450-Q series BZX8450 series	SOT23 	Yes No	2.9 x 1.3 x 1.0	250

High non-repetitive peak reverse power dissipation ( $P_{ZSM}$ ) Zener

$I_F$ max (mA)	$P_{ZSM}$ (W)	$V_z$ nom (V)	$V_z$ tolerance	Note	Configuration		Series	Package	Automotive - qualified	Size (mm)	$P_{tot}$ (mW)
250	100-180	2.4~6.8	B	Europe	Single		TDZxJ series	SOD323F (SC-90) 	Yes	1.7 x 1.25 x 0.7	500
	100		B, C				BZX84J series				

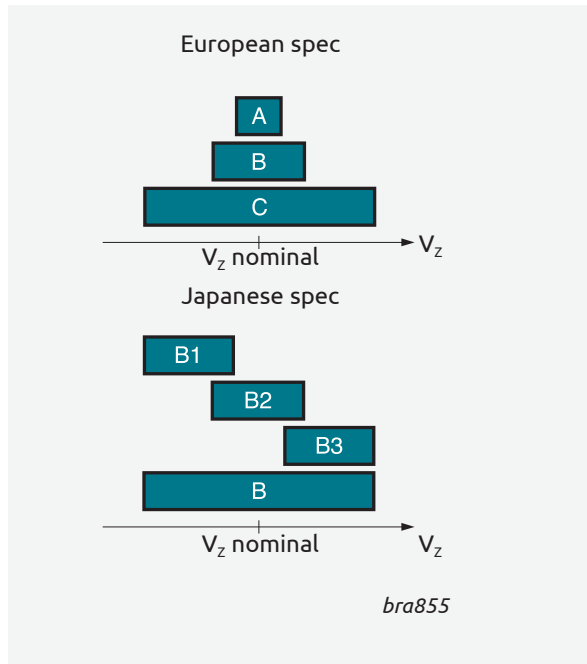
## Notes:

Japan: B selection: app. 5%  $V_z$  tolerance, B1, B2, B3 selections: app. 2%  $V_z$  tolerance in sequential intervals Europe: A selection: app. 1%  $V_z$  tolerance, B selection: app. 2%  $V_z$  tolerance, C selection: app. 5%  $V_z$  tolerance; the selections are in overlapping intervals

Ave: low-voltage avalanche regulator diodes Dual c.a.: dual common anode

# Zener diodes specifications

## Differences in Zener specifications



## Japanese spec (PZU, PDZ)

y =	B-series	B1-series	B2-series	B3-series
	± 5%	± 2%	± 2%	± 2%
	V <sub>z</sub> (V)	V <sub>z</sub> (V)	V <sub>z</sub> (V)	V <sub>z</sub> (V)
PZU2.4y	2.3 - 2.6	-	-	-
PZU2.7y	2.5 - 2.9	2.5 - 2.75	2.65 - 2.9	-
PZU3.0y	2.8 - 3.2	2.8 - 3.05	2.95 - 3.2	-
PZU3.3y	3.1 - 3.5	3.1 - 3.35	3.25 - 3.5	-
PZU3.6y	3.4 - 3.8	3.4 - 3.65	3.55 - 3.8	-
PZU3.9y	3.7 - 4.1	3.7 - 3.97	3.87 - 4.1	-
PZU4.3y	4.01 - 4.48	4.01 - 4.21	4.15 - 4.34	4.28 - 4.48
PZU4.7y	4.42 - 4.9	4.42 - 4.61	4.55 - 4.75	4.69 - 4.9
PZU5.1y	4.84 - 5.37	4.84 - 5.04	4.98 - 5.2	5.14 - 5.37
PZU5.6y	5.31 - 5.92	5.31 - 5.55	5.49 - 5.73	5.67 - 5.92
PZU6.2y	5.86 - 6.53	5.86 - 6.12	6.06 - 6.33	6.26 - 6.53
PZU6.8y	6.47 - 7.14	6.47 - 6.73	6.65 - 6.93	6.86 - 7.14
PZU7.5y	7.06 - 7.84	7.06 - 7.36	7.28 - 7.6	7.52 - 7.84
PZU8.2y	7.76 - 8.64	7.76 - 8.1	8.02 - 8.36	8.28 - 8.64
PZU9.1y	8.56 - 9.55	8.56 - 8.93	8.85 - 9.23	9.15 - 9.55
PZU10y	9.45 - 10.55	9.45 - 9.87	9.77 - 10.21	10.11 - 10.55
PZU11y	10.44 - 11.56	10.44 - 10.88	10.76 - 11.22	11.1 - 11.56
PZU12y	11.42 - 12.6	11.42 - 11.9	11.74 - 12.24	12.08 - 12.6
PZU13y	12.47 - 13.96	12.47 - 13.03	12.91 - 13.49	13.37 - 13.96
PZU14y	-	-	13.7 - 14.3	-
PZU15y	13.84 - 15.52	13.84 - 14.46	14.34 - 14.98	14.85 - 15.52
PZU16y	15.37 - 17.09	15.37 - 16.01	15.85 - 16.51	16.35 - 17.09
PZU18y	16.94 - 19.03	16.94 - 17.7	17.56 - 18.35	18.21 - 19.03
PZU20y	18.86 - 21.08	18.86 - 19.7	19.52 - 20.39	20.21 - 21.08
PZU22y	20.88 - 23.17	20.88 - 21.77	21.54 - 22.47	22.23 - 23.17
PZU24y	22.93 - 25.57	22.93 - 23.96	23.72 - 24.78	24.54 - 25.57
PZU27y	25.1 - 28.9	-	-	-
PZU30y	28 - 32	-	-	-
PZU33y	31 - 35	-	-	-
PZU36y	34 - 38	-	-	-




















## European spec (BZV, BZX, BZB, 1N47)

y =	C-series	B-series	A-series
	±5%	±2%	±1%
	V <sub>z</sub> (V)	V <sub>z</sub> (V)	V <sub>z</sub> (V)
BZX84-y2V4	2.2 - 2.6	2.35 - 2.45	2.37 - 2.43
BZX84-y2V7	2.5 - 2.9	2.65 - 2.75	2.67 - 2.73
BZX84-y3V0	2.8 - 3.2	2.94 - 3.06	2.97 - 3.03
BZX84-y3V3	3.1 - 3.5	3.23 - 3.37	3.26 - 3.34
BZX84-y3V6	3.4 - 3.8	3.53 - 3.67	3.56 - 3.64
BZX84-y3V9	3.7 - 4.1	3.82 - 3.98	3.86 - 3.94
BZX84-y4V3	4 - 4.6	4.21 - 4.39	4.25 - 4.35
BZX84-y4V7	4.4 - 5	4.61 - 4.79	4.65 - 4.75
BZX84-y5V1	4.8 - 5.4	5 - 5.2	5.04 - 5.16
BZX84-y5V6	5.2 - 6	5.49 - 5.71	5.54 - 5.66
BZX84-y6V2	5.8 - 6.6	6.08 - 6.32	6.13 - 6.27
BZX84-y6V8	6.4 - 7.2	6.66 - 6.94	6.73 - 6.87
BZX84-y7V5	7 - 7.9	7.35 - 7.65	7.42 - 7.58
BZX84-y8V2	7.7 - 8.7	8.04 - 8.36	8.11 - 8.29
BZX84-y9V1	8.5 - 9.6	8.92 - 9.28	9 - 9.2
BZX84-y10	9.4 - 10.6	9.8 - 10.2	9.9 - 10.1
BZX84-y11	10.4 - 11.6	10.8 - 11.2	10.8 - 11.11
BZX84-y12	11.4 - 12.7	11.8 - 12.2	11.88 - 12.12
BZX84-y13	12.4 - 14.1	12.7 - 13.3	12.87 - 13.13
BZX84-y15	13.8 - 15.6	14.7 - 15.3	14.85 - 15.15
BZX84-y16	15.3 - 17.1	15.7 - 16.3	15.84 - 16.16
BZX84-y18	16.8 - 19.1	17.6 - 18.4	17.82 - 18.18
BZX84-y20	18.8 - 21.2	19.6 - 20.4	19.8 - 20.2
BZX84-y22	20.8 - 23.3	21.6 - 22.4	21.78 - 22.22
BZX84-y24	22.8 - 25.6	23.5 - 24.5	23.76 - 24.24
BZX84-y27	25.1 - 28.9	26.5 - 27.5	26.73 - 27.27
BZX84-y30	28 - 32	29.4 - 30.6	29.70 - 30.30
BZX84-y33	31 - 35	32.3 - 33.7	32.67 - 33.33
BZX84-y36	34 - 38	35.3 - 36.7	35.64 - 36.36
BZX84-y39	37 - 41	38.2 - 39.8	38.61 - 39.39
BZX84-y43	40 - 46	42.1 - 43.9	42.57 - 43.43
BZX84-y47	44 - 50	46.1 - 47.9	-
BZX84-y51	48 - 54	50 - 52	50.49 - 51.51
BZX84-y56	52 - 60	54.9 - 57.1	-
BZX84-y62	58 - 66	60.8 - 63.2	-
BZX84-y68	64 - 72	66.6 - 69.4	-
BZX84-y75	70 - 79	73.5 - 76.5	74.25 - 75.75

## NZX-series in SOD27

	V <sub>z</sub> (V)		V <sub>z</sub> (V)		V <sub>z</sub> (V)
NZX2V1B	2.0 - 2.2	NZX6V2D	6.1 - 6.4	NZX14C	13.8 - 14.3
NZX2V4A	2.3 - 2.5	NZX6V2E	6.3 - 6.6	NZX15A	14.1 - 14.7
NZX2V4B	2.4 - 2.6	NZX6V8A	6.4 - 6.7	NZX15B	14.5 - 15.1
NZX2V7A	2.5 - 2.7	NZX6V8B	6.6 - 6.9	NZX15C	14.9 - 15.5
NZX2V7B	2.6 - 2.8	NZX6V8C	6.7 - 7	NZX15X	14.35 - 15.09
NZX2V7C	2.7 - 2.9	NZX6V8D	6.9 - 7.2	NZX16A	15.3 - 15.9
NZX3V0A	2.8 - 3	NZX7V5A	7 - 7.3	NZX16B	15.7 - 16.5
NZX3V0B	2.9 - 3.1	NZX7V5B	7.2 - 7.6	NZX16C	16.3 - 17.1
NZX3V0C	3 - 3.2	NZX7V5C	7.3 - 7.7	NZX18A	16.9 - 17.7
NZX3V3A	3.1 - 3.3	NZX7V5D	7.5 - 7.9	NZX18B	17.5 - 18.3
NZX3V3B	3.2 - 3.4	NZX7V5X	7.07 - 7.45	NZX18C	18.1 - 19
NZX3V3C	3.3 - 3.5	NZX8V2A	7.7 - 8.1	NZX20A	18.8 - 19.7
NZX3V6A	3.4 - 3.6	NZX8V2B	7.9 - 8.3	NZX20B	19.5 - 20.4
NZX3V6B	3.5 - 3.7	NZX8V2C	8.1 - 8.5	NZX20C	20.2 - 21.2
NZX3V6C	3.6 - 3.8	NZX8V2D	8.3 - 8.7	NZX22A	20.9 - 21.9
NZX3V9A	3.7 - 3.9	NZX9V1A	8.5 - 8.9	NZX22B	21.6 - 22.6
NZX3V9B	3.8 - 4	NZX9V1B	8.7 - 9.1	NZX22C	22.3 - 23.3
NZX3V9C	3.9 - 4.1	NZX9V1C	8.9 - 9.3	NZX24A	22.9 - 24
NZX4V3A	4 - 4.2	NZX9V1D	9.1 - 9.5	NZX24B	23.6 - 24.7
NZX4V3B	4.1 - 4.3	NZX9V1E	9.3 - 9.7	NZX24C	24.3 - 25.5
NZX4V3C	4.2 - 4.4	NZX10A	9.5 - 9.9	NZX24X	22.61 - 23.77
NZX4V3D	4.3 - 4.5	NZX10B	9.7 - 10.1	NZX27A	25.2 - 26.6
NZX4V7A	4.4 - 4.6	NZX10C	9.9 - 10.3	NZX27B	26.2 - 27.6
NZX4V7B	4.5 - 4.7	NZX10D	10.2 - 10.6	NZX27C	27.2 - 28.6
NZX4V7C	4.6 - 4.8	NZX11A	10.4 - 10.8	NZX27X	26.99 - 28.39
NZX4V7D	4.7 - 4.9	NZX11B	10.7 - 11.1	NZX30A	28.2 - 29.6
NZX5V1A	4.8 - 5	NZX11C	10.9 - 11.3	NZX30B	29.2 - 30.6
NZX5V1B	4.9 - 5.1	NZX11D	11.1 - 11.6	NZX30C	30.2 - 31.6
NZX5V1C	5 - 5.2	NZX12A	11.4 - 11.9	NZX30X	29.02 - 30.51
NZX5V1D	5.1 - 5.3	NZX12B	11.6 - 12.1	NZX33A	31.2 - 32.6
NZX5V6A	5.2 - 5.5	NZX12C	11.9 - 12.4	NZX33B	32.2 - 33.6
NZX5V6B	5.3 - 5.6	NZX12D	12.2 - 12.7	NZX33C	33.2 - 34.5
NZX5V6C	5.4 - 5.7	NZX12X	11.44 - 12.03	NZX36A	34.2 - 35.7
NZX5V6D	5.5 - 5.8	NZX13A	12.4 - 12.9	NZX36B	35.3 - 36.8
NZX5V6E	5.6 - 5.9	NZX13B	12.6 - 13.1	NZX36C	36.4 - 38
NZX6V2A	5.7 - 6	NZX13C	12.9 - 13.4	NZX36X	35.36 - 37.19
NZX6V2B	5.8 - 6.1	NZX14A	13.2 - 13.7		
NZX6V2C	6 - 6.3	NZX14B	13.5 - 14		




















General purpose, high speed switching diodes <= 90 V

$V_R$ max (V)	$V_F$ max (V)	$I_F$ (mA)	$I_F$ max (mA)	$V_F$ (V)	$t_{rr}$ max (ns)	Package	Automotive-qualified							
							SOD80C (MiniMelf)	SOT23	SOT143B	SOT323 (SC-70)	SOT363 (SC-88)	DFN1412-6 (SOT1268)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)
														
							Size (mm)	3.5 x 1.5 x 1.5	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.4 x 1.2 x 0.5	1.1 x 1.0 x 0.37
$P_{tot}$ (mW)	400	250	250	200	350	480	325	250						
50	1	50	100	50	4			BAL74						
								BAV74						
70	1	50	1000	70	4			BAL99						
75	1	50	1000	75	4				BAS28					
		100	5000	75	4		BAS32L							
80	1	50	500	80	4					1PS300				
										1PS301				
										1PS302				
90	1	50	500	80	4			BAW56 (-Q)		BAW56W (-Q)		BAW56QA	BAW56M	
										BAW56S (-Q)	BAW56SRA			
										BAW756S				














Diodes

## Switching diodes

### General purpose, high speed switching diodes 100 V (Leaded SMD)




































V <sub>R</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (mA)	I <sub>R</sub> max (mA)	@ V <sub>R</sub> (V)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified									
							SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOD523 (SC-79)	DFN1006BD-2 (SOD882BD)	DFN1412D-3 (SOT8009)
100	1	50	500	80	4											
						P <sub>tot</sub> (mW)	250	380	375	200	300	300	300	250	345	345
								BAS16GW	BAS16H (-Q)			BAS316 (-Q)	BAS16J (-Q)	BAS516 (-Q)		
							BAS16 (-Q)			BAS16W (-Q)						
											BAS16VY (-Q)					
							BAV70 (-Q)			BAV70W (-Q)						
											BAV70S (-Q)					
							BAV99 (-Q)			BAV99W (-Q)						
											BAV99S					
															BAS16LS (-Q)	
																BAV99QC (-Q)

### General purpose, high speed switching diodes 100 V (Leadless DFN)

V <sub>R</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (mA)	I <sub>R</sub> max (mA)	@ V <sub>R</sub> (V)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified					
							DFN1412-6 (SOT1268)	DFN1010D-3 (SOT1215)	DFN1006-2 (SOD882)	DFN1006-3 (SOT883)	DFN1006D-2 (SOD882D)	DFN1006BD-2 (SOD882BD)
100	1	50	500	80	4							
						P <sub>tot</sub> (mW)	480	325	250	250	250	250
									BAS16L (-Q)		BAS16LD	BAS16LS
								BAS16QA				
												
								BAV70QA		BAV70M		
							BAV70SRA					
								BAV99QA				
												



General purpose, switching diodes >= 100 V

V <sub>r</sub> max (V)	V <sub>F</sub> max (V)	I <sub>F</sub> (mA)	I <sub>R</sub> max (mA)	t <sub>rr</sub> max (ns)	P <sub>tot</sub> (mW)	Automotive-qualified																											
						Package	SOD80C (MiniMeiF)	SOT457 (SC-74)	SOT23	SOT143B	SOD123	SOD123F	SOT323 (SC-70)	SOT353 (SC-88A)	SOT363 (SC-88)	SOD323 (SC-76)	SOD323F (SC-90)	SOD523 (SC-79)	DFN1006D-2 (SOD882(D))	DFN1010D-3 (SOT1215)	DFN1006BD-2 (SOD882BD)	DFN110D-3 (SOT8015)	DFN1412D-3 (SOT8009)										
						Size (mm)																											
100	1	100	100	100	50				BAS19																								
150	1	100	100	150	50		BAV102																										
> 200	1	100	100	200	50		BAV103			BAS21GW	BAS21H					BAS321 (-Q)	BAS321J	BAS521B	BAS21LL (LD)	BAV21QA													
												BAS21 (-Q)			BAS21W																		
													BAV23																				
																		BAS21PG															
																																	
																																	
																																	
																																	
																																	
																																	
200	1	250	100	200	50																				BAS21LS (-Q)	BAS21QB (-Q)	BAS21QC (-Q)						
300	1.1	100	150	250	50												BAS21J	BAS521 (-Q)															
																																	
																																	
																																	
																																	

Diodes

## Switching diodes

### High performance switching diodes (175 °C capable & superior power dissipation)

Types in **bold** represent new products

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA)	@ $V_R$ (V)	$t_{rr}$ max (ns)	Automotive-qualified	
						Package	SOT23
						Size (mm)	2.9 X 1.3 X 1.0
						$P_{tot}$ (mW)	300
100	1	50	500	80	4		<b>BAS16TH</b>
200	1	100	100	200	50		<b>BAS21TH</b>

### Controlled avalanche switching diodes







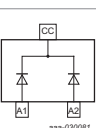


$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA) @ $V_R$ max	$I_{FSM}$ max (A)	$I_{FRM}$ max (mA)	$C_d$ max (pF)	$t_{rr}$ max (ns)	Package	Automotive-qualified		
									SOT23	SOT143B	
									Size (mm)	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0
									$P_{tot}$ (mW)	250	250
60	1	200	100	9	600	2.5	6				
90	1	200	100	10	600	35	50		BAS29		
									BAS31		
									BAS35		

### Low leakage current switching diodes

$V_R$ max (V)	$V_F$ max (V)	@ $I_F$ (mA)	$I_R$ max (nA) @ $V_R$ max	$t_{rr}$ max (μs)	Package	Automotive-qualified															
						SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006-2 (SOD882)	DFN1006BD-2 (SOD882BD)				
						Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.47			
$P_{tot}$ (mW)	400	300	250	380	375	250	250	250	305	250	250										
75	1	10	5	3					BAS-116GW	BAS116H		BAS416	BAS716			BAS116L	BAS116LS (-Q)				
							BAS116						BAS116QA								
							BAV199 (-Q)			BAV199W (-Q)											
							BAW156														
125	1	100	1	1.5 typ		BAS45AL	BAS45A							BAV170QA	BAV170M						

# Recovery rectifiers

Types in **bold red** are in development, types in **bold** represent new products

V <sub>r</sub> max (V)	V <sub>r</sub> max (V)	I <sub>F</sub> (A)	I <sub>R</sub> max (µA)	V <sub>R</sub> (V)	t <sub>rr</sub> max (ns)	Package	Automotive-qualified				
							CFP2-HP (SOD323HP)	CFP3 (SOD123W)	CFP5 (SOD128)	CFP15B (SOT1289B)	
											
						Size (mm)	2.2 x 1.3 x 0.68	2.6 x 1.7 x 1.0	3.8 x 2.5 x 1.0	5.8 x 4.3 x 0.95	
						P <sub>tot</sub> (mW) @ 1cm <sup>2</sup>	1200	1150	1200	2150	
200	1.05	1	1	200	25	 006aab040	<b>PNE20010EXD (-Q)</b>				
	0.93	1	0.2	200	25			PNE20010ER			
	0.98	2	0.2	200	25			PNE20020ER			
	0.95	2	1	200	25				PNE20020EP		
	0.98	3	1	200	30				PNE20030EP		
	0.93	4	1	200	30	 aaa-033688				<b>PNE20040EPE (-Q)</b>	
	0.94	6	1	200	30						<b>PNE20060EPE (-Q)</b>
	0.96	8	1	200	30						<b>PNE20080EPE (-Q)</b>
	0.97	10	1	200	30						<b>PNE200100EPE (-Q)</b>
	0.98	2x2	1	200	25		 aaa-030081				
	0.94	2x3	1	200	30						PNE20060CPE (-Q)
	0.95	2x4	1	200	30						PNE20080CPE (-Q)
	0.95	2x5	1	200	30						PNE200100CPE (-Q)
400	1.1	1	1	400	1800	 006aab040		PNS40010ER			
650	1.25	1	1	650	50	 006aab040		<b>PNU65010ER (-Q)</b>			
	1.25	1	1	650	50				<b>PNU65010EP (-Q)</b>		

Diodes

## Nomenclature recovery rectifiers automotive grade types

PNE 200 10 E R

**Recovery time indicator:**

- PNE** = hyperfast recovery time
- PNU** = ultrafast recovery time
- PNS** = standard recovery time

**Max. reverse voltage:**

- 200** = 200 V
- 400** = 400 V
- 650** = 650 V

**Cont. Forward current:**

- 10** = 1.0 A
- 20** = 2.0 A
- 50** = 5.0 A
- 100** = 10.0 A

**Package indicator:**

- R** = CFP3 (SOD123W)
- P** = CFP5 (SOD128)
- PE** = CFP15B (SOT1289B)
- XD** = CFP2-HP (SOD323HP)

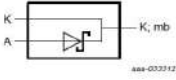
**Configuration:**

- E** = single
- C** = dual common cathode

## SiC Schottky diodes

### SiC Schottky diodes

Types in **bold red** are in development

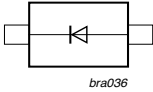


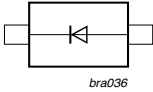
$V_R$ max (V)	$V_F$ max (V)	$I_R$ max ( $\mu$ A)	$(@) V_R$ (V)	Package	DPAK R2P (SOT8017)	D <sup>2</sup> PAK R2P (SOT8018)	TO-220-2 (SOT8021)	TO-247-2 (SOT8022)
				Size (mm)	6.1 x 6.6 x 2.3	11 x 10 x 4.3	10 x 15.6 x 4.5	15.9 x 20.9 x 5
650	1.8	180	650		<b>PSC1065H</b>	<b>PSC1065J</b>	<b>PSC1065K</b>	<b>PSC1065L</b>

### SiC Schottky Diode

**PSC 06 120 J -Q**






- NEXPERIA Silicon Carbide**
- Continuous forward current:**
  - 06 = 6 A
  - 08 = 8 A
  - 10 = 10 A
  - 16 = 16 A
  - 20 = 20 A
- Max. reverse voltage:**
  - 65 = 650 V
  - 120 = 1200 V
- Qualification scheme:**
  - Q = Standard Automotive
- Package indicator:**
  - H = DPAK R2P
  - J = D<sup>2</sup>PAK R2P
  - K = TO-220-2
  - L = TO-247-2

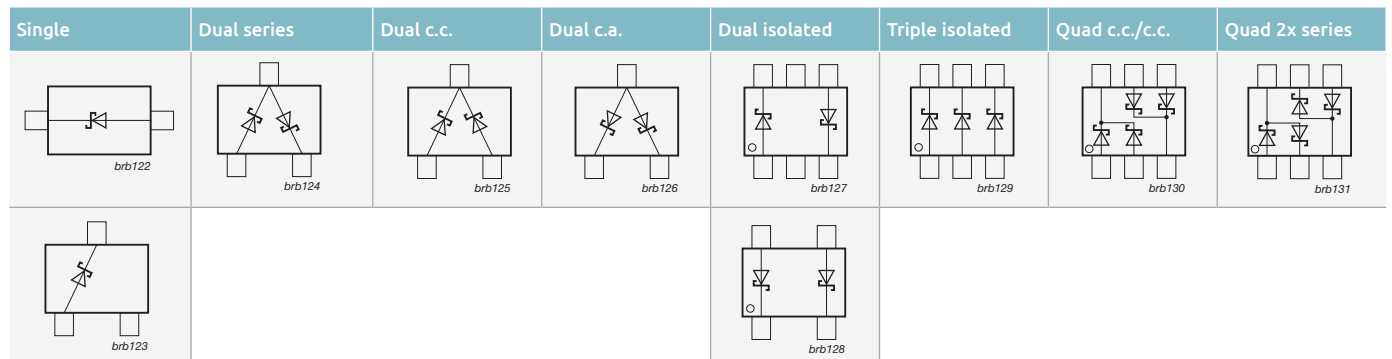
## Power SiGe rectifiers in clip-bond packages

$V_F$ max (V)	$I_F$ max (A)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max ( $\mu$ A) @ $V_R$ max	Package 	Automotive-qualified	
					CFP5 (SOD128)	CFP3 (SOD123W)
						
					Size (mm)	
					3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
					1200	1150
120	1	840	0.03			PMEG120G10ELR (-Q)
	2				PMEG120G20ELP (-Q)	PMEG120G20ELR (-Q)
	3				PMEG120G30ELP (-Q)	
150	1	850	0.03			PMEG150G10ELR (-Q)
	2				PMEG150G20ELP (-Q)	PMEG150G20ELR (-Q)
	3				PMEG150G30ELP (-Q)	
200	1	880	0.03			PMEG200G10ELR (-Q)
	2				PMEG200G20ELP (-Q)	PMEG200G20ELR (-Q)
	3				PMEG200G30ELP (-Q)	

# Schottky diodes and rectifiers

## General purpose Schottky diodes <= 250 mA

I <sub>F</sub> max (mA)	V <sub>R</sub> max (V)	V <sub>F</sub> max (mV)	@ I <sub>F</sub> (mA)	I <sub>R</sub> max (μA)	@ V <sub>R</sub> (V)	Package	SOD80C (MiniMelf)	SOD68 (DO-34)	SOT23	SOT143B	SOD123	
												
							Size (mm)	3.5 x 1.5 x 1.5	3.04 x 1.6 x 0.55	2.9 x 1.3 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2
P <sub>tot</sub> (mW)	300	500	250	250	357							
70	70	750	10	0.1	50	Single			BAS70			
						Dual series			BAS70-04			
						Dual c.c.			BAS70-05			
						Dual c.a.			BAS70-06			
						Dual isolated				BAS70-07		
						Triple isolated						
						Quad 2x series						
120	40	370	1	0.5	30	Single						
		380	1	1	30	Single						
		500	10	1	30	Single			BAS40			
						Dual series			BAS40-04			
						Dual c.c.			BAS40-05			
						Dual c.a.			BAS40-06			
						Dual isolated				BAS40-07		
						Quad c.c./c.c.						
		Quad 2x series										
		200	30	300	10	30	10	Single				
Single									BAT754			
340	10			2	25	Dual series			BAT754S			
						Dual c.c.			BAT754C			
						Dual c.a.			BAT754A			
						Triple isolated						
400	10			2	25	Single	BAS85	BAT85	BAT54 (-Q)			
						Dual series			BAT54S (-Q)			
						Dual c.c.			BAT54C (-Q)			
						Dual c.a.			BAT54A (-Q)			
			Dual isolated						BAT74			
			Triple isolated									
500	200		30	10	Single							
					Single							
					Single							
					Single							
40	300		10	15	30	Single			BAT721			
						Dual series			BAT721S			
						Dual c.c.			BAT721C			
						Dual c.a.			BAT721A			
	360	10	0.5	25	Single							
					Single							
	420	30	0.5	25	Dual series							
					Dual c.c.							
					Dual c.a.							
					Dual isolated							
50	450	10	5	40	Single	BAS86	BAT86					
					Single							
100	850	250	4	75	Single					BAT46GW		






Automotive-qualified										
SOD123F	SOT323 (SC-70)	SOT363 (SC-88)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1006-2 (SOD882)/DFN1006-3 (SOT883)	DFN1006 BD-2 (SOD882BD)	DFN1110 D-3 (SOT8015)	DFN1412 D-3 (SOT8009)	
2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6	1.0 x 0.6 x 0.48	1 x 0.6 x 0.47	1.1 x 1 x 0.47	1.4 x 1.2 x 0.47	
375	250	300	385	400	275	250	640	400	415	
BAS70H	BAS70W BAS70-04W BAS70-05W BAS70-06W	BAS70-07S BAS70XY		1PS76SB70	1PS79SB70	BAS70L	BAS70LS (-Q)			
				RB751V40 (-Q)	RB751S40	RB751CS40				
BAS40H	BAS40W BAS40-04W BAS40-05W BAS40-06W			1PS76SB40	1PS79SB40	BAS40L	BAS40LS (-Q)			
		1PS88SB48 BAS40XY								
					1PS79SB31					
		BAT754L								
			BAT54J (-Q)	1PS76SB10 (-Q)		BAT54L				
						BAT54CM				
		BAT74S								
		BAT54XY								
					RB521S30 RB520S30	RB521CS30L RB520CS30L				
				1PS76SB21 (-Q)			BAT54LS (-Q)	BAT54QB(-Q)	BAT54QC (-Q)	
					1PS79SB30					
	BAT854W BAT854SW BAT854CW BAT854AW									
BAT46WH				BAT46WJ (-Q)						

## Low capacitance Schottky diodes

					Automotive-qualified					
I <sub>F</sub> max (mA)	V <sub>r</sub> max (V)	V <sub>r</sub> max (mV) @ I <sub>F</sub> (mA)	C <sub>j</sub> max (pF) @ V <sub>r</sub> = 0 V	Package	SOT23	SOT323 (SC-70)	SOT363 (SC-88)	SOD323 (SC-76)	SOD523 (SC-79)	DFN1006-2 (SOD882)
				Size (mm)						
				P <sub>tot</sub> (mW)	250	250	300	400	500	250
30	4	450	1	Single	BAT17			1PS76SB17	1PS79SB17	
				Triple isolated						
				Dual series	PMBD353 PMBD354 <sup>1)</sup>					
				Single		1PS70SB82			1PS10SB82	
	15	340	1	Triple isolated			1PS88SB82			
				Dual series		1PS70SB84				
				Dual c.c.		1PS70SB85				
				Dual c.a.		1PS70SB86				




<sup>1)</sup>Diodes have matched capacitance

Schottky rectifiers - leadless DSN/DFN packages

$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	DSN0603-2 (SOD962)	DSN1006-2 (SOD993)	DSN1006U-2 (SOD995)		
									
					0.6 x 0.3 x 0.3	1.0 x 0.6 x 0.28	1.0 x 0.6 x 0.28		
					525	1.000	1.190		
Optimization									
0.1	30	840	0.0008	Low $I_R$					
0.2	20	420	0.045	Low $V_F$	PMEG2002AESF				
		490	0.0035	Low $I_R$	PMEG2002ESF				
	30	470	0.08	Low $V_F$	PMEG3002AESF				
		480	0.05	low $V_F$					
		520	0.015	Low $I_R$					
	40	30	535	0.009	Low $I_R$	PMEG3002ESF			
			525	0.08	Low $V_F$	PMEG4002AESF			
		40	600	0.0065	Low $I_R$	PMEG4002ESF			
			600	0.01	low $I_R$				
	60	600	0.1	low $V_F$					
0.5	20	390	0.2	low $V_F$					
		410	0.3	low $V_F$					
		440	1.5	low $V_F$					
		500	0.03	low $I_R$					
		550	0.045	Low $V_F$	PMEG2005AESF				
		620	0.0035	Low $I_R$	PMEG2005ESF				
	30	30	500	0.5	low $V_F$				
			630	0.08	Low $V_F$	PMEG3005AESF			
			670	0.015	Low $I_R$				
			720	0.009	Low $I_R$	PMEG3005ESF			
	40	40	590	0.01	low $I_R$				
			820	0.08	Low $V_F$	PMEG4005AESF			
			880	0.0065	Low $I_R$	PMEG4005ESF			
1	20	375	1.9	low $V_F$					
		415	0.6	low $V_F$					
		490	0.2	low $V_F$					
	30	30	480	1.25	Low $V_F$		PMEG3010AESB	PMEG3010AESA	
			565	0.045	Low $I_R$		PMEG3010ESB		
	40	40	505	0.115	Low $V_F$		PMEG4010AESB		
			600	0.02	low $I_R$				
			610	0.04	Low $I_R$		PMEG4010ESB		
60	60	625	0.65	Low $V_F$		PMEG6010AESB			
		730	0.03	Low $I_R$		PMEG6010ESB			
1.5	20	420	0.9	low $V_F$					
	40	610	0.03	low $I_R$					
2	20	420	1.9	low $V_F$					
		450	0.9	low $V_F$					
	30	470	2.5	low $V_F$					
	40	535	0.1	low $V_F$					
		530	0.2	low $V_F$					
60	575	0.25	low $V_F$						








Types in **bold red** are in development

Automotive-qualified							
DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)	DFN1608D-2 (SOD1608)	DFN1006-2 (SOD882)	DFN1006D-2 (SOD882D)	DFN1006BD-2 (SOD882BD)	DFN0603-2 (SOD972E)	
							
2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62	1.6 x 0.8 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.0 x 0.6 x 0.47	0.63 x 0.33 x 0.25	
960	960	780	565	660	640	570	
						PMEG3001EEF	
			PMEG3002AEL	PMEG3002AELD		PMEG3002EEF	
			PMEG4002EL(-Q)	PMEG4002ELD			
			PMEG6002EL	PMEG6002ELD			
				PMEG2005BELD(-Q)			
		PMEG2005EPK					
			PMEG2005AEL	PMEG2005AELD			
			PMEG2005EL	PMEG2005ELD			
			PMEG3005EL	PMEG3005ELD	<b>PMEG3005ELS(-Q)</b>		
						PMEG3005EEF	
		PMEG4005EPK					
PMEG2010EPA	PMEG2010EPAS						
		PMEG2010EPK		PMEG2010BELD(-Q)			
		PMEG4010EPK					
		PMEG2015EPK					
		PMEG4015EPK					
PMEG2020EPA	PMEG2020EPAS						
		PMEG2020EPK					
PMEG3020EPA	PMEG3020EPAS						
PMEG4020EPA	PMEG4020EPAS						
		PMEG4020EPK					
PMEG6020EPA	PMEG6020EPAS						

Power Schottky rectifiers - clip-bond packages






Types in **bold red** are in development, types in **bold** represent new products

					Automotive-qualified				
I <sub>F</sub> max (A)	V <sub>R</sub> max (V)	V <sub>F</sub> max (mV) @ I <sub>F</sub> max	I <sub>R</sub> max (mA) @ V <sub>R</sub> max	Package	CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)
									
Size (mm)					5.8 x 4.3 x 0.78	5.8 x 4.3 x 0.95	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0	2.2 x 1.3 x 0.68
P <sub>tot</sub> (mW) @ 1 cm <sup>2</sup>					2150	2150	1200	1150	1200
Optimization									
1	20	340	1	Low V <sub>F</sub>				PMEG2010ER(-Q)	
		450	0.05	Low I <sub>R</sub>				PMEG2010BER(-Q)	
	30	360	1.5	Low V <sub>F</sub>			PMEG3010EP(-Q)	PMEG3010ER(-Q)	
		450	0.05	Low I <sub>R</sub>			PMEG3010BEP(-Q)	PMEG3010BER(-Q)	
	40	490	0.05	Low V <sub>F</sub>			PMEG4010EP(-Q)	PMEG4010ER(-Q)	
				Low V <sub>F</sub>			PMEG4010ETP(-Q)	PMEG4010ETR(-Q)	
	45	460	0.022	Low V <sub>F</sub> , Low Q <sub>rr</sub>				PMEG40T10ER(-Q) <sup>1)</sup>	
		520	0.02	Low V <sub>F</sub> , Low Q <sub>rr</sub>				PMEG40T10ER(-Q) <sup>1)</sup>	<b>PMEG45T10EXD(-Q)<sup>1)</sup></b>
	60	530	0.06	Low V <sub>F</sub>			PMEG6010EP(-Q)	PMEG6010ER(-Q)	
				Low V <sub>F</sub>				PMEG6010ETR(-Q)	
		590	0.0008	Low I <sub>R</sub> , Low Q <sub>rr</sub>			PMEG60T10ELP(-Q) <sup>1)</sup>		
		600	0.00065	Low I <sub>R</sub> , Low Q <sub>rr</sub>				PMEG60T10ELR(-Q) <sup>1)</sup>	
	100	640	0.0004	Low I <sub>R</sub> , Low Q <sub>rr</sub>					<b>PMEG60T10ELXD(-Q)</b>
		660	0.0003	Low I <sub>R</sub>				PMEG60T10ELR(-Q)	
		750	0.0009	Low I <sub>R</sub> , Low Q <sub>rr</sub>				PMEG100T10ELR(-Q) <sup>1)</sup>	
770		0.00015	Low I <sub>R</sub>				PMEG100T10ELR(-Q)		
795		0.0005	Low I <sub>R</sub> , Low Q <sub>rr</sub>					<b>PMEG100T10ELXD(-Q)</b>	
2	30	360	3	Low V <sub>F</sub>			PMEG3020EP(-Q)		
		420	1.5	Low V <sub>F</sub>			PMEG3020CEP(-Q)	PMEG3020ER(-Q)	
		450	0.1	Low I <sub>R</sub>			PMEG3020BEP(-Q)		
		520	0.05	Low I <sub>R</sub>			PMEG3020DEP(-Q)	PMEG3020BER(-Q)	
	40	490	0.1	Low V <sub>F</sub>			PMEG4020EP(-Q)	PMEG4020ER(-Q)	
				Low V <sub>F</sub>			PMEG4020ETP(-Q)	PMEG4020ETR(-Q)	
	45	515	0.022	Low V <sub>F</sub> , Low Q <sub>rr</sub>			PMEG40T20EP(-Q) <sup>1)</sup>	PMEG40T20ER(-Q) <sup>1)</sup>	
		560	0.025	Low V <sub>F</sub> , Low Q <sub>rr</sub>					<b>PMEG45T20EXD(-Q)<sup>1)</sup></b>
	60	530	0.2	Low V <sub>F</sub>			PMEG6020EP(-Q)	PMEG6020ER(-Q)	
				Low V <sub>F</sub>			PMEG6020ETP(-Q)	PMEG6020ETR(-Q)	
		620	0.0012	Low I <sub>R</sub> , Low Q <sub>rr</sub>			PMEG60T20ELP(-Q) <sup>1)</sup>	PMEG60T20ELR(-Q) <sup>1)</sup>	
		670	0.0007	Low I <sub>R</sub>			PMEG60T20AELP(-Q)	PMEG60T20AELR(-Q)	
700		0.00047	Low I <sub>R</sub> , Low Q <sub>rr</sub>					<b>PMEG60T20ELXD(-Q)</b>	
100	760	0.0003	Low I <sub>R</sub>				PMEG60T20ELR(-Q)		
	800	0.00125	Low I <sub>R</sub> , Low Q <sub>rr</sub>			<b>PMEG100T20ELP(-Q)<sup>1)</sup></b>	PMEG100T20ELR(-Q) <sup>1)</sup>		
	770	0.0003	Low I <sub>R</sub>			PMEG100T20AELP(-Q)	PMEG100T20AELR(-Q)		
	830	0.00015	Low I <sub>R</sub>				PMEG100T20ELR(-Q)		
	880	0.0006	Low I <sub>R</sub> , Low Q <sub>rr</sub>					<b>PMEG100T20ELXD(-Q)</b>	
3	30	360	5	Low V <sub>F</sub>			PMEG3030EP(-Q)		
		450	0.15	Low I <sub>R</sub>	PMEG030V030EPD	<b>PMEG030V030EPE(-Q)</b>	PMEG3030BEP(-Q)		
	40	490	0.12	Low V <sub>F</sub>	PMEG040V030EPD	<b>PMEG040V030EPE(-Q)</b>			
				Low V <sub>F</sub>			PMEG4030EP(-Q)		
	40			Low V <sub>F</sub>			PMEG4030ETP(-Q)		
		525	0.028	Low V <sub>F</sub> , Low Q <sub>rr</sub>			PMEG40T30EP(-Q) <sup>1)</sup>	PMEG40T30ER(-Q) <sup>1)</sup>	
	40	540	0.1	Low I <sub>R</sub>				PMEG4030ER(-Q)	
				Low I <sub>R</sub>					<b>PMEG4030ETR(-Q)</b>
	45	480	0.044	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG045T030EPD <sup>1)</sup>				
	50	530	0.1	Low V <sub>F</sub>	PMEG050V030EPD	<b>PMEG050V030EPE(-Q)</b>			
	60	475	0.4	Low V <sub>F</sub>			PMEG6030EVP(-Q)		
				Low V <sub>F</sub>	PMEG060V030EPD	<b>PMEG060V030EPE(-Q)</b>	PMEG6030EP(-Q)		
		530	0.2	Low V <sub>F</sub>			PMEG6030ETP(-Q)		
		620	0.0018				PMEG60T30ELP(-Q) <sup>1)</sup>	PMEG60T30ELR(-Q) <sup>1)</sup>	
	100	670	0.001	Low I <sub>R</sub>			PMEG60T30ELP(-Q) <sup>1)</sup>	PMEG60T30ELR(-Q) <sup>1)</sup>	
800		0.00175	Low I <sub>R</sub> , Low Q <sub>rr</sub>			<b>PMEG100T30ELP(-Q)<sup>1)</sup></b>	PMEG100T30ELR(-Q) <sup>1)</sup>		
770		0.00045	Low I <sub>R</sub>			PMEG100T30ELP(-Q)			
710		0.0025	Low I <sub>R</sub> , Low Q <sub>rr</sub>			PMEG100T030ELPE(-Q) <sup>1)</sup>			
2x2	60	620	0.0012	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG060T040CLPE(-Q) <sup>1)</sup>			
4.5	60	530	0.4	Low V <sub>F</sub>			PMEG6045ETP(-Q)		
5	30	360	8	Low V <sub>F</sub>			PMEG3050EP(-Q)		
		450	0.25	Low I <sub>R</sub>			PMEG3050BEP(-Q)		
		500	0.15	Low V <sub>F</sub>	PMEG030V050EPD	<b>PMEG030V050EPE(-Q)</b>			
	40	490	0.3	Low V <sub>F</sub>			PMEG4050EP(-Q)		
				Low V <sub>F</sub>			PMEG4050ETP(-Q)		
	40	520	0.12	Low V <sub>F</sub>	PMEG040V050EPD	<b>PMEG040V050EPE(-Q)</b>			
		525	0.041	Low V <sub>F</sub> , Low Q <sub>rr</sub>				PMEG40T50EP(-Q)1)	
	45	490	0.3	Low V <sub>F</sub>	PMEG045V050EPD	<b>PMEG045V050EPE(-Q)</b>			
		525	0.044	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG045T050EPD <sup>1)</sup>				
	60	560	0.4	Low V <sub>F</sub>	PMEG060V050EPD	<b>PMEG060V050EPE(-Q)</b>			
		690	0.0018	Low I <sub>R</sub> , Low Q <sub>rr</sub>			PMEG60T50ELP(-Q) <sup>1)</sup>	PMEG60T50ELR(-Q) <sup>1)</sup>	
		895	0.00175	Low I <sub>R</sub> , Low Q <sub>rr</sub>				<b>PMEG100T50ELP(-Q)<sup>1)</sup></b>	
100	810	0.0025	Low I <sub>R</sub> , Low Q <sub>rr</sub>			PMEG100T050ELPE(-Q) <sup>1)</sup>			

<sup>1)</sup> Trench Schottky technology









## Power Schottky rectifiers - clip-bond packages

Types in **bold red** are in development.

I <sub>F</sub> max (A)	V <sub>R</sub> max (V)	V <sub>F</sub> max (mV) @ I <sub>F</sub> max	I <sub>R</sub> max (mA) @ V <sub>R</sub> max	Package	Automotive-qualified					
					CFP15 (SOT1289)	CFP15B (SOT1289B)	CFP5 (SOD128)	CFP3 (SOD123W)	CFP2-HP (SOD323HP)	
										
					Size (mm)	5.8 x 4.3 x 0.78	5.8 x 4.3 x 0.95	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0	2.2 x 1.3 x 0.68
					P <sub>tot</sub> (mW) @ 1 cm <sup>2</sup>	2150	2150	1200	1150	1200
Optimization										
2x3	60	620	0.0018	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG060T060CLPE(-Q) <sup>1)</sup>				
6	100	840	0.00045	Low I <sub>R</sub>	PMEG100V060ELPD	<b>PMEG100V060EPE(-Q)</b>				
2x4	60	660	0.0018	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG060T080CLPE(-Q) <sup>1)</sup>				
8	100	850	0.0005	Low I <sub>R</sub>	PMEG100V080ELPD	<b>PMEG100V080EPE(-Q)</b>				
		810	0.004	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG100T080ELPE(-Q) <sup>1)</sup>				
2x5	60	690	0.0018	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG060T100CLPE(-Q) <sup>1)</sup>				
10	45	490	0.6	Low V <sub>F</sub>	PMEG045V100EPD	<b>PMEG045V100EPE(-Q)</b>				
		540	0.5	Low V <sub>F</sub>	PMEG45A10EPD	<b>PMEG045V100EPE(-Q)</b>				
		545	0.08	Low V <sub>F</sub> , Low Q <sub>rr</sub>		PMEG045T100EPE(-Q) <sup>1)</sup>				
	60	560	0.7	Low V <sub>F</sub>	PMEG060V100EPD	<b>PMEG060V100EPE(-Q)</b>				
		850	0.0008	Low I <sub>R</sub>	PMEG100V100ELPD	<b>PMEG100V100EPE(-Q)</b>				
	810	0.005	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG100T100ELPE(-Q) <sup>1)</sup>					
12	100	810	0.006	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG100T120ELPE <sup>1)</sup>				
15	45	490	1	Low V <sub>F</sub>	PMEG045V150EPD					
		550	0.1	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG045T150EPD <sup>1)</sup>					
		580	0.1	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG45T15EPD <sup>1)</sup>					
	570	0.098	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG045T150EIPD <sup>1)</sup>						
	50	500	1	Low V <sub>F</sub>	PMEG050V150EPD					
		550	0.1	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG050T150EPD <sup>1)</sup>					
	570	0.2	Low V <sub>F</sub> , Low Q <sub>rr</sub>	PMEG050T150EIPD <sup>1)</sup>						
100	820	0.008	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG100T150ELPE <sup>1)</sup>					
20	100	830	0.01	Low I <sub>R</sub> , Low Q <sub>rr</sub>		PMEG100T200ELPE <sup>1)</sup>				

<sup>1)</sup>Trench Schottky technology













## Schottky rectifiers - leaded packages

I <sub>F</sub> max (A)	V <sub>R</sub> max (V)	V <sub>F</sub> max (mV) @ I <sub>F</sub> max	I <sub>R</sub> max (mA) @ V <sub>R</sub> max	Package	Automotive-qualified								
					SOT457 (SC-74)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)	
													
					Size (mm)	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6
					P <sub>tot</sub> (mW) @ 1 cm <sup>2</sup>	540	420	660	830	400	830	570	500
Optimization													
0.2	30	480	0.05	Low V <sub>F</sub>						PMEG3002EJ	PMEG3002AEB		
	40	600	0.01	Low I <sub>R</sub>						PMEG4002EJ	PMEG4002EB(-Q)		
	60	600	0.1	Low V <sub>F</sub>						PMEG6002EJ	PMEG6002EB		
0.5	20	390	0.2	Low V <sub>F</sub>	PMEG2005ET	PMEG2005EGW	PMEG2005EH(-Q)			PMEG2005EJ(-Q)	PMEG2005AEA		
		480	0.03	Low I <sub>R</sub>							PMEG2005EB		
	30	430	0.15	Low V <sub>F</sub>	PMEG3005ET	PMEG3005EGW	PMEG3005EH(-Q)			PMEG3005EJ(-Q)	PMEG3005AEA		
		500	0.5	Low V <sub>F</sub>								PMEG3005EB	
	40	470	0.1	Low V <sub>F</sub>	PMEG4005ET	PMEG4005EGW	PMEG4005EH(-Q)			PMEG4005EJ(-Q)	PMEG4005AEA(-Q)		
0.75	40	550	1.1	Low V <sub>F</sub>	BAT720				1PS705B20				
		640	0.008	Low I <sub>R</sub>						PMEG4005CEJ	PMEG4005CEA		
1	20	740	0.008	Low I <sub>R</sub>							BAT165A		
		430	0.2	Low V <sub>F</sub>	PMEG2010AET		PMEG2010AEH						
		500	0.2	Low V <sub>F</sub>	PMEG2010ET		PMEG2010EH			PMEG2010EJ	PMEG2010BEA		
		550	0.07	Low I <sub>R</sub>						PMEG2010AEJ	PMEG2010EA BAT760(-Q)		
		620	1.5	Low V <sub>F</sub>							PMEG2010AEB(-Q)		

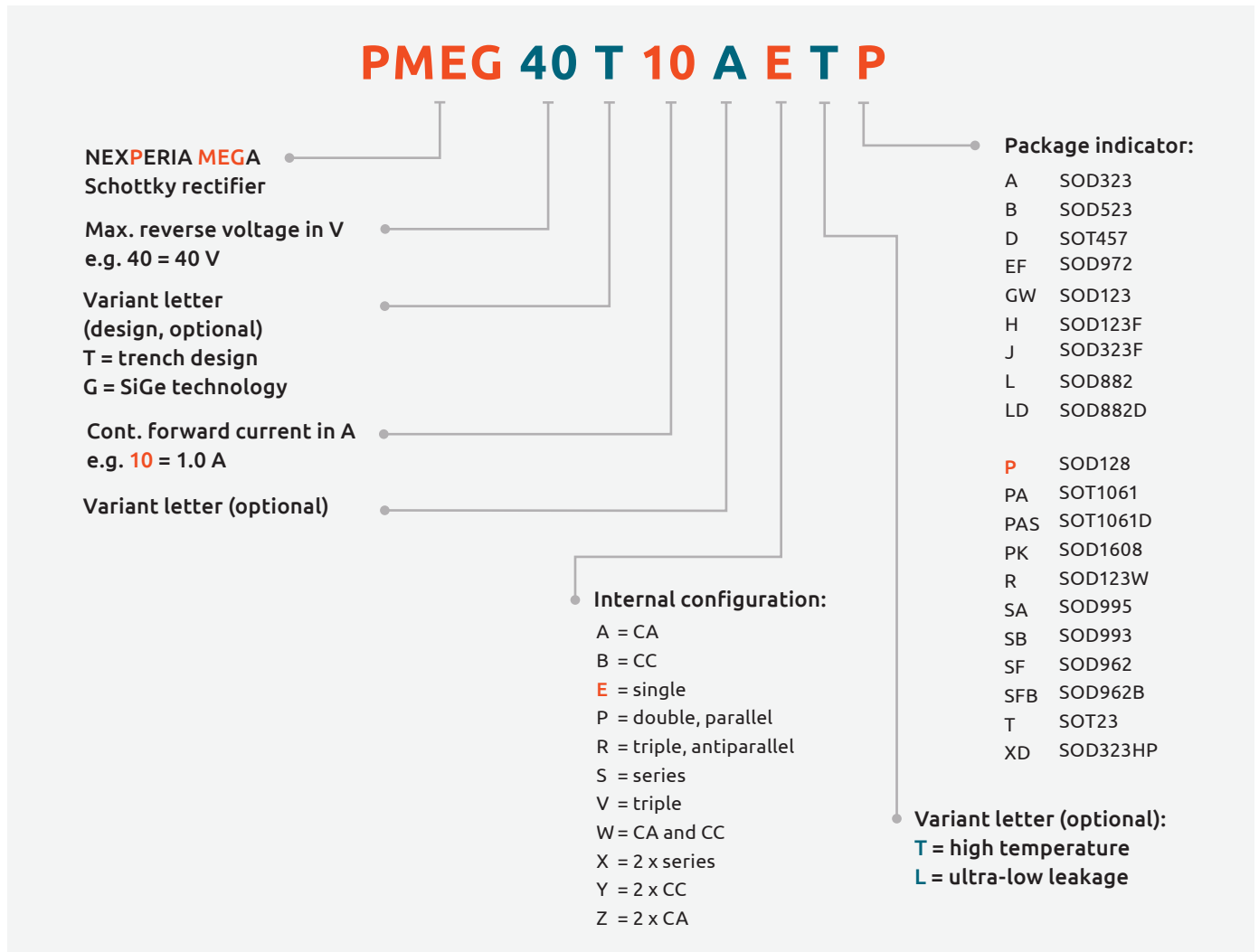
## Schottky rectifiers - leaded packages

					Automotive-qualified							
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Package	SOT457 (SC-74)	SOT23	SOD123	SOD123F	SOT323 (SC-70)	SOD323F (SC-90)	SOD323 (SC-76)	SOD523 (SC-79)
				Size (mm)	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.7 x 1.6 x 1.2	2.6 x 1.6 x 1.1	2.0 x 1.25 x 0.95	1.7 x 1.25 x 0.7	1.7 x 1.25 x 0.95	1.2 x 0.8 x 0.6
				$P_{tot}$ (mW) @ 1 cm <sup>2</sup>	540	420	660	830	400	830	570	500
				Optimization								
1	30	450	1	Low $V_F$	1P5745B23							
		520	0.1	Low $I_R$				PMEG3010CEH		PMEG3010CEJ		
		560	0.15	Low $V_F$		PMEG3010ET	PMEG3010EGW	PMEG3010EH		PMEG3010EJ	PMEG3010BEA(-Q)	
		680	0.5	Low $V_F$								PMEG3010EB
	40	570	0.05	Low $I_R$			PMEG4010CEGW	PMEG4010CEH		PMEG4010CEJ(-Q)		
		640	0.05	Low $V_F$		PMEG4010ET(-Q)	PMEG4010EGW	PMEG4010EH		PMEG4010EJ	PMEG4010BEA(-Q)	
840		0.008	Low $I_R$							PMEG4010CEA		
1.5	60	660	0.05	Low $I_R$		PMEG6010CEGW	PMEG6010CEH		PMEG6010CEJ			
	20	660	0.2	Low $I_R$			PMEG2015EH		PMEG2015EJ	PMEG2015EA		
2	30	500	1	Low $V_F$			PMEG3015EH		PMEG3015EJ			
	10	460	3	Low $V_F$			PMEG1020EH		PMEG1020EJ	PMEG1020EA		
	20	525	0.2	Low $V_F$			PMEG2020EH		PMEG2020EJ	PMEG2020AEA		
3	30	620	1	Low $V_F$		PMEG3020EGW	PMEG3020EH		PMEG3020EJ			
	10	530	3	Low $V_F$			PMEG1030EH		PMEG1030EJ			

## Dual Schottky rectifiers - leaded/leadless DFN packages

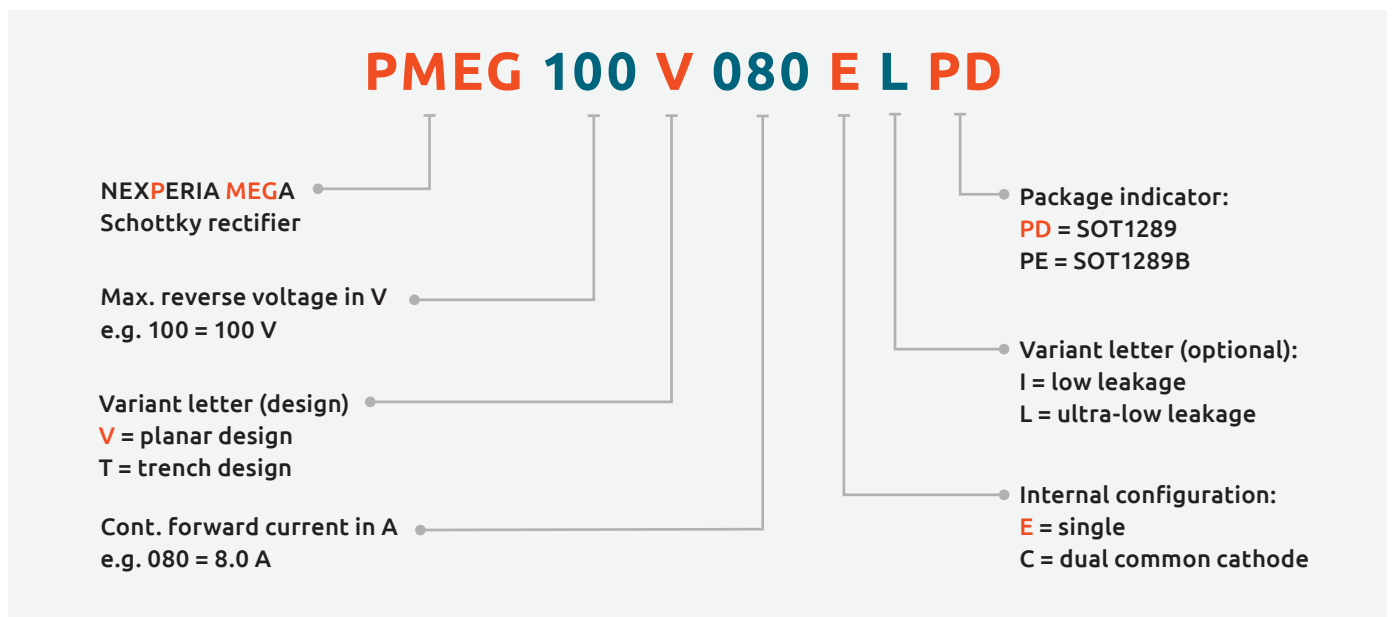
					Automotive-qualified				
$I_F$ max (A)	$V_R$ max (V)	$V_F$ max (mV) @ $I_F$ max	$I_R$ max (mA) @ $V_R$ max	Optimization	Package	SOT223 (SC-73)	SOT23	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
				Size (mm)		6.5 x 3.5 x 1.65	2.9 x 1.3 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.63
				$P_{tot}$ (mW) @ 1 cm <sup>2</sup>		1500	400	1000	1000
0.5	20	390	0.2	Low $V_F$					
	30	430	0.15	Low $V_F$			PMEG2005CT		
	40	470	0.1	Low $V_F$			PMEG3005CT		
1.0	25	450	1.0	Low $V_F$		BAT120S			
				Low $V_F$		BAT120C			
				Low $V_F$		BAT120A			
	40	500	0.05	Low $V_F$				PMEG4010CPA	PMEG4010CPAS
				Low $V_F$				PMEG6010CPA	PMEG6010CPAS
				Low $V_F$		BAT160S			
60	650	0.35	Low $V_F$		BAT160C				
			Low $V_F$		BAT160A				
			Low $V_F$				PMEG2020CPA	PMEG2020CPAS	
2.0	20	420	1.0	Low $V_F$				PMEG2020CPA	PMEG2020CPAS
	30	440	2.0	Low $V_F$				PMEG3020CPA	PMEG3020CPAS

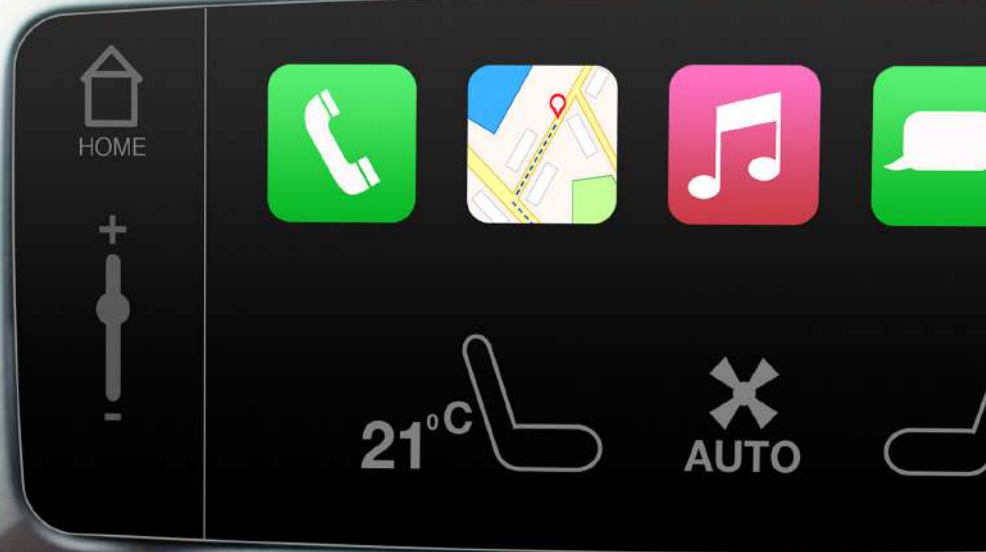
## Nomenclature of Schottky and SiGe rectifiers



Diodes

## Nomenclature of Schottky rectifiers in CFP15 and CFP15B power packages





# ESD protection, TVS, filtering and signal conditioning

3

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Classic In-Vehicle Networks











Types in **bold red** are in development, types in **bold** represent new products

Main Application	number of protected lines, bidirectional	V <sub>RWM</sub> (V)	ESD rating max (kV) [1]	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM 8/20µs</sub> (A)	V <sub>CL 8/20µs @ I<sub>PPM</sub></sub> (V)	Configuration	Type	Package	Size(mm)	
LIN	1	24	30	14	17	3.5	42		PESD1IVN24-A	SOD323 (SC-76)	1.7 x 1.25 x 0.95	
		15 (diode 1) 24 (diode 2)	30	13	17	3 (diode 1) 5 (diode 2)	70 (diode 1) 44 (diode 2)		PESD1LIN			
		27	30	14	17	3	45		PESD1IVN27-A			
		24	30	14	17	3.5	42		<b>PESD1IVN24-LS</b>	DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.47	
		27	30	14	17	3	45		<b>PESD1IVN27-LS</b>			
CAN FlexRay	1	24	30	14	17	3.5	42		PESD2IVN24-T	SOT23	2.9 x 1.3 x 1.0	
			23	11	17	3	70		PESD1FLEX			
			23	11	17	3	70		PESD1CAN			
			30	25	30	5	41		PESD2CAN			
		27	30	14	17	3	45		PESD2IVN27-T			
		24	30	14	17	3.5	42		PESD2IVN24-U	SOT323	2.0 x 1.25 x 0.95	
		27	30	14	17	3	45		PESD2IVN27-U			
CAN-FD CAN FlexRay	2	24	15	3.2	3.5	1.9	43		<b>PESD2CANFD24U-T</b>	SOT23	2.9 x 1.3 x 1.0	
			23	5.2	6	2.6	42		<b>PESD2CANFD24V-T</b>			
			30	9	10	4.0	41		<b>PESD2CANFD24L-T</b>			
		27	15	3.6	4	1.8	45		<b>PESD2CANFD27U-T</b>			
			20	5.2	6	2.5	44		<b>PESD2CANFD27V-T</b>			
			30	9	10	3.9	42		<b>PESD2CANFD27L-T</b>			
		36	15	3.6	4	2	45		<b>PESD2CANFD36UT-Q</b>			
			23	5.2	6	2	45		<b>PESD2CANFD36VT-Q</b>			
			30	9	10	2	45		<b>PESD2CANFD36LT-Q</b>			
		24	15	3.2	3.5	1.9	43		PESD2CANFD24U-U	SOT323	2.0 x 1.25 x 0.95	
			23	5.2	6	2.6	42		PESD2CANFD24V-U			
			30	9	10	4.0	41		PESD2CANFD24L-U			
		27	15	3.6	4	1.8	45		PESD2CANFD27U-U			
			20	5.2	6	2.5	44		PESD2CANFD27V-U			
			30	9	10	4.0	41		PESD2CANFD27L-U			
		36	15	3.6	4	2	45		PESD2CANFD36UU-Q			
			23	5.2	6	2	45		PESD2CANFD36VU-Q			
			30	9	10	2	45		PESD2CANFD36LU-Q			
		24	15	3.2	3.5	1.9	43			<b>PESD2CANFD24U-QB</b>	DFN1110D-3 (SOT8015)	1.1 x 1.0 x 0.48
			23	5.2	6	2.6	42			<b>PESD2CANFD24V-QB</b>		
		27	15	3.6	4	1.8	45		<b>PESD2CANFD27U-QB</b>			
			20	5.2	6	2.5	44		<b>PESD2CANFD27V-QB</b>			
		24	15	3.2	3.5	1.9	43			<b>PESD2CANFD24U-QC</b>	DFN1412D-3 (SOT8009)	1.4 x 1.2 x 0.48
			23	5.2	6	2.6	42			<b>PESD2CANFD24V-QC</b>		
27	15	3.6	4	1.8	45	<b>PESD2CANFD27U-QC</b>						
	20	5.2	6	2.5	44	<b>PESD2CANFD27V-QC</b>						



# Automotive Ethernet

Types in **bold** represent new products

Main Application	Number of protected lines	V <sub>RMVX</sub> (V)	V <sub>trigger</sub> min(V)	ESD rating max (kV) [1]	C <sub>line</sub> typ (pF)	C <sub>line</sub> max (pF)	I <sub>PPM</sub> max (μA)	Configuration	Type	Package	Size (mm)	
100BASE-T1 1000BASE-T1	1				1.5	1.8	2.3		<b>PESD1ETH1GLS-Q</b>	DFN1006BD-2 (SOD882BD) 	1.0 x 0.6 x 0.48	
					0.9	1.2	2.3		<b>PESD1ETH1GXLS-Q</b>			
100BASE-T1	24	100	100	30	-	-	-		<b>PESD2ETH1G-T</b>	SOT23 	2.9 x 1.3 x 1.0	
					1.1	1.3	2.3		<b>PESD2ETH1GXT-Q</b>			
					-	-	-		<b>PESD2ETH100-T</b>			
10/100/1000 Mbit/s Ethernet at the PHY	2		-	8	-	-	-		PESD2ETH-X	SOT143B 	2.9 x 1.3 x 1.0	
			-	12	1.8	-	-		PESD2ETH-AX			
			-	8	1.3	1.5	-		PESD2ETH-D			SOT457 
			-	12	2	2.3	-		PESD2ETH-AD			
	1	5.5	-	10	0.4	0.55	2.5		PESD5V0F1BL	DFN1006-2 (SOD882) 	1.0 x 0.6 x 0.48	
			-	10	0.4	0.55	2.5		PESD5V0F1BLD			DFN1006D-2 (SOD882D) 


ESD protection, TVS, filtering and signal conditioning

Infotainment/SerDes

Types in **bold** represent new products

Main Application	Number of protected lines	$V_{RWM}$ (V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20 $\mu$ s (A)	$V_{CL}$ 8/20 $\mu$ s typ (V)	Configuration	Type	Package	Size (mm)
USBx HDMI LVDS SerDes GSML FPD Link	2	3.3	18	0.83	1	8	2.6 V @ 8 A		PESD2USB3UV-T		2.9 x 1.3 x 1.0
		3.3	8	0.56	0.7	4	3.3 V @ 8 A		PESD2USB3UX-T		
		5	22	0.76	0.9	10	2.4 V @ 8 A		PESD2USB5UV-T		
		5	8	0.47	0.6	4	3.3 V @ 8 A		PESD2USB5UX-T		
	4	3.3	15	0.29	0.34	7	3 V @ 5 A		<b>PESD4USB3U-TBR</b>		2.5 x 1.0 x 0.5
			5	15	0.29	0.34	7		3 V @ 5 A		
		3.3	15	0.17	0.23	7	5 V @ 5 A		<b>PESD4USB3B-TBR</b>		
			5	15	0.17	0.23	7		5 V @ 5 A		
		3.3	15	0.29	0.34	7	3 V @ 5 A		<b>PESD4USB3U-TBS</b>		
			5	15	0.29	0.34	7		3 V @ 5 A		
		3.3	15	0.17	0.23	7	5 V @ 5 A		<b>PESD4USB3B-TBS</b>		
			5	15	0.17	0.23	7		5 V @ 5 A		
		3.3	15	0.29	0.34	7	3 V @ 5 A		<b>PESD4USB3U-TTS</b>		
			5	15	0.29	0.34	7		3 V @ 5 A		
		3.3	15	0.17	0.23	7	5 V @ 5 A		<b>PESD4USB3B-TTS</b>		
			5	15	0.17	0.23	7		5 V @ 5 A		

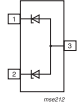
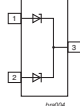
## Infotainment/SerDes

Main Application	Number of protected lines	$V_{RWM}$ (V)	ESD rating max (kV) [1]	$C_{line}$ typ (pF)	$C_{line}$ max (pF)	$I_{PPM}$ 8/20 $\mu$ s (A)	$V_{CL}$ 8/20 $\mu$ s typ (V)	Configuration	Type	Package	Size (mm)
Audio Interface Charger Port Antenna (NFC, WiFi) LVDS	1	4.5	30	65	78	34	13.2		PTVS4V5D1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.48
		5.5	30	70	84	35	12.2		PTVS5V5D1BL		
		18	10	0.35	0.5	1	17		PESD18VF1BL		
		24	10	0.3	0.45	1	17		PESD24VF1BL		
		30	10	0.27	0.4	1	17		PESD30VF1BL	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37
		5	30	35	45	12	14		PESD5V0S1BLD		
		5	30	11	13	4.8	12.5		PESD5V0V1BLD		
		5.5	10	0.4	0.55	2.5	15		PESD5V0F1BLD		
			10	0.4	0.55	2.5	15		PESD5V0F1BRDL		

[1] According to IEC 61000-4-2

ESD protection, TVS, filtering and signal conditioning

## TVS diodes, 24 W/40 W

Power (W) (10 / 1000 $\mu$ s waveform) [1]	$V_{RWM}$ (V)	$V_{min}$ (V) @ I	$V_{typ}$ (V) @ I	$V_{BR}$ max (V) @ $I_R$	$I_R$ (mA)	ESD rating max (kV)	C typ (pF)	$V_{CL}$ max (V) @ $I_{PP}$ [1]	$I_{PP}$ (A) [1]	$I_{RWM}$ max ( $\mu$ A) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)			
24	3	5.32	5.6	5.88	20	30	210	8	3	5		MMBZ5V6AL	SOT23	2.9 x 1.3 x 1.0			
		5.89	6.2	6.51	1	30	175	8.7	2.76	0.2		MMBZ6V2AL					
	4.5	6.48	6.8	7.14	1	30	150	9.6	2.5	0.3		MMBZ6V8AL					
	6	8.65	9.1	9.56	1	30	155	14	1.7	0.1		MMBZ9V1AL					
	6.5	9.5	10	10.5	1	30	130	14.2	1.7	0.02		MMBZ10VAL					
40	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005					MMBZ12VAL	SOT23	2.9 x 1.3 x 1.0
	12	14.25	15	15.75	1	30	85	21	1.9	0.005					MMBZ15VAL		
	13	15.2	16	16.8	1	30	76	23	1.9	0.005					MMBZ16VAL		
	13	15.68	16	16.32	1	30	76	23	1.9	0.005					MMBZ16VTAL		
	14.5	17.1	18	18.9	1	30	70	25	1.6	0.005					MMBZ18VAL		
	17	19	20	21	1	30	65	28	1.4	0.005	MMBZ20VAL						
	22	25.65	27	28.35	1	30	48	40	1	0.005	MMBZ27VAL						
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VAL						
	8.5	11.4	12	12.6	1	30	110	17	2.35	0.005	MMBZ12VDL						
	12.8	14.3	15	15.8	1	30	85	21.2	1.9	0.005	MMBZ15VDL						
	14.5	17.1	18	18.9	1	30	70	25	1.6	0.005	MMBZ18VCL						
	17	19	20	21	1	30	65	28	1.4	0.005	MMBZ20VCL						
	22	25.65	27	28.35	1	30	48	38	1	0.005	MMBZ27VCL						
	26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VCL						

[1] 10/1000 $\mu$ s according to IEC 61643-3:21

# Low capacitance ESD protection for high-speed interfaces

Types in **bold red** are in development, types in **bold** represent new products

Unid Rectional	Bid Rectional	V <sub>RWM</sub> (V)	C <sub>line</sub> typ (pF)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)					
1	0	5	0.45	20		PESD5V0C1USF	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3					
		6.5	0.45	20		PESD6V5C1USF							
		5	0.6	10		PESD5V0F1USF							
		5	0.95	8			PESD5V0X1ULD	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37				
			1.55	15			PESD5V0X1UALD						
		5	0.95	8			PESD5V0X1UB	SOD523 (SC-79)	1.2 x 0.8 x 0.6				
			1.55	15	PESD5V0X1UAB								
		3.3	0.6	30	PESD3V3U1UT		SOT23	2.9 x 1.3 x 1.0					
		3.3	1	18	<b>PESD3V3X2UT</b>								
		3.3	0.8	8	<b>PESD3V3F2UT</b>								
		5	0.9	22	<b>PESD5V0X2UT</b>								
			0.6	8	<b>PESD5V0F2UT</b>								
		5	0.6	30	PESD5V0U1UT								
		12	0.6	30	PESD12VU1UT								
		15	0.6	30	PESD15VU1UT								
		24	0.6	23	PESD24VU1UT								
		0	1	5	0.17				15		<b>PESD5V0H1BSN</b>	SOD992B	0.43 x 0.23 x 0.12
				1.2	0.26				15		<b>PESD1V2Y1BSF</b>	DSN0603-2 (SOD962)	0.6 x 0.3 x 0.3
2.0	0.69			20	PESD2V0Y1BSF								
2.5	0.25			15	PESD2V5Y1BSF								
2.5	2			25	PESD2V5X1BSF								
2.8	0.1			10	PESD2V8R1BSF								
	3.3			0.24	15		PESD3V3Y1BSF						
				0.2	20	PESD3V3C1BSF							
				0.28	20	PESD3V3Z1BSF							
				0.45	30	PESD3V3Z1BCSF							
	0.55			30	PESD3V3W1BCSF								
3.3	0.78			20	PESD3V3F1BSF								
	0.24			15	PESD4V0Y1BSF								
	0.28			20	PESD4V0Z1BSF								
	0.45			30	PESD4V0Z1BCSF								
5	0.09			8	PESD4V0W1BCSF								
	0.1			12	<b>PESD5V0R1BCSF</b>								
5	0.1			10	<b>PESD5V0R1BDSF</b>								
				15	PESD5V0R1BSF								
5	0.15			15	PESD5V0C1BSF								
				20	PESD7V0R1BSF								
7	0.1			10	PESD7V0H1BSF								
	0.15			15	PESD7V0C1BSF								
7	0.2			15	PESD5V0F1BSF								
				20	PESD5V0F1BRSF								
5.5	0.25			10	PESD3V3X1BCSF								
3.3	-			20	PESD5V0X1BCSF								
5.0	-				<b>PESD9V0C1BSF</b>								
9	0.2			18	<b>PESD9V0Z1BDSF</b>								
9	0.32			30	<b>PESD9V0W1BDSF</b>								
9	0.49			30	<b>PESD9V0V1BDSF</b>								
12	0.45			30	<b>PESD12VW1BCSF</b>								
15	0.45			30	<b>PESD15VW1BCSF</b>								
18	0.28			10	PESD18VF1BSF								
24	0.25			10	PESD24VF1BSF								
30	0.24			10	<b>PESD30VF1BSF</b>								
5	0.4			10	PESD5V0F1BLD								
					PESD5V0F1BRLD	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37						









# Low capacitance ESD protection for high-speed interfaces

Types in **bold** represent new products

Unid Rectional	Bid Rectional	$V_{RWM}$ (V)	$C_{line}$ typ (pF)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)	
0	1	3.3	1.3	9		PESD3V3X1BL		1.0 x 0.6 x 0.48	
		5.5	0.4	10		PESD5V0F1BL			
		5	0.49	8		PESD5V0X1BCL			
			0.85	15		PESD5V0X1BCAL			
			0.9	9		PESD5V0X1BL			
		18	0.35	10		PESD18VF1BL			
		24	0.3	10		PESD24VF1BL			
		30	0.3	10		PESD30VF1BL			
2	1	4	0.8	20		<b>PESD4V0X2UM</b>	DFN1006-3 (SOT883-3)	1.0 x 0.6 x 0.46	
		5	0.5	10		PESD5V0X2UMB	DFN1006B-3 (SOT883B)	1.0 x 0.6 x 0.37	
						PESD5V0X2UM	DFN1006-3 (SOT883)	1.0 x 0.6 x 0.48	
						PESD5V0X2UAMB	DFN1006B-3 (SOT883B)	1.0 x 0.6 x 0.37	
		5	0.8	15		PESD5V0X2UAM	DFN1006-3 (SOT883)	1.0 x 0.6 x 0.48	
						PESD5V0X1BT	SOT23	2.9 x 1.3 x 1.0	
	0	0	80	0.6	30		NUP1301U	SOT323	2.0 x 1.25 x 0.95
							NUP1301	SOT23	2.9 x 1.3 x 1.0
							NUP1301QA	SOT1215	1.0 x 1.0 x 0.4
0	2	5	0.21	20		<b>PESD5V0C2BDF</b>		0.62 x 0.32 x 0.25	
0	2	4	0.26	20		PUSB3BB2DF			
0	2	4	0.31	25		<b>PESD4V0Z2BCDF</b>			
3	0	5.5	1	8		PRTR5V0U2X		2.9 x 1.3 x 1.0	
			1.8	12		PRTR5V0U2AX			
			1	8		PRTR5V0U2F	DFN1410-6 (SOT886)	1.45 x 1.0 x 0.48	

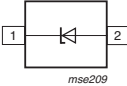





ESD protection, TVS, filtering and signal conditioning

## Low capacitance ESD protection for high-speed interfaces

Unid Rectional	Bid Rectional	$V_{RWM}$ (V)	$C_{line}$ typ (pF)	ESD rating max (kV) [1]	Configuration	Type	Package	Size (mm)
4	0	3.3	0.75	25		PESD3V3X4UHC	DFN1308-6 (SOT8006) 	1.3 x 0.8 x 0.4
		5.5	1	8		IP4220CZ6	SOT457 (SC-74) 	2.9 x 1.5 x 1.0
						PRTR5V0U4D		2.9 x 1.5 x 1.0
			0.6	8		IP4283CZ10-TBR	DFN2510A-10 (SOT1176) 	2.5 x 1.0 x 0.48
		3.3	0.27	15		PUSB3FR4		
		5				PHDMI2FR4		
0	4	3.3	0.17	15		PUSB3AB4		
		5				PHDMI2AB4		

# General purpose ESD protection devices

Types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM</sub> (A) @ 20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)												
Unid/Rectional	Bid/Rectional																						
1	0	5	35	42	3.5	30	0.1		PESD5V0S1USF	DSN0603-2 (SOD962) 	0.6 x 0.3 x 0.3												
		5.5	12	15.4	1.2	30	0.1		PESD5V0L1USF														
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UL	PESD3V3L1UL	PESD3V3S1UL	PESD5V0U1UL	PESD5V0L1UL	PESD5V0S1UL	DFN1006-2 (SOD882) 	1.0 x 0.6 x 0.5							
			34	40	4.5	30	0.3																
			207	300	15	30	2																
		5	2	2.6	-	9	0.1		PESD12VS1UL	PESD15VS1UL	PESD24VS1UL	PESD36VS1UL											
			25	30	3.5	26	0.1		PESD5V0L1ULD	PESD5V0S1ULD	PESD8V0S1ULD	PESD12VS1ULD	PESD15VS1ULD	PESD24VS1ULD									
		5	152	200	15	30	1		PESD3V3S1ULS	PESD5V0S1ULS	PESD8V0S1ULS	PESD12VS1ULS	PESD15VS1ULS	PESD24VS1ULS	PESD36VS1ULS								
		12	38	75	5	30	0.05		DFN1006D-2 (SOD882D) 	1.0 x 0.6 x 0.4													
		15	32	70	5	30	0.05																
		24	23	50	3	23	0.05		DFN1006BD-2 (SOD882BD) 	1.0 x 0.6 x 0.48													
		36	18	2.5	2.5	30	0.01																
		5	25	30	3.5	26	0.1		PESD5Z2.5	PESD3V3U1UB	PESD3V3L1UB	PESD5Z3.3	PESD3V3S1UB	PESD5V0U1UB	PESD5V0L1UB	PESD5Z5.0	PESD5V0S1UB	PESD5Z6.0	PESD5Z7.0	PESD5Z12	PESD12VS1UB	PESD15VS1UB	PESD24VS1UB
		5	152	200	15	30	1		SOD523 (SC-79) 	1.2 x 0.8 x 0.6													
		8	70	90	13	30	0.5																
		12	38	75	5	30	0.05																
		15	32	70	5	30	0.05																
		24	23	50	3	23	0.05																
		36	18	2.5	2.5	30	0.01																
		2.5	229	300	20	30	6																
		3.3	2.6	3.1	-	9	0.1 (@ 3 V)																
			34	40	4.5	30	0.3																
			172	200	20	30	0.05																
			207	300	18	30	2																
		5	2	2.6	-	9	0.1																
			25	30	3.5	26	0.1																
			89	150	10	30	0.05																
			152	200	15	30	1																
		6	78	150	10	30	0.01																
		7	69	150	10	30	0.01																
		12	35	75	6	30	0.01																
			38	75	5	30	0.05																
		15	32	70	5	30	0.05																
		24	23	50	3	23	0.05																

ESD protection, TVS, filtering and signal conditioning

# General purpose ESD protection devices

Types in **bold red** are in development, types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM</sub> (A) 8/20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)				
Unid/Rectional	Bid/Rectional														
1	0	3.3	2.6	3.1	-	9	0.1 (@ 3 V)		PESD3V3U1UA		1.7 x 1.25 x 0.95				
		5	2	2.6	-	9	0.1		PESD5V0U1UA						
			25	30	3.5	26	0.1		PESD5V0L1UA						
		12	480	530	47	30	4		PESD5V0S1UA						
			160	180	22.5	30	0.1		PESD12V51UA						
		24	23	50	3	23	0.05		PESD24V51UA						
		5	480	530	47	30	4		PESD5V0S1UJ				1.7 x 1.25 x 0.7		
		12	160	180	22.5	30	0.1		PESD12V51UJ						
		36	18	30	2.5	30	0.01		PESD36V51UJ						
0	1	5.5	8.6	10.3	8	25	0.1		<b>PESD5V5V1BCSN</b>		0.43 x 0.23 x 0.12				
		3.3	5.5	6	5.4	20	0.1		PESD3V3U1BCSF		0.6 x 0.3 x 0.3				
			8.5	10	7.1	30	0.1		PESD3V3V1BCSF						
			11	14	12	30	0.05		<b>PESD3V3S1BSF</b>						
		5	5.3	6	1	20	0.1		PESD5V0V1BCSF						
					2	20	0.1		PESD5V0V1BDSF						
			4.5	1	15	0.1	PESD5V0V1BSF								
		12	15.4	3	30	0.1	PESD5V0L1BSF					0.6 x 0.3 x 0.3			
			35	45	8	30	0.1						PESD5V0S1BSF		
			5.3	6	5.4	20	0.1						<b>PESD5V5U1BCSF</b>		
		5.5	6.2	7.5	11	22	0.05		<b>PESD5V5S1BSF</b>						
			8	10	7.1	20	0.1		<b>PESD5V5V1BCSF</b>						
			12	17	19	6.1	30		0.05			PESD12VA-SF			
		16	5.7	6.5	1.3	12	0.05		<b>PESD16VV1BSF</b>						
		18	4	6	3	25	0.1		<b>PESD18VV1BBSF</b>						
		3.3	101	-	18	30	2		PESD3V3L1BA				1.7 x 1.25 x 0.95		
		5	75	-	15	30	1		PESD5V0L1BA						
		12	19	-	5	30	0.05		PESD12VL1BA						
		15	16	-	5	30	0.05		PESD15VL1BA						
		24	11	-	3	23	0.05		PESD24VL1BA						
		32	9	12	2.5	23	0.05		PESD32VL1BA						
		36	9	12	2	18	0.05		PESD36VL1BA						
		24	14	17	3.5	30	0.05		PESD24VV1BA						
		27	13	17	3	30	0.05		PESD27VV1BA						
		3.3	11	13	5	30	0.01		PESD3V3V1BL						1.0 x 0.6 x 0.5
			22	30	10	30	0.05		PESD3V3T1BL						
			35	40	15	30	0.1		PESD3V3S1BL						
			65	78	34	30	0.05		PTVS3V3D1BAL						
		4.5	65	78	34	30	0.05		PTVS4V5D1BL						
		5	11	13	4.8	30	0.01		PESD5V0V1BL						



# General purpose ESD protection devices

Types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line typ</sub> (pF)	C <sub>line max</sub> (pF)	I <sub>PPM</sub> (A) @ 20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)			
Unid/Rectional	Bid/Rectional													
0	1	5	35	45	12	30	0.1		PESD5V0S1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.5			
		5.5	70	84	35	30	0.1		PTV55V5D1BL					
		12	17	25	7.8	30	0.01		PESD12VV1BL					
		3	20	25	10	30	0.1		PESD3V3T1BLD	DFN1006D-2 (SOD882D)	1.0 x 0.6 x 0.37			
		5	11	13	4.8	30	0.01		PESD5V0V1BLD					
			35	45	12	30	0.1		PESD5V0S1BLD					
		3.3	20	25	10	30	0.1		<b>PESD3V3T1BLS</b>	DFN1006BD-2 (SOD882BD)	1.0 x 0.6 x 0.48			
		5	11	13	4.8	30	0.01		<b>PESD5V0V1BLS</b>					
		12	17	25	7.8	30	0.01		<b>PESD12VV1BLS</b>					
		3.3	15.5	18	7.5	25	0.1		<b>PESD3V3L1BSL</b>	SOD882-S1	1 x 0.6 x 0.4			
		5	15.5	18	7.5	25	0.1		<b>PESD5V0L1BSL</b>					
		7	15	20	7	30	0.1		<b>PESD7V0L1BSL</b>					
		12	7.7	9	7.3	30	0.1		<b>PESD12VL1BSL</b>					
		0	1	11	13	4.8	30		0.01		PESD5V0V1BB	SOD523 (SC-79)	1.2 x 0.8 x 0.6	
					35	45	12		30		0.1	PESD5V0S1BB		
				11	13	4.8	30		0.01		PESD5V0V1BA	SOD323 (SC-76)	1.7 x 1.25 x 0.95	
					35	45	12		12		0.1	PESD5V0S1BA		
				5	2.9	3.5	-		10		0.1	PESD5V0U1BL	DFN1006-2 (SOD882)	1.0 x 0.6 x 0.5
												PESD5V0U1BLD	DFN1006D-2 (SOD882D)	
												PESD5V0U1BB	SOD523 (SC-79)	1.2 x 0.8 x 0.6
PESD5V0U1BA	SOD323 (SC-76)							1.7 x 1.25 x 0.95						
PESD3V3L2UM	DFN1006-3 (SOT883)							1.0 x 0.6 x 0.5						
PESD5V0L2UM														
PESD5V0L2UMB	DFN1006B-3 (SOT883B)	1 x 0.6 x 0.37												
2	1	3.3	22	28	3	15	0.03		PESD3V3L2UM	DFN1006-3 (SOT883)	1.0 x 0.6 x 0.5			
		5	16	19	2.5	15	0.025		PESD5V0L2UM					
					2.5	15	0.025		PESD5V0L2UMB					
		3.3	207	300	18	30	2		PESD3V3S2UT	SOT23	2.9 x 1.3 x 1			
		5.2	152	200	15	30	1		PESD5V2S2UT					
		12	38	75	5	30	1		PESD12VS2UT					
		15	32	70	5	30	1		PESD15VS2UT					
		24	23	50	3	23	1		PESD24VS2UT					
		36	17	35	2.5	30	1 (@ 30 V)		PESD36VS2UT					
		42	17	20	1.8	23	0.05		PESD42VS2UT					
		3.3	207	300	18	30	2		PESD3V3S2UAT					
		5	152	200	15	30	1		PESD5V0S2UAT					
		15	32	70	5	30	0.05		PESD15VS2UAT					
		24	23	50	3	23	0.05		PESD24VS2UAT					
		5	38	46	6.5	30	0.09					PESD5V0L2UU	SOT323 (SC-70)	2 x 1.25 x 0.95
							@ 4 V							
0.018														
6	34	40	5.5	30	@ 4.3 V	PESD6V0L2UU								
0	2	3.3	101	-	15	30	0.05					PESD3V3L2BT	SOT23	2.9 x 1.3 x 1
		5	75	-	13	30	0.05	PESD5V0L2BT						
		12	19	-	5	30	0.1	PESD12VL2BT						

ESD protection, TVS, filtering and signal conditioning























# General purpose ESD protection devices

Types in **bold** represent new products

Number of protected lines		V <sub>RWM</sub> (V)	C <sub>line</sub> typ (pF)	C <sub>line</sub> max (pF)	I <sub>PPM</sub> (A) 8/20µs	ESD rating max (kV) [1]	I <sub>R</sub> max (µA) @ V <sub>RWM</sub>	Configuration	Type	Package	Size (mm)				
Unid/Rectional	Bid/Rectional														
0	2	15	16	-	5	30	0.05		PESD15VL2BT		2.9 x 1.3 x 1				
		24	11	-	3	23	0.05		PESD24VL2BT						
		24	14	17	3.5	30	0.05		<b>PESD24VV2BT</b>						
		27	13	17	3	30	0.05		<b>PESD27VV2BT</b>						
		35	45	12	30	0.1			PESD5V0S2BT						
		35	45	12	30	0.1			PESD5V0U2BT						
		2.9	3.5	-	10	0.1			PESD5V0U2BM			DFN1006-3 (SOT883)		1.0 x 0.6 x 0.5	
		18	20	9	30	0.01			PESD5V0V2BM						
		2.9	3.5	-	10	0.1						PESD5V0U2BMB	DFN1006B-3 (SOT883B)		1 x 0.6 x 0.37
		18	20	9	30	0.01			PESD5V0V2BMB						
		35	45	35	30	0.1						PESD5V0S2BQA	DFN1010D-3 (SOT1215)		1.1 x 1.0 x 0.37
		4	3	3.3	22	28	3		20			0.3		PESD3V3L4UF	DFN1410-6 (SOT886)
110	300				10	30	1 (@ 3 V)	PESD3V3S4UF							
5	16			19	2.5	20	0.025	PESD5V0L4UF							
	85			220	10	30	0.1 (@ 4.3 V)	PESD5V0S4UF							
3	200			240	-	8	2		BZA856A	SOT353 (SC-88A)					
3.3	22			28	3	20	0.3		PESD3V3L4UG			2 x 1.25 x 0.95			
5	16			19	2.5	20	0.025		PESD5V0L4UG						
3	200			240	-	8	2		BZA456A	SOT457 (SC-74)		2.9 x 1.5 x 1			
3.3	215			300	20	30	0.8		PESD3V3S4UD						
5	165			220	20	30	0.2		PESD5V0S4UD						
15	37			48	-	8	0.1		BZA420A						
24	40			70	4	23	0.01		PESD24VS4UD						
0	4	3.3	9.9	6	20	0.1		<b>PESD3V3L4BHC</b>	DFN1308-6 (SOT8006)		1.3 x 0.8 x 0.4				
								PESD5V0U4BF	DFN1410-6 (SOT886)		1.45 x 1 x 0.5				
		5	45	75	-	15		0.1		SOT457 (SC-74)		2.9 x 1.5 x 1.0			
									BZA408B						
0	5	3.3	22	28	2.5	20	0.3		PESD3V3L5UF	DFN1410-6 (SOT886)		1.45 x 1 x 0.5			
									PESD5V0L5UF						
		5	16	19	2.5	20	0.025			PESD3V3L5UY	SOT363 (SC-88)		2 x 1.25 x 0.95		
		3.3	22	28	2.5	20	0.3			PESD5V0L5UY					
		5	16	19	2.5	20	0.025			PESD3V3S5UD	SOT457 (SC-74)		2.9 x 1.5 x 1.0		
		3.3	215	300	20	30	0.8			PESD5V0S5UD					
		5	165	220	20	30	0.2			PESD12V5SUD					
		12	73	100	10	30	0.015			PESD15V5SUD					
		15	60	90	6	30	0.015			PESD24V5SUD					
		24	45	70	4	23	0.015								
		5	2.9	3.5	-	10	0.1				PESD5V0U5BF	DFN1410-6 (SOT886)		1.45 x 1 x 0.5	


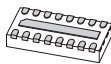
## Common mode filters with integrated protection

Types in **bold** represent new products

Interface	Number of protected line pairs	Type	Differential Mode 3 dB frequency (typ.)	range of CM rejection > -10 dB	V <sub>RWM</sub> (V)	IEC61000-4-2 ESD rating (kV)	IPP (A) 8/20 μs	Channel series resistance (Ω)	Package	Size (mm)
USB2.0	1	IP3319CX6	1.5	0.14 - 5.8	5.5	15	6	6	WLCSP6 	0.95 x 1.34 x 0.6
USB3.2	1	PCMF1USB3BA/C	10 GHz	1.85 - 8.9	4	15	7.5	2.2	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3BA/C							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3BA/C							WLCSP15 	2.4 x 1.2 x 0.5
	1	PCMF1USB3B/C	8.1 GHz	1.24 - 10	4	20	9.5	2.6	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3B/C							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3B/C							WLCSP15 	2.4 x 1.2 x 0.5
	1	PCMF1USB3S	6 GHz	0.63 - 8.3	5	15	7	3	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3USB3S							WLCSP15 	2.4 x 1.2 x 0.5
	1	PESD1USB3B	16.1 GHz	-	4	20	9.5	-	WLCSP5 	0.8 x 1.2 x 0.5
	2	PESD2USB3B							WLCSP10 	1.6 x 1.2 x 0.5
	3	PESD3USB3B							WLCSP15 	2.4 x 1.2 x 0.5
	1	PESD1USB3S	17 GHz	-	5	15	8	-	WLCSP5 	0.8 x 1.2 x 0.5
	2	PESD2USB3S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PESD3USB3S							WLCSP15 	2.4 x 1.2 x 0.5
HDMI2.0	1	PCMF1HDMI2S	>6 GHz	0.63-8.3	5	15	7	3	WLCSP5 	0.8 x 1.2 x 0.5
	2	PCMF2HDMI2S							WLCSP10 	1.6 x 1.2 x 0.5
	3	PCMF3HDMI2S							WLCSP15 	2.4 x 1.2 x 0.5
HDMI2.1	1	<b>PCMF1HDMI2BA-C</b>	10 GHz	1.85 - 8.9	4	15	7.5	2.2	WLCSP5 	0.8 x 1.2 x 0.5
	2	<b>PCMF2HDMI2BA-C</b>							WLCSP10 	1.6 x 1.2 x 0.5
	3	<b>PCMF3HDMI2BA-C</b>							WLCSP15 	2.4 x 1.2 x 0.5



ESD protection, TVS, filtering and signal conditioning


## RC low pass filters with integrated protection


Number of protected lines	Line small-signal equivalents			Digital interface clock speed (MHz)	Insertion loss S21~ -3 dB (MHz)	Type	Package	Size (mm)
	Rline (Ω)	Cline (pF)	Lline (nH)					
4	40	18	-	~100	300	IP4252CZ8-4-TTL	DFN1714-8 (SOT1166) 	1.7 x 1.35 x 0.52
	100	45	-	~40	130	IP4254CZ8-4-TTL		
8	40	18	-	~100	300	IP4252CZ16-8-TTL	DFN3314-16 (SOT1168) 	3.3 x 1.35 x 0.53
	100	45	-	~40	130	IP4254CZ16-8-TTL		

## Transient Voltage Surge Suppressor (TVS)

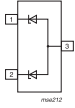

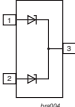
### TVS diodes for mobile applications

$V_{RWM}$	$V_{BR\ min}$	$V_{BR\ max}$	$I_{PPM\ 8/20\mu s}$	$V_{CL\ 8/20\mu s}$	Type	Package	Size
3.3	4.7	-	34	13.2	PTVS3V3D1BAL	DFN1006-2 (SOD882) 	1.0 x 0.6 x 0.48
4.5	4.7	-	34	13.2	PTVS4V5D1BL		
5.5	5.6	7.6	35	12.2	PTVS5V5D1BL		
3.3	3.8	6.8	70	11	PTVS3V3Z1BSC	DSN1006-2 (SOD993B) 	1.0 x 0.6 x 0.27
5	5.5	8.3	60	12	PTVS5V0Z1BSC		

$P_{PPM\ 10/1000\mu s}$	$V_{RWM}$	$V_{BR\ min}$	$V_{BR\ max}$	$I_{PPM\ 8/20\mu s}$	$V_{CL\ 8/20\mu s}$	$I_{PPM\ 10/1000\mu s}$	$V_{CL\ 10/1000\mu s}$	Type	Package	Size
300	7.5	8.33	9.21	178	19.7	23.3	12.9	PTVS7V5U1UPA	DFN2020-3 (SOT1061) 	2.0 x 2.0 x 0.62
	10	11.1	12.3	148	23	17.6	17	PTVS10VU1UPA		
	12	13.3	14.7	131	25.2	15.1	19.9	PTVS12VU1UPA		
	15	16.7	18.5	111	28.8	12.3	24.4	PTVS15VU1UPA		
	18	20	22.1	97	32	10.3	29.2	PTVS18VU1UPA		
	20	22.2	24.5	98.5	38.7	9.2	32.5	PTVS20VU1UPA		
	22	24.4	26.9	88.5	41	8.4	35.5	PTVS22VU1UPA		
	24	26.7	29.5	79	44.2	7.7	38.8	PTVS24VU1UPA		
	26	28.9	31.9	69	43.5	7	43	PTVS26VU1UPA		

$V_{RWM}\ (V)$	$V_{br\ min}\ (V)$	$V_{br\ max}\ (V)$	8/20 $\mu s$ pulse		10/1000 $\mu s$ pulse		$I_{Rm\ typ}\ @\ V_{RWM}\ (nA)$	$I_{Rm\ max}\ @\ V_{RWM}\ (nA)$	$R_{dyn}\ (TLP)$	Type	Package	Size
			$V_{cl}\ @\ I_{ppm}\ (V)_{max}$	$V_{cl}\ @\ I_{ppm}\ (A)$	$V_{cl}\ @\ I_{ppm}\ (V)_{max}$	$I_{ppm}\ (A)$						
5	6.4	7.8	19.4	100	12	20	25	1000	0.1	PTVS5V0Z1USKP	DSN1608-2 (SOD964) 	1.6 x 0.8 x 0.27
			18	80	12	20	25	1000	0.06	PTVS5V0Z1USK		
7.5	8.33	9.65	22	100	13.5	17	1	200	0.08	PTVS7V5Z1USK		
10	11.1	12.9	27	75	18.2	12.5	0.1	200	0.11	PTVS10VZ1USK		
12	13.1	15.4	29	65	21.8	10.5	0.1	200	0.11	PTVS12VZ1USK		
15	16.7	19.4	26	52	27.4	7.5	0.1	200	0.13	PTVS15VZ1USK		
18	20	23.2	44	41	32.8	6.4	0.1	200	0.17	PTVS18VZ1USK		
20	22.2	25.4	48.3	41	36.9	6	1	200	0.2	PTVS20VZ1USK		
22	24.4	26.9	51	39	40	5	0.1	200	0.2	PTVS22VZ1USK		
26	28.9	33.4	57.5	32	46	4.5	0.1	200	0.15	PTVS26VZ1USK		

TVS diodes, 24 W/40 W


Power (W) (10 / 1000 $\mu$ s waveform) <sup>[1]</sup>	$V_{RWM}$ (V)	V min (V) @ I	V typ (V) @ I	$V_{BR}$ max (V) @ $I_R$	$I_R$ (mA)	ESD rating max (kV)	C typ (pF)	$V_{CL}$ max (V) @ IPP <sup>[1]</sup>	$I_{PP}$ (A) <sup>[1]</sup>	$I_{RM}$ max ( $\mu$ A) @ $V_{RWM}$	Configuration	Type	Package	Size (mm)	
24	3	5.32	5.6	5.88	20	30	210	8	3	5		MMBZ5V6AL		2.9 x 1.3 x 1.0	
		5.89	6.2	6.51	1	30	175	8.7	2.76	0.2		MMBZ6V2AL			
	4.5	6.48	6.8	7.14	1	30	150	9.6	2.5	0.3		MMBZ6V8AL			
	6	8.65	9.1	9.56	1	30	155	14	1.7	0.1		MMBZ9V1AL			
	6.5	9.5	10	10.5	1	30	130	14.2	1.7	0.02		MMBZ10VAL			
40		8.5	11.4	12	12.6	1	30	110	17	2.35		0.005			MMBZ12VAL
		12	14.25	15	15.75	1	30	85	21	1.9		0.005			MMBZ15VAL
		13	15.2	16	16.8	1	30	76	23	1.9		0.005			MMBZ16VAL
		13	15.68	16	16.32	1	30	76	23	1.9		0.005			MMBZ16VTAL
		14.5	17.1	18	18.9	1	30	70	25	1.6		0.005			MMBZ18VAL
		17	19	20	21	1	30	65	28	1.4		0.005			MMBZ20VAL
		22	25.65	27	28.35	1	30	48	40	1		0.005			MMBZ27VAL
		26	31.35	33	34.65	1	30	45	46	0.87		0.005			MMBZ33VAL
		8.5	11.4	12	12.6	1	30	110	17	2.35		0.005			MMBZ12VDL
		12.8	14.3	15	15.8	1	30	85	21.2	1.9		0.005			MMBZ15VDL
		14.5	17.1	18	18.9	1	30	70	25	1.6	0.005	MMBZ18VCL			
		17	19	20	21	1	30	65	28	1.4	0.005	MMBZ20VCL			
		22	25.65	27	28.35	1	30	48	38	1	0.005	MMBZ27VCL			
		26	31.35	33	34.65	1	30	45	46	0.87	0.005	MMBZ33VCL			

<sup>[1]</sup> 10/1000 $\mu$ s according to IEC 61643-321

ESD protection, TVS, filtering and signal conditioning


# Transient Voltage Surge Suppressor (TVS)

## TVS 400 W

Power (W) (10/1000 µs waveform) [1]	$V_{RWM}$ (V)	$V_{BR\ min}$ (V) @ $I_R$	$V_{BR\ typ}$ (V) @ $I_R$	$V_{BR\ max}$ (V) @ $I_R$	$V_{CL\ max}$ (V) @ $I_{PP}$ [1]	$V_{CL\ max}$ (V) @ $I_{PPM}$ [1]	$I_{PP}$ (A) [1]	$I_{RM\ typ}$ (µA) @ $V_{RWM}$	$I_{RM\ max}$ (µA) @ $V_{RWM}$	Type (Tj max = 150 °C)	Type (Tj max = 185 °C)	Package	Size (mm)
350	3.5	5.20	5.60	6.00	10	8.0	43.8	5	600	PTVS3V3S1UR	PTVS3V3S1UTR		
400	5.0	6.40	6.70	7.00	10	9.2	43.5	5	400	PTVS5V0S1UR	PTVS5V0S1UTR		
	6.0	6.67	7.02	7.37	10	10.3	38.8	5	400	PTVS6V0S1UR	PTVS6V0S1UTR		
	6.5	7.22	7.60	7.98	10	11.2	35.7	5	250	PTVS6V5S1UR	PTVS6V5S1UTR		
	7.0	7.78	8.20	8.60	10	12.0	33.3	3	100	PTVS7V0S1UR	PTVS7V0S1UTR		
	7.5	8.33	8.77	9.21	1	12.9	31.0	0.2	50	PTVS7V5S1UR	PTVS7V5S1UTR		
	8.0	8.89	9.36	9.83	1	13.6	29.4	0.03	25	PTVS8V0S1UR	PTVS8V0S1UTR		
	8.5	9.44	9.92	10.40	1	14.4	27.8	0.01	10	PTVS8V5S1UR	PTVS8V5S1UTR		
	9.0	10.00	10.55	11.10	1	15.4	26.0	0.005	5	PTVS9V0S1UR	PTVS9V0S1UTR		
	10	11.10	11.70	12.30	1	17.0	23.5	0.005	2.5	PTVS10VS1UR	PTVS10VS1UTR		
	11	12.20	12.85	13.50	1	18.2	22.0	0.005	2.5	PTVS11VS1UR	PTVS11VS1UTR		
	12	13.30	14.00	14.70	1	19.9	20.1	0.005	2.5	PTVS12VS1UR	PTVS12VS1UTR		
	13	14.40	15.15	15.90	1	21.5	18.6	0.001	0.1	PTVS13VS1UR	PTVS13VS1UTR		
	14	15.60	16.40	17.20	1	23.2	17.2	0.001	0.1	PTVS14VS1UR	PTVS14VS1UTR		
	15	16.70	17.60	18.50	1	24.4	16.4	0.001	0.1	PTVS15VS1UR	PTVS15VS1UTR		
	16	17.80	18.75	19.70	1	26.0	15.4	0.001	0.1	PTVS16VS1UR	PTVS16VS1UTR		
	17	18.90	19.90	20.90	1	27.6	14.5	0.001	0.1	PTVS17VS1UR	PTVS17VS1UTR		
	18	20.00	21.00	22.10	1	29.2	13.7	0.001	0.1	PTVS18VS1UR	PTVS18VS1UTR	SOD123W	2.6 x 1.7 x 1.0
	20	22.20	23.35	24.50	1	32.4	12.3	0.001	0.1	PTVS20VS1UR	PTVS20VS1UTR		
	22	24.40	25.60	26.90	1	35.5	11.3	0.001	0.1	PTVS22VS1UR	PTVS22VS1UTR		
	24	26.70	28.10	29.50	1	38.9	10.3	0.001	0.1	PTVS24VS1UR	PTVS24VS1UTR		
	26	28.90	30.40	31.90	1	42.1	9.5	0.001	0.1	PTVS26VS1UR	PTVS26VS1UTR		
	28	31.10	32.80	34.40	1	45.4	8.8	0.001	0.1	PTVS28VS1UR	PTVS28VS1UTR		
	30	33.30	35.10	36.80	1	48.4	8.3	0.001	0.1	PTVS30VS1UR	PTVS30VS1UTR		
	33	36.70	38.70	40.60	1	53.3	7.5	0.001	0.1	PTVS33VS1UR	PTVS33VS1UTR		
	36	40.00	42.10	44.20	1	58.1	6.9	0.001	0.1	PTVS36VS1UR	PTVS36VS1UTR		
	40	44.40	46.80	49.10	1	64.5	6.2	0.001	0.1	PTVS40VS1UR	PTVS40VS1UTR		
43	47.80	50.30	52.80	1	69.4	5.8	0.001	0.1	PTVS43VS1UR	PTVS43VS1UTR			
45	50.00	52.65	55.30	1	72.7	5.5	0.001	0.1	PTVS45VS1UR	PTVS45VS1UTR			
48	53.30	56.10	58.90	1	77.4	5.2	0.001	0.1	PTVS48VS1UR	PTVS48VS1UTR			
51	56.70	59.70	62.70	1	82.4	4.9	0.001	0.1	PTVS51VS1UR	PTVS51VS1UTR			
54	60.00	63.15	66.30	1	87.1	4.6	0.001	0.1	PTVS54VS1UR	PTVS54VS1UTR			
58	64.40	67.80	71.20	1	93.6	4.3	0.001	0.1	PTVS58VS1UR	PTVS58VS1UTR			
60	66.70	70.20	73.70	1	96.8	4.1	0.001	0.1	PTVS60VS1UR	PTVS60VS1UTR			
64	71.10	74.85	78.60	1	103.0	3.9	0.001	0.1	PTVS64VS1UR	PTVS64VS1UTR			

[1] 10/1000µs according to IEC 61643-3:21

TVS 600 W

Power (W) (10/1000 µs waveform) [1]	$V_{RWM}$ (V)	$V_{BR\ min}$ (V) @ $I_R$	$V_{BR\ typ}$ (V) @ $I_R$	$V_{BR\ max}$ (V) @ $I_R$	$I_R$ (mA)	$V_{CL\ max}$ (V) @ $I_{PP}[1]$	$I_{PP}$ (A) [1]	$I_{RM\ typ}$ (µA) @ $V_{RWM}$	$I_{RM\ max}$ (µA) @ $V_{RWM}$	Type ( $T_j\ max = 150$ °C)	Type ( $T_j\ max = 185$ °C)	Package	Size (mm)
600	3.5	5.20	5.60	6.00	10	8	75	5	600	PTVS3V3P1UP	PTVS3V3P1UTP		3.8 x 2.6 x 1.0
	5	6.40	6.70	7.00	10	9.2	65.2	5	400	PTVS5V0P1UP	PTVS5V0P1UTP		
	6	6.67	7.02	7.37	10	10.3	58.3	5	400	PTVS6V0P1UP	PTVS6V0P1UTP		
	6.5	7.22	7.60	7.98	10	11.2	53.6	5	250	PTVS6V5P1UP	PTVS6V5P1UTP		
	7	7.78	8.20	8.60	10	12	50	3	100	PTVS7V0P1UP	PTVS7V0P1UTP		
	7.5	8.33	8.77	9.21	10	12.9	46.5	0.2	50	PTVS7V5P1UP	PTVS7V5P1UTP		
	8	8.89	9.36	9.83	10	13.6	44.1	0.03	25	PTVS8V0P1UP	PTVS8V0P1UTP		
	8.5	9.44	9.92	10.40	10	14.4	41.7	0.01	10	PTVS8V5P1UP	PTVS8V5P1UTP		
	9	10.00	10.55	11.10	10	15.4	39	0.005	5	PTVS9V0P1UP	PTVS9V0P1UTP		
	10	11.10	11.70	12.30	10	17	35.3	0.005	2.5	PTVS10VP1UP	PTVS10VP1UTP		
	11	12.20	12.85	13.50	10	18.2	33	0.005	2.5	PTVS11VP1UP	PTVS11VP1UTP		
	12	13.30	14.00	14.70	10	19.9	30.2	0.005	2.5	PTVS12VP1UP	PTVS12VP1UTP		
	13	14.40	15.15	15.90	10	21.5	27.9	0.001	0.1	PTVS13VP1UP	PTVS13VP1UTP		
	14	15.60	16.40	17.20	10	23.2	25.9	0.001	0.1	PTVS14VP1UP	PTVS14VP1UTP		
	15	16.70	17.60	18.50	10	24.4	24.6	0.001	0.1	PTVS15VP1UP	PTVS15VP1UTP		
	16	17.80	18.75	19.70	10	26	23.1	0.001	0.1	PTVS16VP1UP	PTVS16VP1UTP		
	17	18.90	19.90	20.90	10	27.6	21.7	0.001	0.1	PTVS17VP1UP	PTVS17VP1UTP		
	18	20.00	21.00	22.10	10	29.2	20.5	0.001	0.1	PTVS18VP1UP	PTVS18VP1UTP		
	20	22.20	23.35	24.50	10	32.4	18.5	0.001	0.1	PTVS20VP1UP	PTVS20VP1UTP		
	22	24.40	25.60	26.90	10	35.5	16.9	0.001	0.1	PTVS22VP1UP	PTVS22VP1UTP		
	24	26.70	28.10	29.50	10	38.9	15.4	0.001	0.1	PTVS24VP1UP	PTVS24VP1UTP		
	26	28.90	30.40	31.90	10	42.1	14.2	0.001	0.1	PTVS26VP1UP	PTVS26VP1UTP		
	28	31.10	32.80	34.40	10	45.4	13.2	0.001	0.1	PTVS28VP1UP	PTVS28VP1UTP		
	30	33.30	35.10	36.80	10	48.4	12.4	0.001	0.1	PTVS30VP1UP	PTVS30VP1UTP		
	33	36.70	38.70	40.60	10	53.3	11.3	0.001	0.1	PTVS33VP1UP	PTVS33VP1UTP		
	36	40.00	42.10	44.20	10	58.1	10.3	0.001	0.1	PTVS36VP1UP	PTVS36VP1UTP		
	40	44.40	46.80	49.10	10	64.5	9.3	0.001	0.1	PTVS40VP1UP	PTVS40VP1UTP		
	43	47.80	50.30	52.80	10	69.4	8.6	0.001	0.1	PTVS43VP1UP	PTVS43VP1UTP		
	45	50.00	52.65	55.30	10	72.7	8.3	0.001	0.1	PTVS45VP1UP	PTVS45VP1UTP		
	48	53.30	56.10	58.90	10	77.4	7.8	0.001	0.1	PTVS48VP1UP	PTVS48VP1UTP		
	51	56.70	59.70	62.70	10	82.4	7.3	0.001	0.1	PTVS51VP1UP	PTVS51VP1UTP		
	54	60.00	63.15	66.30	10	87.1	6.9	0.001	0.1	PTVS54VP1UP	PTVS54VP1UTP		
58	64.40	67.80	71.20	10	93.6	6.4	0.001	0.1	PTVS58VP1UP	PTVS58VP1UTP			
60	66.70	70.20	73.70	10	96.8	6.2	0.001	0.1	PTVS60VP1UP	PTVS60VP1UTP			
64	71.10	74.85	78.60	10	103	5.8	0.001	0.1	PTVS64VP1UP	PTVS64VP1UTP			

ESD protection, TVS, filtering and signal conditioning

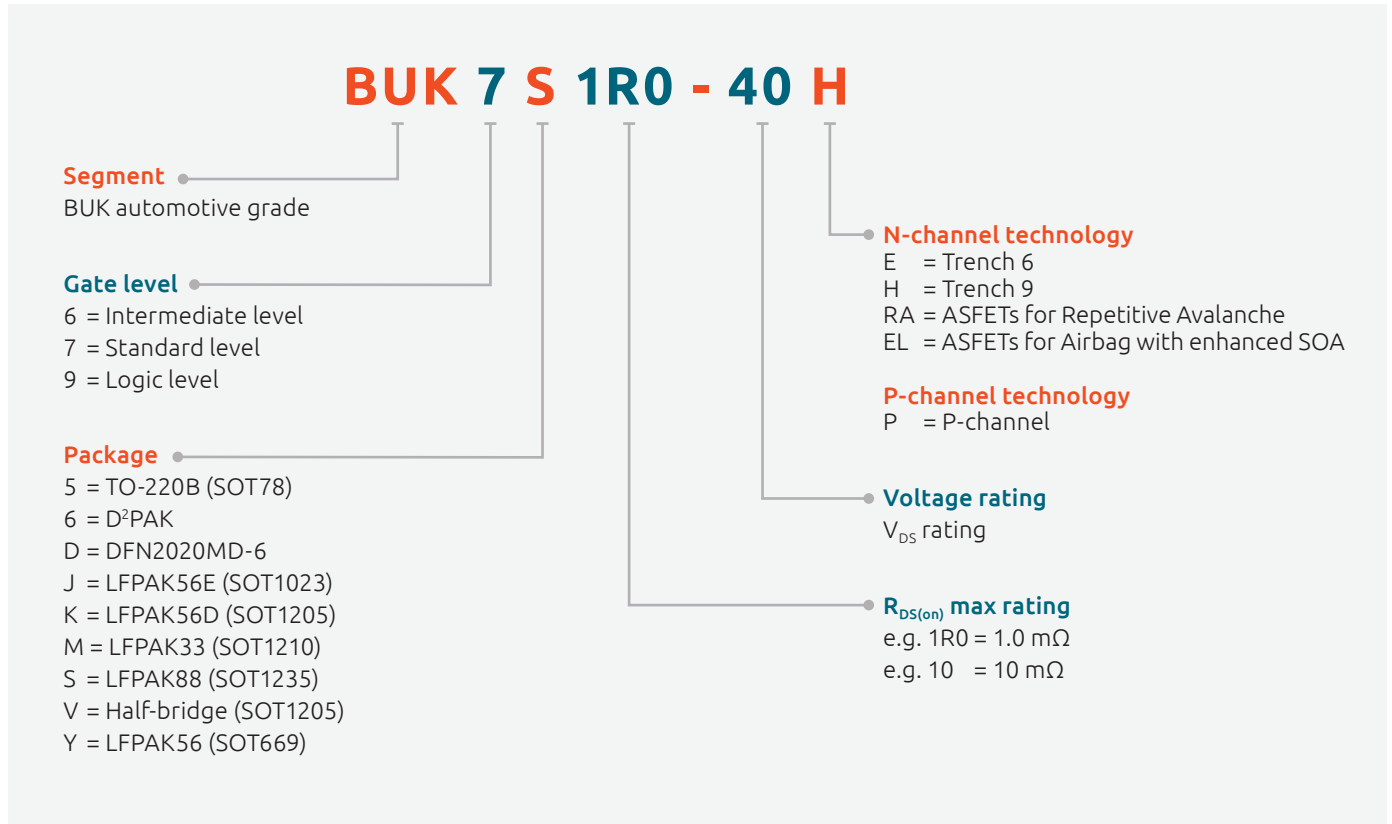
[1] 10/1000µs according to IEC 61643-321





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## Automotive grade MOSFETs nomenclature



## N-channel 30 V automotive power MOSFETs

Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
LFPAK56; Power-SO8 (SOT669)	BUK9Y07-30B	30	6	7	75	1.42
	BUK9Y22-30B	30	19	22	38	2.53
	BUK7Y20-30B	30	20		40	2.53
LFPAK56D (SOT1205)	BUK9K5R1-30E	30	4.4	5.3	40	2.21
	BUK9K5R6-30E	30	4.7	5.8	40	2.36
	BUK7K5R1-30E	30	5.1		40	2.21
	BUK7K5R6-30E	30	5.6		40	2.36
LFPAK33 (SOT1210)	BUK9M5R2-30E	30	4.1	5.2	70	1.89
	BUK9M6R6-30E	30	5.3	6.6	70	2
	BUK9M10-30E	30	7.8	10	54	2.75
	BUK9M17-30E	30	14	17	37	3.4



## N-channel 40 V automotive power MOSFETs

Types in **bold** represent new products




Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
TO-220AB (SOT78)	BUK753R1-40E	40	3.1		100	0.64
	BUK758R3-40E	40	7.4		75	1.56
LFPAK88 (SOT1235)	<b>BUK750R5-40H</b>	40	0.55		500	0.4
	BUK750R7-40H	40	0.7		425	0.4
	BUK750R9-40H	40	0.9		375	0.4
	BUK751R0-40H	40	1		325	0.4
	BUK751R2-40H	40	1.2		300	0.51
	BUK751R5-40H	40	1.5		260	0.62
	<b>BUK752R0-40H</b>	40	2.0		190	0.82
	<b>BUK752R5-40H</b>	40	2.5		140	1.11
D <sup>2</sup> PAK (SOT404)	BUK961R6-40E	40	1.4	1.6	120	0.43
	BUK761R6-40E	40	1.6		120	0.43
	BUK962R6-40E	40	2.4	2.8	100	0.57
	BUK963R1-40E	40	2.7	3.1	100	0.64
	BUK964R1-40E	40	3.5	4.1	75	0.82
	BUK764R0-40E	40	4		75	0.82
	BUK768R1-40E	40	7.2		75	1.56
LFPAK56E (SOT1023)	BUK9J0R9-40H	40	0.94	1.2	220	0.3
	BUK7J1R0-40H	40	1		220	0.3
	BUK7J1R4-40H	40	1.4		120	0.38
LFPAK56; Power-SO8 (SOT669)	BUK9Y1R3-40H	40	1.3	1.8	190	0.38
	BUK7Y1R4-40H	40	1.4		190	0.38
	BUK9Y1R6-40H	40	1.6	2.2	120	0.51
	BUK7Y1R7-40H	40	1.7		120	0.51
	BUK9Y1R9-40H	40	1.9	2.6	120	0.69
	BUK7Y2R0-40H	40	2		120	0.69
	BUK9Y2R4-40H	40	2.4	3.2	120	0.79
	BUK9Y3R0-40E	40	2.5	3	100	0.77
	BUK7Y2R5-40H	40	2.5		120	0.79
	BUK9Y2R8-40H	40	2.8	3.9	120	0.87
	BUK7Y3R0-40H	40	3		120	0.87
	BUK7Y3R5-40H	40	3.5		120	1.3
	BUK7Y3R5-40E	40	3.5		100	0.9
	BUK9Y3R5-40E	40	3.6	3.8	100	0.9
	BUK9Y4R4-40E	40	3.7	4.4	100	1.02
	BUK7Y4R4-40E	40	4.4		100	1.02
	BUK9Y7R6-40E	40	6	7.6	79	1.58
	BUK9Y6R5-40H	40	6.5	7.9	70	2.35
	BUK7Y7R0-40H	40	7		68	2.35
	BUK9Y12-40E	40	10	12	52	2.31
BUK7Y12-40E	40	12		52	2.31	
BUK9Y21-40E	40	17	21	33	3.33	
BUK7Y21-40E	40	21		33	3.33	
BUK9Y29-40E	40	25	29	25	4.03	
BUK7Y29-40E	40	29		26	4.03	

## N-channel 40 V automotive power MOSFETs

Types in **bold** represent new products

Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
LFPAK56D (SOT1205) 	<b>BUK7V4R2-40H</b>	40	4.2		98	1.76
	BUK7K6R2-40E	40	5.8		40	2.21
	BUK9K6R2-40E	40	6	6.2	40	2.21
	BUK9K6R8-40E	40	6.1	7.2	40	2.36
	BUK7K6R8-40E	40	6.8			2.36
	BUK9K8R7-40E	40	8	9.4	30	2.84
	BUK7K8R7-40E	40	8.5			2.84
	<b>BUK9V13-40H</b>	40	13	17	42	3
	<b>BUK9K13-40H</b>	40	14	17	42	3
	BUK9K18-40E	40	16	20	30	3.96
	BUK7K18-40E	40	19		24	3.96
	BUK9K25-40E	40	24	29	18	4.68
	BUK7K25-40E	40	25		27	4.68
	<b>BUK9K25-40RA</b>	40	24	29	18.2	4.68
	LFPAK33 (SOT1210) 	BUK7M3R3-40H	40	3.3		80
BUK9M3R3-40H		40	3.3	4.2	80	1.48
BUK7M4R3-40H		40	4.3		95	1.67
BUK9M4R3-40H		40	4.3	5.5	95	1.67
BUK7M5R0-40H		40	5		85	1.81
BUK9M5R0-40H		40	5	6.4	85	1.81
BUK7M6R0-40H		40	6		50	2.14
BUK9M6R0-40H		40	6	7.7	50	2.14
BUK7M6R3-40E		40	6.3		70	1.89
BUK7M6R7-40H		40	6.7		50	2.32
BUK9M6R7-40H		40	6.7	8.6	50	2.32
BUK7M8R0-40E		40	8		69	2
BUK7M8R5-40H		40	8.5		40	2.56
BUK9M8R5-40H		40	8.5	11	40	2.56
BUK7M10-40E		40	10		56	2.43
BUK7M12-40E		40	12		48	2.75
BUK7M9R5-40H		40	9.5		40	2.74
BUK9M9R5-40H		40	9.5	12	40	2.74
BUK7M21-40E		40	21		33	3.4
BUK7M11-40H		40	11		35	3
BUK9M11-40H		40	11	14	35	3
BUK7M45-40E		40	45		19	4.8
BUK9M14-40E		40	11	14	44	2.75
BUK9M24-40E		40	20	24	30	3.4
BUK7M15-40H		40	15		30	3.44
BUK9M15-40H		40	15	19	30	3.44
BUK7M20-40H		40	20		25	3.96
BUK9M20-40H		40	20	25	25	3.96
BUK9M52-40E		40	40	52	18	4.8
BUK9M7R2-40E		40	5.8	7.2	70	1.89
BUK9M9R1-40E		40	7.3	9.1	64	2
BUK9M11-40E	40	9	11	53	2.43	

## N-channel 55 V - 60 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
TO-220AB (SOT78) 	BUK954R8-60E	60	4.5	4.9	100	0.64
D <sup>2</sup> PAK (SOT404) 	BUK7610-55AL	55	10		75	0.5
	BUK9675-55A	55	68	75	20	2.4
	BUK7675-55A	55	75		20	2.4
	BUK962R5-60E	60	2.3	2.5	120	0.43
	BUK762R4-60E	60	2.4		120	0.43
	BUK962R8-60E	60	2.5	2.8	120	0.46
	BUK762R6-60E	60	2.6		120	0.46
	BUK963R3-60E	60	3	3.3	120	0.51
	BUK763R1-60E	60	3.1		120	0.51
	BUK964R2-60E	60	3.9	4.2	100	0.57
	BUK964R8-60E	60	4.4	4.8	100	0.64
	BUK764R4-60E	60	4.5		100	0.64
	BUK966R5-60E	60	5.9	6.5	75	0.82
	BUK766R0-60E	60	6		75	0.82
	BUK969R0-60E	60	8	9	75	1.09
	BUK768R3-60E	60	8.3		75	1.09
BUK7613-60E	60	13		58	1.56	
LFPAK56; Power-SO8 (SOT669) 	BUK9Y4R8-60E	60	4.1	4.8	100	0.63
	BUK7Y4R8-60E	60	4.8		100	0.63
	BUK9Y6R0-60E	60	5.2	6	100	0.77
	BUK9Y7R2-60E	60	5.6	7.2	100	0.9
	BUK7Y6R0-60E	60	6		100	0.77
	BUK7Y7R2-60E	60	7.2		100	0.9
	BUK9Y8R7-60E	60	7.5	8.7	86	1.02
	BUK7Y8R7-60E	60	8.7		87	1.02
	BUK7Y15-60E	60	15		53	1.59
	BUK9Y25-60E	60	22	25	34	2.31
	BUK7Y25-60E	60	25		34	2.31
	BUK9Y43-60E	60	38	43	22	3.33
	BUK7Y43-60E	60	43		22	3.33
	BUK9Y59-60E	60	52	59	17	4.03
BUK7Y59-60E	60	59		17	4.03	

## N-channel 55 V - 60 V automotive power MOSFETs

Types in **bold red** are in development, types in **bold** represent new products




Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ 5 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
LFPAK56 	<b>BUK9Y7R0-60EL</b>	60	6.2	7	100	0.63
	<b>BUK9Y8R8-60EL</b>	60	8	9	100	0.77
	<b>BUK9Y13-60EL</b>	60	11	13	73	1.02
	<b>BUK9Y22-60EL</b>	60	20	22	45	1.58
LFPAK56D (SOT1205) 	BUK7K12-60E	60	9.3		40	2.21
	BUK7K13-60E	60	10		40	2.36
	BUK9K12-60E	60	11	12	35	2.21
	BUK9K13-60E	60	12	13	40	2.36
	<b>BUK9K13-60RA</b>	60	11.2	12.5	40	2.36
	BUK7K17-60E	60	14		30	2.84
	BUK7K35-60E	60	30		21	3.96
	BUK9K35-60E	60	32	35	22	3.96
	<b>BUK9K35-60RA</b>	60	32	35	22	3.96
	BUK7K52-60E	60	45		15	4.68
	BUK9K52-60E	60	49	55	16	4.68
	<b>BUK9K52-60RA</b>	60	49	55	16	4.68
LFPAK33 (SOT1210) 	BUK7M9R9-60E	60	9.9		60	1.89
	BUK9M12-60E	60	11	12	54	1.89
	BUK7M12-60E	60	12		53	2
	BUK9M15-60E	60	13	15	47	2
	BUK7M15-60E	60	15		43	2.43
	<b>BUK9M20-60EL</b>	60	17	20	46	1.89
	BUK9M19-60E	60	17	19	38	2.43
	BUK7M19-60E	60	19		36	2.75
	BUK9M24-60E	60	21	24	32	2.75
	<b>BUK9M31-60EL</b>	60	27	31	32	2.43
	BUK7M33-60E	60	33			3.4
	BUK9M42-60E	60	37	42	22	3.4
	BUK7M42-60E	60	42		20	4.17
	BUK9M53-60E	60	46	53	17	4.17
	<b>BUK9M67-60EL</b>	60	59	67	19	3.4
	BUK7M67-60E	60	67		14	4.8
BUK9M85-60E	60	73	85	13	4.8	
SOT223 	BUK9832-55A/CU	55	29	32	12	15
	BUK9880-55A/CU	55	73	80	7	15
	BUK7880-55A/CU	55	80		7	15
	BUK98150-55A/CU	55	137	150	5.5	
	BUK78150-55A/CU	55	150		5.5	

## N-channel 75 V - 80 V automotive power MOSFETs

Types in **bold red** are in development

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_b$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
D <sup>2</sup> PAK (SOT404)	BUK9616-75B	75	14	16	67	0.95
	BUK763R8-80E	80	3.8		120	0.43
	BUK964R2-80E	80	4	4.2	120	0.43
	BUK764R2-80E	80	4.2		120	0.46
	BUK964R7-80E	80	4.5	4.7	120	0.46
	BUK769R6-80E	80	9.6		75	0.82
	BUK9611-80E	80	10	11	75	0.82
LFPAK88 (SOT1235)	<b>BUK7S1R8-80L</b>	80	1.8			
	<b>BUK7S4R5-80L</b>	80	4.5			
LFPAK56; Power-SO8 (SOT669)	BUK7Y7R8-80E	80	7.8		100	0.63
	BUK9Y8R5-80E	80	8	8.5	100	0.63
	BUK7Y9R9-80E	80	9.9		89	0.77
	BUK9Y11-80E	80	10	11	84	0.77
	BUK9Y14-80E	80	14	15	62	1.02
	BUK7Y14-80E	80	14		65	1.02
	BUK9Y25-80E	80	25	27	37	1.58
	BUK7Y25-80E	80	25		39	1.58
	BUK9Y41-80E	80	41	45	24	2.33
	BUK7Y41-80E	80	41		25	2.31
	BUK9Y72-80E	80	72	78	15	3.33
	BUK7Y72-80E	80	72		16	3.33
	BUK9Y107-80E	80	98	107	12	4.03
	BUK7Y98-80E	80	98		12	4.03
LFPAK56D (SOT1205)	BUK7K15-80E	80	15		23	2.21
	BUK7K17-80E	80	17		21	2.36
	BUK7K23-80E	80	23		17	2.21
	BUK9K20-80E	80	17	19	23	2.84
	BUK9K22-80E	80	19	22	21	2.36
	BUK9K30-80E	80	26	30	17	2.84
LFPAK33 (SOT1210)	BUK7M17-80E	80	17		43	1.89
	BUK9M23-80E	80	20	23	37	1.89
	BUK7M22-80E	80	22		37	2
	BUK7M27-80E	80	27		30	2.43
	BUK9M28-80E	80	28	28	33	2
	BUK9M35-80E	80	35	35	26	2.43

## N-channel 100 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
TO-220AB (SOT78) 	BUK755R4-100E	100	5.2		120	0.43
D <sup>2</sup> PAK (SOT404) 	BUK765R0-100E	100	5		120	0.43
	BUK965R8-100E	100	5.6	5.8	120	0.43
	BUK768R1-100E	100	8.1		100	0.57
	BUK969R3-100E	100	8.9	9.3	100	0.57
	BUK7613-100E	100	13		72	0.82
	BUK9615-100E	100	14	15	66	0.82
	BUK7631-100E	100	31		34	1.56
	BUK9637-100E	100	36	37	31	1.56
	BUK9675-100A	100	72	75	23	1.5
LFPAK56; Power-SO8 (SOT669) 	BUK9Y12-100E	100	12	12	85	0.63
	BUK7Y12-100E	100	12		85	0.63
	BUK9Y15-100E	100	15	15	69	0.77
	BUK7Y15-100E	100	15		68	0.77
	BUK9Y19-100E	100	18	19	56	0.9
	BUK7Y19-100E	100	19		56	0.9
	BUK9Y22-100E	100	22	22	49	1.02
	BUK7Y22-100E	100	22		49	1.02
	BUK9Y38-100E	100	38	38	30	1.58
	BUK7Y38-100E	100	38		30	1.58
	BUK9Y65-100E	100	64	65	19	2.31
	BUK7Y65-100E	100	65		19	2.31
	BUK9Y113-100E	100	110	113	12	3.33
	BUK7Y113-100E	100	113		12	3.33
	BUK9Y153-100E	100	146	153	9.4	4.03
BUK7Y153-100E	100	153		9.4	4.03	



## N-channel 100 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$R_{DS(on)}$ [max] @ 5 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK56D (SOT1205)	BUK7K29-100E	100	25		29.5	2.21
	BUK9K29-100E	100	27	29	30	2.21
	BUK7K32-100E	100	28		29	2.36
	BUK9K32-100E	100	31	33	26	2.36
	BUK7K45-100E	100	38		21	2.84
	BUK9K45-100E	100	42	45	21	2.84
	BUK7K89-100E	100	83		13	3.96
	BUK9K89-100E	100	85	89	13	3.96
	BUK7K134-100E	100	121		9.8	4.68
	BUK9K134-100E	100	154	159	8.5	4.68
LFPAK33 (SOT1210)	BUK9M34-100E	100	34	34	29	1.89
	BUK9M43-100E	100	43	44	26	1.88
	BUK9M120-100E	100	119	120	12	3.4
	BUK9M156-100E	100	150	156	9.3	4.17
SOT223	BUK98180-100A/CU	100	173	180	4.6	
	BUK9875-100A/CU	101	72	75	7	

## P-channel 30 V - 60 V automotive power MOSFETs

Package name	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ 10 V (m $\Omega$ )	$I_D$ [max] @ 25 °C (A)	$R_{th(j-mb)}$ [max] (K/W)
LFPAK56	BUK6Y10-30P	30	10	80	1.4
	BUK6Y19-30P	30	19	45	2.3
	BUK6Y14-40P	40	15	64	1.4
	BUK6Y24-40P	40	14	39	2.3
	BUK6Y33-60P	60	33	38	1.4
	BUK6Y61-60P	60	61	22	2.3

Small-signal automotive MOSFETs – Low  $R_{DS(on)}$

Package											
Size (mm)											
P <sub>tot</sub> (mW)											
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
							10 V	4.5 V	2.5 V	1.8 V	
N-channel	20	8	7	0.4	1	1	-	15	18	-	
			4.7	0.45	1	2	-	24	29	40	
			2.8	0.4	1	2	-	64	78	110	
		12	12.9	0.4	0.9	2	-	10	12	16	
			11.4	0.4	0.9	2	-	12	15	20	
			26	0.6	1.3	2	-	16	21	-	
	30	8	6.3	0.75	1.25	2	-	16	24	-	
			6	0.4	0.9	1	-	13	23	39	
			11.3	0.4	0.9	2	-	13	14	17	
		12	5	0.4	0.9	2	-	28	32	37	
			4	0.75	1.25	2	-	55	72	-	
			8.3	0.6	1.25	1	-	60	98	-	
	40	20	5.5/22	1	2.5	2	17	22	-	-	
			3.9/17	1	2.5	2	30	39	-	-	
			3.7/11	1	2.5	2	54	70	-	-	
		20	19	1.4	2.1	-	18	22	-	-	
			6.2/19	1.3	2.7	-	17	22	-	-	
			19	2.4	4	-	18	-	-	-	
	60	20	5/18	1.5	2.5	2	25	30	-	-	
			2.7	1	2.5	1	64	79	-	-	
			9	1	2.5	1	85	112	-	-	
		20	2.5/5.7	1	2.5	1	95	120	-	-	
			4.2/13	1.3	2.7	-	32	38	-	-	
			4.7/14	2.4	4	-	36	-	-	-	
80	20	3.5/11	1.3	2.7	2	37	45	-	-		
		11	1.3	2.7	2	59	70	-	-		
		2.2/7.4	1.3	2.7	2	88	104	-	-		
	20	1.5/5.7	1.3	2.7	2	176	196	-	-		
		0.8	1.3	2.7	2	300	332	-	-		
		10	1.3	2.7	2	72	84	-	-		
100	20	7	1.3	2.7	2	175	195	-	-		
		1.1	1.3	2.7	2	345	390	-	-		
		1.5	1.3	2.7	2	285	301	-	-		
	12	12	11.8	0.47	0.9	-	-	15	17	21	
			5.6	0.45	0.95	2	-	27	38	50	
			2	0.4	0.9	-	-	97	118	145	
20		8	2	0.5	1.1	-	-	100	155	210	
			2.3	0.45	0.95	-	-	120	150	200	
			10.3	0.47	0.9	2	-	19	22	28	
	12	5	0.47	0.9	2.3	-	28	31	36		
		5.3	0.75	1.25	2	-	28	42	-		
		5	0.6	1.3	1	-	38	-	-		
		5.2/18	0.6	1.3	1	-	38	64	-		
		5	0.47	0.9	2	-	39	45	56		
		5.7	0.75	1.25	2	-	41	56	-		
		3.5	0.75	1.25	-	-	48	71	-		
		4.7	0.6	1.3	1	-	50	78	-		
		4.4	0.6	1.3	-	-	55	-	-		
3.3	0.75	1.25	2	-	67	99	-				
30	20	2.4	1	2.5	2	-	97	147	-		
		6.7	1	1.3	1	-	110	189	-		
		8.8	1	2.5	-	24	32	-	-		
	40	20	4.2	1	3	2	35	47	-	-	
			1.5	1	2.5	1	180	220	-	-	
			14	1.4	2.7	-	30	45	-	-	
60	20	8	1.9	3.2	-	95	125	-	-		
		3	1.9	3.2	-	130	180	-	-		

SOT457 (SC-74)	SOT23	DFN2020MD-6 (SOT1220)	DFN2020D-6 (SOT1118D)	DFN1010D-3 (SOT1215)
				
2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65	1.1 x 1.0 x 0.37
600	250	1250	1250	1000
	PMV15UNEA PMV28UNEA PMV65UNEA		PMPB10XNEA PMPB12UNEA BUK4D16-20 PMPB20XNEA	
	PMV20XNEA PMV19XNEA		PMPB13XNEA PMPB29XNEA	
			PMDPB56XNEA	
PMN25ENEA	PMV15ENEA PMV28ENEA PMV52ENEA		BUK4D60-30 BUK6D22-30E BUK6D38-30E BUK6D72-30E BUK9D23-40E BUK6D23-40E BUK7D25-40E BUK6D30-40E	
PMN20ENA			BUK6D120-40E	
PMN30ENEA	PMV30ENEA PMV60ENEA			
	PMV130ENEA			
PMN40ENA PMN40SNA PMN55ENEA			BUK6D43-60E BUK7D36-60E BUK6D56-60E BUK6D77-60E	
PMN120ENEA PMN230ENEA	PMV88ENEA PMV164ENEA PMV450ENEA		BUK6D125-60E BUK6D210-60E	
			BUK6D81-80E BUK6D230-80E	
PMN280ENEA	PMV280ENEA		BUK6D335-100E PMPB15XPA	PMXB360ENEA
	PMV27UPEA BSH205G2A NX2301P BSH205G2			
			PMPB20XPEA PMPB29XPEA	
PMN30XPEA PMN30XPA	PMV30XPEA PMV28XPEA PMV30XPA		BUK4D38-20P PMPB43XPEA	
PMN42XPEA PMN48XPA PMN40XPEA PMN48XPA2	PMV48XPA PMV48XPA2 PMV65XPEA PMV100XPEA			
			BUK4D110-20P PMPB27EPA	
	PMV50EPEA PMV250EPEA			
			BUK6D43-40P BUK6D120-60P	
PMN100EPA	PMV100EPA			



## Small-signal automotive MOSFETs – High $R_{DS(on)}$

Package											
Size (mm)											
P <sub>tot</sub> (mW)											
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
							10 V	4.5 V	2.5 V	1.8 V	
N	30	8	0.4	0.6	1.1	2	-	1000	1400	2000	
	60	16	0.72	1.3	2.6	1	850	1100	-	-	
		20	0.36	0.9	1.5	-	900	1000	-	-	
			0.36	0.48	1.6	1.5	1000	1100	1400	-	
			0.3	1	2.5	2	1000	1300	-	-	
0.2	0.8	1.5	yes	2700	3000	4000	-				
P	30	8	0.23	0.6	1.1	2	-	2800	5300	-	
	50	12	0.27	1.1	2.1	1	7500	8500	-	-	
		20	0.2	1.1	2.1	1	5300	6000	-	-	





## Small-signal automotive MOSFETs – Dual


Package											
Size (mm)											
P <sub>tot</sub> (mW)											
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
							10 V	4.5 V	2.5 V	1.8 V	
N	30	12	4	0.75	1.25	2	-	55	72	-	

## Small-signal MOSFETs complementary

Package	Type	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GSth</sub> min (V)	V <sub>GSth</sub> max (V)	
SOT363 (SC-88) (2.0 x 1.25 x 0.95) 	NX3008CBKS	N	30	8	0.35	0.6	1.1	
		P	30	8	0.2	0.6	1.1	
SOT363 (SC-88) (2.0 x 1.25 x 0.95) 	PMGD290UCEA	N	20	8	725	1	1	
		P	20	8	500	1	1	

Types in **bold** represent new products





SOT23	SOT363 (SC-88)	SOT323 (SC-70)	DFN1110D-3 (SOT8015)
			
2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.47
250	300	200	420
NX3008NBK	NX3008NBKS	NX3008NBKW	<b>2N7002KQB</b>
BSS138P	BSS138PS	BSS138PW	
BSS138BK	BSS138BKS	BSS138BKW	
2N7002BK	2N7002BKS	2N7002BKW	
BSS138AKA			
NX3008PBK	NX3008PBKS	NX3008PBKW	<b>BSS84AKB</b>
BSS84AK	BSS84AKS	BSS84AKW	

DFN2020D-6 (SOT1118D)

2.0 x 2.0 x 0.65
1250
PMDPB56XNEA

t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
				10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V
26	88	0.52	2	-	1000	1400	2000	-	-
49	103	0.55	2	-	2800	5300	-	-	-
6	86	0.15	2	-	290	420	1	-	-
18	80	0.18	2	-	670	1	2	-	-





## N-channel 25 V - 30 V Power MOSFETs

Types in **bold red** are in development

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>G(tot)</sub> [typ] (nC)
TO-220 (SOT78) 	PSMN1R1-30PL	30	1.3	1.6	120	118
	PSMN1R8-30PL	30	1.8	2.3	100	83
	PSMN2R0-30PL	30	2.1	2.8	100	55
	PSMN2R7-30PL	30	2.7	3.6	100	32
	PSMN3R4-30PL	30	3.4	4.1	100	31
	PSMN4R3-30PL	30	4.3	6.2	100	19
	PSMN017-30PL	30	17	23	32	5.1
	PSMN022-30PL	30	22	34	30	4.4
D <sup>2</sup> PAK (SOT404) 	PSMNR90-30BL	30	1	1.4	120	118
	PSMN1R5-30BLE	30	1.5	1.85	120	108
	PSMN1R6-30BL	30	1.9	2.2	100	101
	PSMN2R0-30BL	30	2.1	2.9	100	55
	PSMN2R7-30BL	30	3	3.7	100	32
	PSMN3R4-30BL	30	3.3	3.8	100	31
	PSMN3R4-30BLE	30	3.4	5	120	37
	PSMN4R3-30BL	30	4.1	5.2	100	19
LFPAK56E (SOT1023) 	PSMNR51-25YLH	25	0.57	0.82	380	53
	PSMN0R7-25YLD	25	0.74	0.92	300	50.9
	PSMN1R2-25YL	25	1.2	1.9	100	50.6
	PSMNR58-30YLH	30	0.67	0.9	380	55
	PSMN0R9-30YLD	30	0.87	1.1	300	51
	PSMN1R3-30YL	30	1.3	2	100	46.6
LFPAK56 (Power-SO8) 	<b>PSMNR56-25YLE</b>	25	0.56			
	<b>PSMNR68-25YLE</b>	25	0.68			
	PSMNR60-25YLH	25	0.7	1.02	300	43
	PSMN0R9-25YLD	25	0.86	1.2	300	41.5
	<b>PSMNR89-25YLE</b>	25	0.89			
	<b>PSMNR98-25YLE</b>	25	0.98			
	PSMN1R0-25YLD	25	1.02	1.4	100	33.2
	PSMN1R1-25YLC	25	1.15	1.5	100	39
	PSMN1R2-25YLD	25	1.15	1.7	100	28
	PSMN1R2-25YLC	25	1.3	1.7	100	31
	PSMN1R5-25YL	25	1.5	2.2	100	36
	<b>PSMN1R6-25YLE</b>	25	1.6			
	PSMN1R7-25YLD	25	1.68	2.4	100	21.5
	PSMN2R0-25YLD	25	2	2.9	100	15.7
	PSMN2R9-25YLC	25	3.15	4.1	100	16
	PSMN4R0-25YLC	25	4.5	5.8	84	10.9
	PSMN5R4-25YLD	25	5.4	8.4	70	5.7
	PSMN6R0-25YLD	25	6.03	10	61	4.9
	PSMN6R0-25YLB	25	6.1	7.9	73	9
	<b>PSMNR67-30YLE</b>	30	0.67			
	PSMNR70-30YLH	30	0.82	1.1	300	46
	<b>PSMNR82-30YLE</b>	30	0.82			
	<b>PSMN1R0-30YLE</b>	30	1			
	PSMN1R0-30YLD	30	1.02	1.3	300	38.2
	<b>PSMN1R1-30YLE</b>	30	1.1			
	PSMN1R0-30YLC	30	1.15	1.4	100	50
	PSMN1R2-30YLD	30	1.24	1.6	100	32
	PSMN1R2-30YLC	30	1.25	1.7	100	38
	PSMN1R4-30YLD	30	1.42	1.9	100	27.6
	PSMN1R5-30YL	30	1.5	1.9	100	36.2
	PSMN1R5-30YLC	30	1.55	2.1	100	30
	PSMN1R7-30YL	30	1.7	2.1	100	36.2
PSMN2R0-30YLD	30	2	2.5	100	21.8	

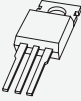





## N-channel 25 V - 30 V Power MOSFETs

Types in **bold red** are in development, types in **bold** represent new products

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>c(tot)</sub> [typ] (nC)
LFPAK56 (Power-SOB) 	PSMN2R0-30YL	30	2	2.6	100	30
	PSMN2R0-30YLE	30	2	3.5	100	41
	<b>PSMN2R1-30YLE</b>	30	2			
	PSMN2R2-30YLC	30	2.15	2.8	100	26
	PSMN2R4-30YLD	30	2.4	3.1	100	18
	PSMN2R5-30YL	30	2.4	3.2	100	27
	PSMN2R6-30YLC	30	2.8	3.7	100	18
	PSMN3R0-30YL	30	3	4	100	21
	PSMN3R0-30YLD	30	3	4	100	14.5
	PSMN3R5-30YL	30	3.5	4.6	100	19
	PSMN4R0-30YL	30	4	5.3	100	17.6
	PSMN4R0-30YLD	30	4	5.5	95	9.6
	PSMN4R1-30YLC	30	4.35	5.7	92	11
	PSMN5R0-30YL	30	5	6.7	91	14.1
	PSMN6R0-30YL	30	6	7.9	79	11
	PSMN6R0-30YLD	30	6	8.4	66	6.7
	PSMN6R1-30YLD	30	6.1	8.4	66	6.4
	PSMN6R0-30YLB	30	6.5	8.1	71	9
	PSMN7R0-30YL	30	7	9.1	76	10
	PSMN7R0-30YLC	30	7.1	8.9	61	7.9
PSMN7R5-30YLD	30	7.5	10	51	5.8	
PSMN9R1-30YL	30	9.1	14	57	8.4	
PSMN9R5-30YLC	30	9.8	12	44	5	
PSMN013-30YLC	30	13	17	32	4	
PSMN011-30YLC	30	11.6	15	37	4.9	
PSMN4R5-30YLC	30	4.8	6.1	84	9.6	
LFPAK56-UL2595 (SOT1023A) 	PSMN0R9-30ULD	30	0.87	1.09	300	109
LFPAK33 (SOT1210) 	PSMN1R5-25MLH	25	1.81	2.7	150	17
	PSMN2R0-25MLD	25	2	3.1	70	15.9
	PSMN2R8-25MLC	25	2.8	3.8	70	16.3
	PSMN3R5-25MLD	25	3.51	5.4	70	8.7
	PSMN3R9-25MLC	25	4.15	5.6	70	9.7
	PSMN5R3-25MLD	25	5.3	8.4	70	5.9
	PSMN6R1-25MLD	25	6.13	10	60	4.9
	PSMN9R0-25MLC	25	8.65	11	55	5.4
	PSMN1R6-30MLH	30	1.9	2.6	160	41
	PSMN1R8-30MLH	30	2.1	2.9	150	17
	PSMN2R4-30MLD	30	2.4	3.2	70	16
	PSMN3R0-30MLC	30	3.15	4.1	70	16.1
	PSMN4R2-30MLD	30	4.3	5.7	70	9.2
	PSMN4R4-30MLC	30	4.65	6	70	10.6
	PSMN6R4-30MLD	30	6.4	8.3	66	6.5
	PSMN7R0-30MLC	30	7	9	67	8.2
	PSMN7R5-30MLD	30	7.6	10	57	5.8
	PSMN9R8-30MLC	30	9.8	12	50	5
	PSMN013-30MLC	30	13	17	39	3.7
	PSMN020-30MLC	30	18	27	31.8	4.6
MLPAK33 (SOT8002) 	<b>PXN4R7-30QL</b>	30	4.7	6	25	14.7
	<b>PXN5R4-30QL</b>	30	5.4	7.2	22	17.4
	<b>PXN6R2-25QL</b>	25	6.2	8.5	22.3	8.1
	<b>PXN7R7-25QL</b>	25	7.7	10.3	19.0	5.3
	<b>PXN6R7-30QL</b>	30	6.7	8.6	21.5	7.9
	<b>PXN8R3-30QL</b>	30	8.3	11.1	18.3	5.1
	<b>PXN9R0-30QL</b>	30	9.1	11	17.3	13.8
	<b>PXN010-30QL</b>	30	10.4	13.6	16.5	4.0
	<b>PXN018-30QL</b>	30	18	23	11.3	7.2
<b>PXN017-30QL</b>	30	17.4	23.1	12.0	2.5	

## N-channel 40 V - 60 V Power MOSFETs





Types in **bold red** are in development, types in **bold** represent new products

Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>c(tot)</sub> [typ] (nC)
TO-220 (SOT78) 	PSMN1R5-40PS	40	1.6		150	136
	PSMN1R9-40PL	40	1.7	1.9	150	230
	PSMN2R2-40PS	40	2.1		100	110
	PSMN2R1-40PL	40	2.2	2.6	150	168.9
	PSMN2R8-40PS	40	2.8		100	71
	PSMN4R5-40PS	40	4.6		100	35
	PSMN8R0-40PS	40	7.6		77	17
	PSMN2R0-60PSR	60	2		120	137
	PSMN2R0-60PS	60	2.2		120	137
	PSMN2R5-60PL	60	2.6	3.1	150	223
	PSMN2R6-60PS	60	2.6		150	140
	PSMN3R0-60PS	60	3		100	130
	PSMN3R3-60PL	60	3.4	3.8	130	175
	PSMN4R2-60PL	60	3.9	4.3	130	151
	PSMN3R9-60PS	60	3.9		130	103
	PSMN4R6-60PS	60	4.6		100	70.8
	PSMN7R6-60PS	60	7.8		92	38.7
PSMN015-60PS	60	15		50	20.9	
LFPAK88 (SOT1235) 	<b>PSMNR55-40SSH</b>	40	0.55		500	267
	PSMNR70-40SSH	40	0.7		425	144
	PSMNR90-40SSH	40	0.9		375	118
	PSMN1R0-40SSH	40	1		325	98
	<b>PSMNR90-50SLH</b>	50	0.92			228
	<b>PSMN1R1-50SLH</b>	50	0.97			184
	<b>PSMN1R2-55SLH</b>	55	0.97			226
<b>PSMN1R5-55SLH</b>	55	1.50			182	
D <sup>2</sup> PAK (SOT404) 	PSMN1R1-40BS	40	1.3		120	136
	PSMN2R2-40BS	40	2.2		100	130
	PSMN2R8-40BS	40	2.9		100	71
	PSMN4R5-40BS	40	4.5		100	35
	PSMN8R0-40BS	40	7.6		77	21
	PSMN1R7-60BS	60	2		120	137
	PSMN3R0-60BS	60	3.2		100	130
	PSMN4R6-60BS	60	4.4		100	70.8
	PSMN7R6-60BS	60	7.8		92	38.7
PSMN015-60BS	60	15		50	20.9	
I <sup>2</sup> PAK (SOT226) 	PSMN2R0-60ES	60	2.2		120	137
LFPAK56E (SOT1023) 	PSMNR90-40YLH	40	0.94	1.2	300	54
	PSMN1R0-40YSH	40	1		290	87
	PSMN1R0-40YLD	40	1.1	1.4	280	127
	<b>PSMN1R5-50YLH</b>	50	1.6		220	51
	<b>PSMN2R0-55YLH</b>	55	2.24			50
LFPAK56 (Power-SO8) 	PSMN1R4-40YLD	40	1.4	1.9	240	96
	PSMN1R5-40YSD	40	1.5		240	71
	PSMN1R7-40YLD	40	1.8	2.3	200	35
	PSMN1R8-40YLC	40	1.8	2.1	100	96
	PSMN1R9-40YSD	40	1.9		200	57
	PSMN2R0-40YLD	40	2	2.7	180	30
	PSMN2R2-40YSD	40	2.2		180	45
	PSMN2R5-40YLD	40	2.6	2.6	160	25

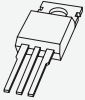



## N-channel 40 V - 60 V Power MOSFETs

Types in **bold red** are in development, types in **bold** represent new products


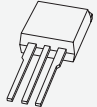


Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>c(tot)</sub> [typ] (nC)
LFPAK56 (Power-SO8) 	PSMN2R6-40YS	40	2.8		100	63
	PSMN2R8-40YSD	40	2.8		160	44
	PSMN3R2-40YLD	40	3.3	4.2	120	18
	PSMN3R3-40YS	40	3.3		100	49
	PSMN3R5-40YSD	40	3.5		120	31
	PSMN4R0-40YS	40	4.2		100	38
	PSMN5R8-40YS	40	5.7		90	28.8
	PSMN8R3-40YS	40	8.6		70	20
	PSMN014-40YS	40	14		46	12
	<b>PSMN2R2-50YLH</b>	50	2.2			40
	<b>PSMN2R8-55YLH</b>	55	2.87			39
	PSMN4R0-60YS	60	4		100	56
	PSMN4R1-60YL	60	4.1	4.8	100	103
	PSMN5R2-60YL	60	5.2	6	100	78.4
	PSMN5R5-60YS	60	5.2		100	56
	PSMN5R6-60YL	60	5.6	7.2	100	66.8
	PSMN7R0-60YS	60	6.4		89	45
	PSMN7R5-60YL	60	7.5	8.7	86	60.6
	PSMN8R5-60YS	60	8		76	39
	PSMN012-60YS	60	11		59	28.4
PSMN013-60YL	60	13	15	53	33.2	
PSMN030-60YS	60	15		29	13	
PSMN017-60YS	60	16		44	20	
LFPAK56D (SOT1205) 	<b>PSMN013-40VLD</b>	40	14	17	42	14
	<b>PSMN4R2-40VSH</b>	40	4		98	26
LFPAK56-UL2595 (SOT1023A) 	PSMN1R0-40ULD	40	1.1	1.4	280	59
LFPAK33 (SOT1210) 	PSMN3R3-40MLH	40	3.3	4.2	118	17
	PSMN3R3-40MSH	40	3.3		118	30
	PSMN4R3-40MLH	40	4.3	5.5	95	31
	PSMN4R3-40MSH	40	4.3		95	23
	PSMN5R0-40MLH	40	5	6.4	85	28
	PSMN5R0-40MSH	40	5		85	21
	PSMN6R7-40MLD	40	6.7	8.5	50	10
	PSMN6R7-40MSD	40	6.7		50	16
	PSMN8R5-40MLD	40	8.5	11	60	19
	PSMN8R5-40MSD	40	8.5		60	13.4
	<b>PSMN5R6-50MLH</b>	50	5.6			33
	<b>PSMN6R9-50MLH</b>	50	6.93			27
	<b>PSMN7R3-55MLH</b>	55	7.38			33
	<b>PSMN9R0-55MLH</b>	55	9.12			27
	PSMN011-60ML	60	11	13	61	37.2
PSMN011-60MS	60	11		61	23	
MLPAK33 (SOT8002) 	<b>PXN012-60QL</b>	60	12	18	42	10
MLPAK56 (SOT8038)	<b>PXN1R9-60RL</b>	60	2			
	<b>PXN4R5-60RL</b>	60	5			

## N-channel 75 V - 200 V Power MOSFETs

Package	Type number	$V_{DS}$ [max] (V)	$R_{DS(on)}$ [max] @ $V_{GS} = 10$ V (m $\Omega$ )	$R_{DS(on)}$ [max] @ $V_{GS} = 4.5$ V or 5 V (m $\Omega$ )	$I_D$ [max] (A)	$Q_{G(tot)}$ [typ] (nC)
TO-220 (SOT78) 	PSMN3R3-80PS	80	3.3		120	139
	PSMN3R5-80PS	80	3.5		120	139
	PSMN4R4-80PS	80	4.1		100	112
	PSMN4R3-80PS	80	4.3		120	111
	PSMN5R0-80PS	80	4.7		100	87
	PSMN6R5-80PS	80	6.9		100	71
	PSMN8R7-80PS	80	8.7		90	52
	PSMN012-80PS	80	11		74	36
	PSMN017-80PS	80	17		50	26
	PSMN4R3-100PS	100	4.3		120	170
	PSMN4R8-100PSE	100	4.8		120	196
	PSMN5R0-100PS	100	5		120	170
	PSMN5R6-100PS	100	5.6		100	141
	PSMN7R0-100PS	100	6.8		100	125
	PSMN7R8-100PSE	100	7.8		100	128
	PSMN8R5-100PS	100	8.5		100	111
	PSMN9R5-100PS	100	9.6		98	45
	PSMN013-100PS	100	13		68	59
	PSMN016-100PS	100	16		57	49
	PSMN027-100PS	100	27		53	21
	PSMN034-100PS	100	35		32	23.8
	PSMN015-110P	110	15		75	90
	PHP27NQ11T	110	50		27.6	30
	PHP23NQ11T	110	70		23	22
	PHP18NQ11T	110	90		18	21
	PSMN6R3-120PS	120	6.7		70	207.1
	PSMN7R8-120PS	120	7.9		70	167
	PSMN030-150P	150	30		55.5	98
	PHP28NQ15T	150	65		28.5	24
	PSMN057-200P	200	57		39	96
PHP33NQ20T	200	77		32.7	32.2	
PHP20NQ20T	200	130		20	65	
D <sup>2</sup> PAK (SOT404) 	PSMN2R8-80BS	80	3		120	139
	PSMN3R3-80BS	80	3.5		120	111
	PSMN4R4-80BS	80	4.5		100	125
	PSMN5R0-80BS	80	5.1		100	101
	PSMN6R5-80BS	80	6.9		100	71
	PSMN8R7-80BS	80	8.7		90	52
	PSMN012-80BS	80	11		74	36
	PSMN017-80BS	80	17		50	26
	PSMN3R8-100BS	100	3.9		120	170
	PSMN3R7-100BSE	100	3.95		120	176
	PSMN4R8-100BSE	100	4.8		120	196
	PSMN5R6-100BS	100	5.6		100	141
	PSMN7R0-100BS	100	6.8		100	125






## N-channel 75 V - 200 V Power MOSFETs

Types in **bold red** are in development, types in **bold** represent new products

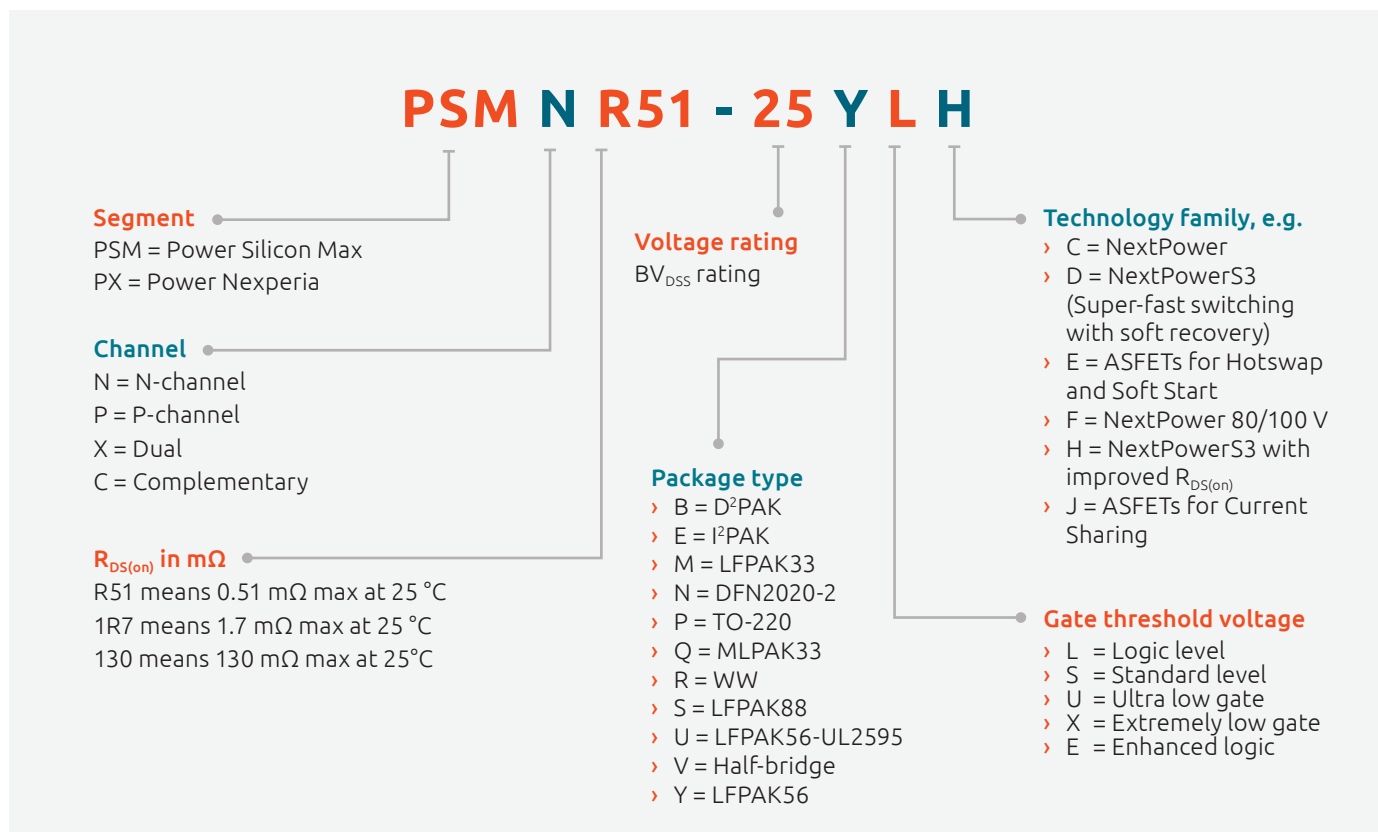
Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>c(tot)</sub> [typ] (nC)
D <sup>2</sup> PAK (SOT404) 	PSMN7R6-100BSE	100	7.6		75	128
	PSMN8R9-100BSE	100	9.4		108	128
	PSMN9R5-100BS	100	9.6		89	82
	PSMN013-100BS	100	14		68	59
	PSMN016-100BS	100	16		57	49
	PSMN027-100BS	100	27		37	30
	PSMN034-100BS	100	35		32	23.8
	PHB45NQ15T	150	42		45.1	32
	PSMN057-200B	200	57		39	96
	PHB33NQ20T	200	77		32.7	32.2
I <sup>2</sup> PAK (SOT226) 	PSMN5R0-100ES	100	5		120	170
	PSMN7R0-100ES	100	6.8		100	125
	PSMN8R5-100ES	100	8.5		100	111
	PSMN7R8-120ES	120	7.9		70	167
LFPAK56E (SOT1023) 	<b>PSMN3R5-80YSF</b>	80	3.5		150	75
	<b>PSMN4R2-80YSE</b>	80	4.2		170	73
	<b>PSMN4R2-80YSJ</b>	80	4.2			
	<b>PSMN3R9-100YSF</b>	100	4		120	44
	<b>PSMN4R8-100YSE</b>	100	4.8		120	80
	<b>PSMN4R8-100YSJ</b>	100	4.8			
LFPAK56 (SOT669) 	<b>PSMN4R5-80YSF</b>	80	4.5			
	PSMN8R2-80YS	80	8.5		82	55
	PSMN010-80YL	80	10	11	84	84.7
	PSMN011-80YS	80	11		67	45
	PSMN013-80YS	80	12.9		60	37
	PSMN014-80YL	80	14	15	62	56.9
	PSMN018-80YS	80	18		45	26
	PSMN025-80YL	80	25	27	37	34.3
	PSMN026-80YS	80	28		34	20
	PSMN041-80YL	80	41	45	25	21.9
	PSMN045-80YS	80	45		24	12.5
	<b>PSMN5R5-100YSF</b>	100	5.5		120	34
	PSMN5R6-100YSF	100	5.6		158	63
	PSMN6R9-100YSF	100	6.9		128	51
	<b>PSMN7R2-100YSF</b>	100	7.2			
	PSMN8R7-100YSF	100	8.7		100	39
	<b>PSMN9R8-100YSF</b>	100	9.8			
	PSMN011-100YSF	100	10.9		79.5	34.3
	PSMN012-100YL	100	12	12	85	118
	PSMN012-100YS	100	12		60	64
	<b>PSMN012-100YSF</b>	100	12			
	PSMN013-100YSE	100	13		82	75
	PSMN015-100YL	100	15	15	69	86.3
<b>PSMN015-100YSF</b>	100	15				
PSMN016-100YS	100	16		51	54	

## N-channel 75 V - 200 V Power MOSFETs

Types in **bold red** are in development



Package	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 10 V (mΩ)	R <sub>DS(on)</sub> [max] @ V <sub>GS</sub> = 4.5 V or 5 V (mΩ)	I <sub>D</sub> [max] (A)	Q <sub>C(tot)</sub> [typ] (nC)
LFPAK56 (Power-SO8) 	PSMN019-100YL	100	19	19	56	72.4
	PSMN021-100YL	100	21	22	49	65.6
	PSMN020-100YS	100	21		43	41
	PSMN028-100YS	100	28		42	33
	PSMN038-100YL	100	38	38	30	39.2
	PSMN039-100YS	100	39		28.1	23
	PSMN069-100YS	100	72		17	14
	PSMN059-150Y	150	59		43	27.9
	PSMN102-200Y	200	102		21.5	30.7
LFPAK33 (SOT1210) 	PSMN040-100MSE	100	37		30	30
	<b>PSMN041-100MSE</b>	100	41			
	<b>PSMN072-100MSE</b>	100	72			
	PSMN075-100MSE	100	71		18	16.4
LFPAK88 (SOT1235) 	<b>PSMN1R8-80SSF</b>	80	1.8			
	<b>PSMN1R9-80SSE</b>	80	1.9			
	<b>PSMN1R9-80SSJ</b>	80	1.9			
	<b>PSMN2R3-80SSF</b>	80	2.3			
	<b>PSMN2R5-80SSE</b>	80	2.5			
	<b>PSMN2R5-80SSJ</b>	80	2.5			
	<b>PSMN2R7-80SSF</b>	80	3			
	<b>PSMN2R8-80SSF</b>	80	3			
	<b>PSMN2R0-100SSF</b>	100	2.07		259	70
	<b>PSMN2R0-100SSE</b>	100	2.0			
	<b>PSMN2R3-100SSE</b>	100	2.28		246	92
	<b>PSMN2R3-100SSJ</b>	100	2.3			
	<b>PSMN2R5-100SSF</b>	100	2.5			
	<b>PSMN2R5-100SSE</b>	100	2.5			
	<b>PSMN2R6-100SSF</b>	100	2.6		231	73
	<b>PSMN2R9-100SSE</b>	100	2.9			
<b>PSMN2R9-100SSJ</b>	100	2.9				
<b>PSMN3R3-100SSF</b>	100	3.3		190	57	
MLPAK33 (SOT8002-2) 	<b>PXN020-100QL</b>	100	0.2			
MLPAK56	<b>PXN7R5-100RL</b>	100	7.5			
DFN2020M-6 (SOT1220-2) 	<b>PSMN047-100NSE</b>	100	48		14	7
	<b>PSMN071-100NSE</b>	100	71			

## Power MOSFETs nomenclature





## P-channel Power MOSFETs

Types in **bold** represent new products

Package name	Type number	V <sub>DS</sub> [max] (V)	R <sub>DS(on)</sub> [max] @ 10 V (mΩ)	I <sub>D</sub> [max] @ 25 °C (A)	R <sub>th(j-mb)</sub> [max] (K/W)
LFAK56 (Power-SOB) 	<b>PSMP033-60YE</b>	60	33	38	1.4
	<b>PSMP061-60YE</b>	60	61	22	2.3
MLPAK33 (SOT8002-2) 	<b>PXP3R7-12QU</b>	12		31	
	<b>PXP8R3-20QX</b>	20	8	20	
	<b>PXP011-20QX</b>	20	11	17	
	<b>PXP018-20QX</b>	20	18	14	
	<b>PXP020-20QX</b>	20		12	
	<b>PXP6R1-30QL</b>	30	6	22	
	<b>PXP6R7-30QL</b>	30	7	21	
	<b>PXP9R1-30QL</b>	30	9	18	
	<b>PXP013-30QL</b>	30	13	15	
	<b>PXP400-100QS</b>	100	400	1.4	12
	<b>PXP1500-100QS</b>	100	1500	0.7	20.5



## Small-signal MOSFETs in DFN1006 and DFN1006B packages

Types in **bold** represent new products

Package											DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)					
																	
Size (mm)											1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37					
P <sub>tot</sub> (mW)											250	250					
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
										10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V		
N-channel	20	8	1.9	0.45	0.95	5.3	16	1.6	2	-	120	160	210	270	-	PMZ130UNE	
			1.6	0.45	0.95	5.3	16	1.6	2	-	170	200	240	300	-		PMZB150UNE
			1	0.5	0.95	6	86	0.45	2	-	270	360	470	600	-	PMZ290UNE2	PMZB290UNE2
			0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210	PMZ600UNE	PMZB600UNE
	30	8	1.5	0.45	0.95	5	17	1.6	2	-	210	240	270	300	-	PMZ200UNE	PMZB200UNE
			1	0.45	0.95	4	12	0.8	2	-	390	460	30	610	-	PMZ390UNE	PMZB390UNE
			0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-	PMZ550UNE	PMZB550UNE
	60	20	0.35	0.4	0.9	3	17	0.1	2	-	2800	3000	-	-	-	NX5008NBKM	
			0.45	1.1	2.1	5	12	0.5	2	1000	1300	-	-	-	-	2N700BKMB	2N7002BKMB
			0.35	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-	NX7002BKMB	NX7002BKMB
			0.38	0.5	1.5	7.9	12.5	0	2	2300	2900	4800	-	-	-	NX138BKMB	
				0.27	0.8	1.5	1	3	0		3	4				<b>NX138AKM</b>	
P-channel	20	8	1.4	0.45	0.95	4	26	1.3	1.8	-	330	420	520	-	-	PMZ350UPE	PMZB350UPE
			0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500	PMZ950UPE	PMZB950UPE
	30	8	1	0.45	0.95	2.9	22	1.45	2	-	430	470	750	950	-	PMZ320UPE	PMZB320UPE
			0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-	PMZ1200UPE	PMZB1200UPE
50	20	0.23	1.1	2.1	13	48	0.26	1	4500	5700	-	-	-	-	BSS84AKM	BSS84AKMB	

## Small-signal MOSFETs in DFN0603 and DFN0606

Types in **bold red** are in development, types in **bold** represent new products

Package											DFN0603 (SOT8013)	DFN0606-3 (SOT8001)						
																		
Size (mm)											0.63 x 0.33 x 0.25	0.6 x 0.6 x 0.37						
P <sub>tot</sub> (mW)											300	250						
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =								
										10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V			
N-channel	20	8		0.5	0.9				2		130					<b>PMX100UNE</b>		
			1.2	0.45	0.95	1	4	0.18	1.8	-	310	420	-	-	-		PMH260UNE	
			0.9	0.45	0.95	1	4	0.15	1.7	-	460	575	-	-	-		PMH400UNE	
			0.8	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		PMH600UNE	
	30	8	1.3	0.5	0.9	1	4	0.4			122	230	360			<b>PMX100UN</b>		
				0.5	0.9					2		360					<b>PMX300UNE</b>	
			0.77	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		PMH550UNE	
	60	20	0.35	0.4	0.9	1	5	0.11	2	-	2800	3000	-	-	-		NX5008NBKH	
				1	2.5							2500					<b>PMX2000EN</b>	
			0.35	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-		NX7002BKH	
			0.26	0.8	1.5	1	3	0	2	3		4					<b>NX138AKH</b>	
				0.38	0.5	1.5	7.9	12.5	0.1	2	2300	2900	4800	-	-		NX138BKH	
				1	2.5					3200					<b>PMX3000ENE</b>			
P-channel	20	8		0.5	0.9				2		430					<b>PMX400UPE</b>		
			0.8	0.45	0.95	2	5	0	1.8	-	640	930	-	-	-		PMH550UPE	
			0.53	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMH950UPE	
	30	8	1.2	0.5	0.9	1.5	7	0.4			334	298	490			<b>PMX400UP</b>		
				0.5	0.9					2		680					<b>PMX800UPE</b>	
			0.6	0.45	0.95	6	2	0.14	1.8	-	1000	1700	-	-	-		PMH850UPE	
10	0.52	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMH1200UPE			

## Small-signal MOSFETs in DFN1010D-3 single and DFN1010B-3 dual packages




Package												DFN1010D-3 (SOT1215)	DFN1010B-6 (SOT1216)					
Size (mm)												1.1 x 1.0 x 0.37	1.1 x 1.0 x 0.37					
P <sub>tot</sub> (mW)												1000	350					
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
											10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V		
Single	N-channel	12	8	3.2	0.4	0.9	6	18	6.6	1	-	34	39	46	50	121	PMXB40UNE	
		20	8	3.2	0.5	0.9	6	17	5.7	1	-	42	48	56	64	-	PMXB43UNE	
		30	20	3.2	1	2	3	11	3.6	-	49	56	-	-	-	-	PMXB56EN	
				3.2	1	2.5	3	11	6	1	44	56	-	-	-	-	PMXB65ENE	
	80	20	1.1	1.3	2.7	2	9	3	2	345	390	-	-	-	-	PMXB360ENEA		
	P-channel	12	8	3.2	0.4	1	6.2	27	6.7	1.5	-	59	78	120	198	880	PMXB65UPE	
20		8	2.9	0.4	1	6	29	6.8	1	-	69	86	130	205	950	PMXB75UPE		
			1.2	0.45	0.95	3	18	1.25	1.5	-	350	450	600	760	1200	PMXB350UPE		
30	20	2.4	1	2.5	4	16	6.2	1	100	125	-	-	-	-	PMXB120EPE			
Dual	N-ch	20	8	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		PMDXB600UNE
		30	8	0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		PMDXB550UNE
		60	20	0.26	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-	-	-		NX7002BKXB
	P-ch	20	8	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMDXB950UPE
30		8	0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMDXB1200UPE	
Complementary	N	20	8	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845	1125	2210		
	P	20	8	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500		PMCXB900UE
	N	30	8	0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	890	-		
	P	30	8	0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	3000	-		PMCXB1000UE

## Small-signal low-leakage MOSFETs

Package												DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010B-6 (SOT1216)			
Size (mm)												1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37			
P <sub>tot</sub> (mW)												250	250	350			
Config.	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	I <sub>BSS</sub> max (nA)	I <sub>GSS</sub> max (nA)	ESD Protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
										4.5 V	2.5 V	1.8 V	1.5 V	1.2 V			
Single	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210	PMZ600UNEL	PMZB600UNEL	
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500	PMZ950UPEL	PMZB950UPEL	
Dual	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210			PMDXB600UNEL
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500			PMDXB950UPEL
Compl.	N	20	8	0.6	0.45	0.95	25	50	1	470	620	845	1125	2210			
	P	20	8	0.5	0.45	0.95	25	50	1	1020	1270	1700	2300	3500			PMCXB900UEL




## Small-signal MOSFETs in DFN2020MD-6 single and DFN2020-6 dual packages

Types in **bold red** are in development, types in **bold** represent new products

Package												DFN2020MD-6 (SOT1220)	DFN2020-6 (SOT1118)	DFN2020M-6 (SOT1220-2)			
																	
Size (mm)												2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65			
P <sub>tot</sub> (mW)												1250	1250	1250			
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th) min</sub> (V)	V <sub>GS(th) max</sub> (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =						
											10 V	4.5 V	2.5 V	1.8 V			
Single	N-channel	20	8	10.1	0.4	0.9	5	31	20			9	10	16	PMPB8XN		
				11.4	0.4	0.9	10	32	10.9	1	-	16	20	20	PMPB12UNE		
				12.9	0.4	0.9	13	54	23	2.2	-	10	12	16	PMPB10XNE		
				5.9	0.75	1.25	16	49	31	2	-	14	20	-	PMPB20XNEA		
				10.4	0.4	0.9	9	31	13.4	-	-	18	21	23	PMPB15XN		
				10.1	0.4	0.9	9	31	11.6	2	-	19	23	31	PMPB23XNE		
		12	16.4	0.4	0.9	5	31	20	-	-	7	8.5	14.5			PMPB07R0UN	
		30	8	13.5	0.4	0.9	6	33	6	-	-	13	16	-	PMPB10XN		
				11.3	0.4	0.9	12	54	24	1	-	13	14	17	PMPB13XNE		
				5	0.4	0.9	8	33	12.4	1	-	28	32	37	PMPB29XNE		
				5.5	0.45	1.2	6	21	5.1	-	-	37	55	-	PMPB33XN		
				14	1	2	9	17	13.7			10	13		PMPB10EN		
				13	1	2	9	17	13.7	-	-	12	14	-	-	PMPB11EN	
			10.4	1	2	9	9	7.2	-	-	16.5	20.5	-	-	PMPB20EN		
			10	1	2.5	6	28	13	2	-	17	28	-	-	PMPB25ENE		
			6.9	1	2.5	4	17	6	2	-	30	39	-	-	PMPB50ENE		
			5.1	1	2.5	3	15	3.5	2	-	54	70	-	-	PMPB100ENE		
			12	15	1	1	6	31	7			9	12	26			<b>PMPB08R5XN</b>
			10	0	0.9	8	33	2.1				17	20	27			<b>PMPB16R5XNE</b>
			20	17	1	1.7	3	13	1.6			7	9				<b>PMPB07R3EN</b>
	15		1	2	9	17	1.7				9	11				<b>PMPB08R6EN</b>	
	40	8	11.5	0	0.9	5	35	5.6	-	-	18	22	-	PMPB14XN			
	60	20	4	1.3	2.7	4.5	13.5	7.5	2	42	48	-	-	PMPB55ENE			
			3	1.3	2.7	4	10.5	6.2	2	72	85	-	-	PMPB85ENE			
		80	2.8	1.3	2.7	5	15	9.9	2	80	92	-	-	PMPB95ENE			
			1.9	1.3	2.7	3.5	9.5	4.8	2	175	195	-	-	PMPB215ENE			
	P-channel	12	8	17.5	0.47	0.9	3	201	7.4			7	9.2	12			<b>PMPB07R3VP</b>
				16.7	0.47	0.9	4	149	7.6			8	11.5	16			<b>PMPB08R4VP</b>
				14	0.4	0.9	7	69	8.3			11	15.2	22			<b>PMPB11R2VP</b>
				13	0.4	0.9	7	69	26			13	17	24	PMPB13UP		
			12.7	0.45	0.9	6	64	22	-	-	14	19	24	PMPB14XP			
			12	15	0.4	0.9	6	86	10			10	13	20			<b>PMPB09R5VP</b>
			11.8	0.47	0.9	18	85	67			15	17		PMPB15XP			
			8	0.45	0.9							13	17				<b>PMPB12R5UPE</b>
				20	8	0.9						16	22				<b>PMPB19R0UPE</b>
			20	8	0.75	1.25						-	-	8	10		
		12			0.47	0.9	16	43	28.8	-	-	19	21	27	PMPB19XP		
		10.3		0.47	0.9	13	92	30	2.4	-	19	22	28	PMPB20XPE			
		5		0.47	0.9	12	91	30	2.3	-	28	31	36	PMPB29XPE			
		8.5		0.75	1.25	10	43	12.5	2	-	29	45	-	PMPB30XPE			
7.9		0.47		0.9	12	62	15	-	-	30	35	45	PMPB33XP				
5		0.47		0.9	9	57	15.6	1	-	39	45	56	PMPB43XPE				
12		5		0.47	0.9	15	28	14	-	-	47	54	74	PMPB47XP			
30		20	12	1		3	60	6.2			14.5	19				<b>PMPB14R7EP</b>	
			20	1	2.5	3	67				12.7	16				<b>PMPB12R7EP</b>	
			12	1	2	2	145	5			14	18				<b>PMPB14R0EP</b>	
			13	1	2	2	121	5			12.5	16				<b>PMPB12R5EP</b>	
		9.5	1	2.5	3	28	19	-	-	24	32	-	-	PMPB24EP			
		8.8	1	2.5	10	28	30			24	32			PMPB27EP			
		6.8	1	2.5	7.4	27	17	-	-	40	55	-	-	PMPB48EP			
		25	10.6	1	2.5	3	60	29			16	22			PMPB16EP		



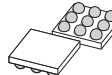




## Small-signal MOSFETs in DFN2020MD-6 single and DFN2020-6 dual packages

Package														DFN2020MD-6 (SOT1220)	DFN2020-6 (SOT1118)	DFN2020M-6 (SOT1220-2)			
																			
Size (mm)														2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65	2.0 x 2.0 x 0.65			
P <sub>tot</sub> (mW)														1250	1250	1250			
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =								
											10 V	4.5 V	2.5 V	1.8 V					
Dual	N-ch	20	12	5.3	0.4	0.9	4	40	14.4	-	-	32	40	60			PMDPB30XN		
		30	12	3.1	0.75	1.25	9	19	2.9	2	-	55	72	-			PMDPB56XNEA		
	P-channel	20	8	4.5	0.45	0.95	7	41	6.3	2	-	58	74	97			PMDPB58UPE		
				3.7	0.45	0.95	6	47	5.4	2	-	82	107	142			PMDPB85UPE		
			4.5	0.47	0.9	4	135	16.5	-	-	55	75	110			PMDPB55XP			
			4.2	0.75	1.25	7	33	5	2	-	66	98			PMDPB70XPE				
		12	0.4	1	6	120	5.7	-	-	80	95	120			PMDPB80XP				
			30	12	3.8	0.45	1	3	112	5.2	-	-	70	89	-			PMDPB70XP	
		Complementary	N	20	12	5.3	0.4	0.9	4	40	14.4	-	-	26	33	50			PMCPB5530X
			P	20	12	4.5	0.4	0.9	4	40	8.1	-	-	55	75	110			

## Small-signal MOSFETs in DSN and WLCSP packages

Types in **bold red** are in development, types in **bold** represent new products





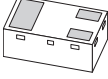
Package														WLCSP4	WLCSP6	WLCSP9	DSN1010-3	DSN1006-3	
																			
Size (mm)														0.78 x 0.78 x 0.35	1.48 x 0.98 x 0.35	1.48 x 1.48 x 0.35	0.96 x 0.96 x 0.24	1.0 x 0.6 x 0.2	
P <sub>tot</sub> (mW)														1300	1300	1400	2500		
Configuration	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =								
											4.5 V	2.5 V	1.8 V	1.5 V					
Single	N	12	8	14	0.4	0.9	3	16	8	-	13	16	22	-			PMCA14UN		
				6	0.4	0.9	6.3	30	6	2	36	46	60	86	PMCM4401VNE				
		20	8	5.4	0.4	0.9	4	27	6	2	43	55	65	75	PMCM4401UNE				
		30	12	4.8	0.6	1.1	2	5	1		40	48	65			<b>PMCB60XN</b>			
	P	12	8	4.9	0.4	0.9	4.8	25.1	6.8	2	55	77	110	-	PMCM4401VPE				
				4	0.4	0.9	4	31	5.9	2	75	95	130	-	PMCM4401UPE				
		20	8	4.2	0.4	0.9	4	26	6	2	65	88	120	-	PMCM4402UPE				
						0.6	1.1			2	40	49					<b>PMCB60XNE</b>		
	N	12	8	9.6	0.4	0.9	10.8	97.5	16.1	2	15	18	22	30		PMCM6501VNE			
				20	8	8.7	0.4	0.9	7	100	19	2	17	20	22	30		PMCM6501UNE	
		P	12	8	8.2	0.4	0.9	8	72	19.6	2	19	25	37	-		PMCM6501VPE		
					N	60	20	6.1	0.9	1.5	2	70	30	2	28	31	-		PMCM950ENE

# Small-signal MOSFETs

## Small-signal MOSFETs single (N-channel)

Package													
Size (mm)													
P <sub>tot</sub> (mW)													
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>G</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
									10 V	4.5 V	2.5 V	1.8 V	
20	8	7	0.4	1	10	32	11	0.5	-	15	18	-	
		4.7	0.45	1	8.2	39.5	6.2	2	-	24	29	40	
		2.5	0.45	1	5	9	6	-	-	41	48	57	
		1.9	0.4	1	8	31	2.2	2	-	63	77	114	
		2.2	0.4	1	6	21	2.6	2	-	64	78	110	
		1.9	0.45	0.95	5.3	16	1.6	2	-	120	155	195	
		1.6	0.45	0.95	5.3	16	1.6	2	-	155	190	235	
		1	0.5	0.95	6	86	0.45	2	-	270	360	470	
	0.6	0.45	0.95	5.6	19	0.4	1	-	470	620	845		
	12	6.3	0.75	1.25	16	44	9.9	2	-	16	24	-	
		8.6	0.47	0.9	7	135	7.7	-	-	15	18	22	
		9.1	0.4	0.9	9	31	12	1	-	15	19	22	
		7.3	0.6	1.3	4	15	3	2	-	17	25	-	
		5.4	0.4	0.9	7	35	6.2	-	-	24	30	40	
6		0.4	0.9	5.5	22	5.1	1	-	28	38	42		
30	8	2	0.4	0.9	4	32	5.8	-	-	50	57	66	
		2.3	0.4	0.9	4	32	1.4	-	-	50	57	66	
		1.5	0.45	0.95	5	17	1.6	2	-	210	240	270	
		1	0.45	0.95	4	12	0.8	2	-	390	460	530	
		0.59	0.45	0.95	4	12	0.6	2	-	550	660	770	
		0.4	0.6	1.1	26	88	0.52	2	-	1000	1400	2000	
	12	7.2	0.4	0.9	8	33	12.4	2	-	19	22	17	
		5.7	0.4	0.9	9	34	7	-	-	33	42	54	
		4.4	0.4	0.9	9	34	7	-	-	36	43	56	
		3.4	0.6	1.25	2	7	1	1	-	60	102	-	
		1	0.75	1.25	2	6	0.2	2	-	230	295	470	
		0.9	0.5	1.5	8	11	0.74	2	-	234	324	-	
	20	7.6	1	2	9	9	7.2	-	17	21	-	-	
		5.5	1	2.5	8	33	12.6	2	17	22	-	-	
3.9		1	2.5	6.3	14.1	6	2	28	36	-	-		
3.1		1	2.5	18	78	6.5	-	28	37	-	-		
4.5		1	2.5	3	11	6	1	30	44	-	-		
5.1		1	2	3	11	3.6	-	35	43	-	-		
2.1		1	2.5	3	15	2.6	2	70	90	-	-		
0.18		0.8	1.5	10	51	0.34	-	2700	3000	4000	-		
40	20	6.2	1.3	2.7	2	12	11	-	19	23	-	-	
		5.4	1	2.5	4	20	7.8	2	23	30	-	-	
		2.7	1	2.5	6	12	4.1	1	64	79	-	-	
		2.5	1	2.5	14	14	2.4	1	95	120	-	-	
55	10	0.3	0.4	1.3	4	11	1	3	-	2300	2400	3100	
60	8	0.27	0.4	0.9	1	5	0	2	-	2	2	2	
	20	4.2	1.3	2.7	3	11	10	-	32	38	-	-	
		3.1	1.3	2.7	9	33	12.7	2	46	52	-	-	
		2.1	1.3	2.7	6.4	15.9	5.9	2	96	108	-	-	
		1.5	1.3	2.7	6.3	13	3.9	2	176	196	-	-	
		0.8	1.3	2.7	5.3	10.2	2.4	2	300	332	-	-	
		0.19	0.8	1.5	6	11	0.33	yes	2800	3500	4500	-	
		0.27	0.5	1.5	7.9	12.5	0.49	2	2100	2200	2600	-	
		0.1	0.6	1.4	2	5	-	2	2800	3800	-	-	
	0.19	1.1	2.1	12	34	0.33	yes	3000	3700	-	-		
0.27	1.1	2.1	4.7	6.9	1	2	2200	2500	-	-			
100	20	1.5	1.3	2.7	4.8	9.3	4.5	1	285	300	-	-	


Types in **bold** represent new products

	SOT457 (SC-74)	SOT23	SOT323 (SC-70)	DFN1006 (SOT883)	DFN1006B (SOT883B)
					
	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
	600	250	200	250	250
		PMV15UNEA			
	PMN28UNE	PMV28UNEA			
		NXV40UN			
			PMF63UNE		
		PMV65UNE			
				PMZ130UNE	
					PMZB150UNE
				PMZ290UNE2	PMZB290UNE2
				PMZ600UNE	PMZB600UNE
		PMV20XNEA			
		PMV16XN			
	PMN16XNE				
		<b>PMV13XNEA</b>			
		PMV30UN2			
	PMN30UNE				
		NXV50UN			
		<b>NXV55UN</b>			
				PMZ200UNE	PMZB200UNE
				PMZ390UNE	PMZB390UNE
				PMZ550UNE	PMZB550UNE
		NX3008NBK	NX3008NBKW		
		PMV20XNE			
	PMN30UN				
		PMV40UN2			
		<b>PMV50XNEA</b>			
		<b>BSH103BK</b>			
			PMF250XNE		
		PMV20EN			
	PMN25ENE	PMV15ENEA			
		PMV28ENEA			
		PMV37EN2			
	PMN40ENE	PMV42ENE			
		PMV45EN2			
		PMV90ENE			
		NX3020NAK	NX3020NAKW		
	PMN20ENA				
	PMN30ENEA	PMV30ENEA			
		PMV60ENEA			
		PMV130ENEA			
		BSH111BK			
		<b>NX6008NBK</b>	<b>NX6008NBKW</b>		
	PMN40ENA				
	PMN55ENE	PMV55ENEA			
	PMV30ENEA	PMV88ENEA			
	PMN230ENE	PMV164ENEA			
		PMV450ENEA			
		NX138AK			
		NX138BK	NX138BKW		
		BSN20BK			
		NX7002AK	NX7002AKW		
		NX7002BK	NX7002BKW		
	PMN280ENEA	PMV280ENEA		NX7002BKM	NX7002BKMB

## Small-signal MOSFETs single (P-channel)

Package													
Size (mm)													
P <sub>tot</sub> (mW)													
V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =				
									10 V	4.5 V	2.5 V	1.8 V	
20	8	5.6	0.45	0.95	11	83	14.7	2	-	27	38	50	
		5.3	0.45	0.95	41	122	14.7	2	-	30	38	51	
		5.4	0.45	0.95	34	128	15.5	-	-	34	42	57	
		4	0.47	0.9	400	2180	10.5	3	-	50	57	70	
		2	0.5	1	6	46	5.8	-	-	55	74	101	
		2	0.5	1	5	36	4.2	-	-	75	103	-	
		2	0.5	1.1	7	50	6	-	-	100	155	210	
		1.2	0.45	0.95	33	52	3.3	-	-	170	210	280	
		2.3	0.45	0.95	5	43	3.7	-	-	120	150	200	
	1.4	0.45	0.95	9	35	1.3	1.8	-	330	420	520		
	0.5	0.45	0.95	2.3	13.5	1.19	1	-	1020	1270	1700		
	12	4.5	0.75	1.25	7.9	59	11	2	-	28	42	-	
		6.8	0.47	0.9	12	62	15	-	-	30	35	48	
		5.7	0.75	1.25	44	60	11.5	2	-	41	56	-	
		4.1 / 3.5	0.75	1.25	24	84	8.5	-	-	48	71	-	
		4.4	0.47	0.9	7	135	7.7	-	-	48	60	82	
		4.7	0.47	0.9	5.1	141	8.5	-	-	50	64	88	
		3.9	0.55	0.95	28	101	7.6	-	-	65	90	-	
		3.3	0.75	1.25	7	36	5	2	-	67	99	-	
4.1		0.75	1.25	20	57	5.2	2	-	70	101	-		
3.9		0.47	0.9	6	120	5	-	-	72	88	110		
3.2	0.47	0.9	6	120	5	-	-	77	95	120			
2	0.65	1.15	48	64	4.8	-	-	90	125	-			
2.3	0.7	1.3	5.3	36	3.4	2	-	100	155	-			
1	0.65	1.15	26	44	2.6	-	-	175	240	-			
30	8	1	0.45	0.95	2.9	22	1.45	2	-	400	480	600	
		0.41	0.45	0.95	3	14	0.7	2	-	1200	1700	2100	
		0.23	0.6	1.1	49	103	0.55	2	-	2800	5300	-	
	20	1.5	0.5	0.9	5	40	4.2	-	-	104	131	175	
		5.3	1	3	6	36	12.8	2	35	49	-	-	
		4.4	1	3	5	19	6.5	2	60	96	-	-	
1.5	1	3	4	18	5.2	-	-	98	135	-	-		
40	20	1.8	1	2.5	10	40	4.7	1	180	220	-	-	
50	20	0.2	1.1	2.1	24	73	0.26	1	5300	6000	-	-	
100	25	1.2	2	4	8	23	2.6	-	365	-	-	-	




Types in **bold** represent new products

SOT457 (SC-74)	SOT23	SOT363 (SC-88)	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
					
2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
600	250	300	200	250	250
	PMV27UPE				
	PMV33UPE				
	PMV32UP				
	PMV50UPE				
	NXV65UP				
	NXV75UP				
	NX2301P				
	PMV160UP				
	BSH205G2				
				PMZ350UPE	PMZB350UPE
				PMZ950UPE	PMZB950UPE
PMN30XPE	PMV30XPEA				
PMN30XP					
PMN48XP	PMV48XP				
	PMV50XP				
PMN52XP					
	PMV65XP				
	PMV65XPE				
PMN70XPE					
PMN70XP					
	PMV75UP				
		PMG85XP			
	PMV100XPEA				
			PMF170XP		
				PMZ320UPE	PMZB320UPE
				PMZ1200UPE	PMZB1200UPE
	NX3008PBK				
	<b>NXV100XP</b>				
			NX3008PBKW		
PMN50EPE	PMV35EPE				
PMN70EPE	PMV74EPE				
	<b>NXV90EP</b>				
	PMV250EPEA				
	BSS84AK		BSS84AKW	BSS84AKM	BSS84AKMB
	PMV240SP				




## Small-signal MOSFETs dual

Package										
Size (mm)										
P <sub>tot</sub> (mW)										
Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>C</sub> typ (nC)	ESD protection (kV)	
N-channel	20	8	0.6	0.45	0.95	5.6	19	0.4	1	
		12	5.3	0.4	0.9	4	40	14.4	-	
	30	8	0.59	0.45	0.95	4	12	0.6	2	
			0.35	0.6	1.1	26	88	0.52	2	
		12	3.1	0.75	1.25	9	19	2.9	2	
			3.1	0.5	1.5	6	18	1.65	1.8	
			1	0.5	1.5	6.5	14	0.7	2	
			20	0.18	0.8	1.5	10	51	0.34	yes
	60	8	0.22	0.4	0.9	1	5	0.11	2	
		20	0.18	0.8	1.5	6	11	0.33	yes	
			0.26	0.5	1.5	7.9	12.5	0.49	2	
			0.17	1.1	2.1	12	34	0.33	yes	
		0.26	1.1	2.1	4.7	6.9	1	2		
P-channel	20	8	4.5	0.45	0.95	7	41	6.3	2	
			0.5	0.45	0.95	2.3	13.5	1.19	1	
			3.7	0.45	0.95	6	47	5.4	2	
		12	4.5	0.47	0.9	4	135	16.5	-	
			4.2	0.75	1	7	33	5	2	
			3.7	0.4	1	6	120	5.7	-	
	30	8	0.41	0.45	0.95	3	14	0.7	2	
			0.2	0.6	1.1	49	103	0.55	2	
		12	3.8	0.45	1	3	112	5.2	-	
	50	20	0.16	1.1	2.1	24	73	0.26	1	

## Small-signal MOSFETs complementary

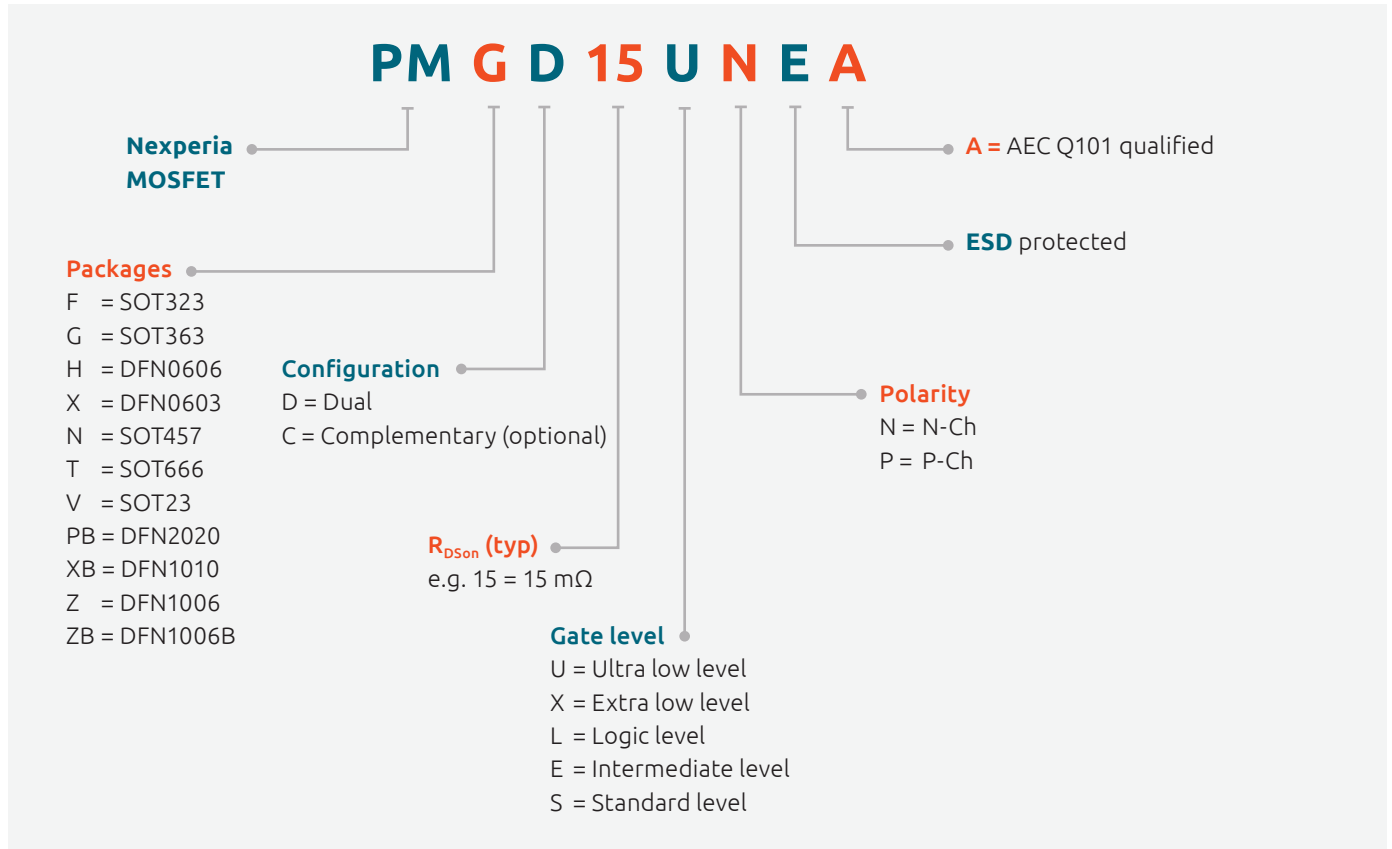
Package	Type	Polarity	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	I <sub>D</sub> (A)	V <sub>GS(th)</sub> min (V)	V <sub>GS(th)</sub> max (V)	
 SOT363 (SC-88) (2.0 x 1.25 x 0.95)	NX3008CBKS	N	30	8	0.35	0.6	1.1	
		P	30	8	0.2	0.6	1.1	
	NX6020CAKS	N	60	20	0.17	1.1	2.1	
		P	50	20	0.16	1.1	2.1	
 DFN1010B-6 (1.1 x 1.0 x 0.37)	PMCXB900UE	N	20	8	0.6	0.45	0.95	
		P	20	8	0.5	0.45	0.95	
	PMCXB1000UE	N	30	8	0.59	0.45	0.95	
		P	30	8	0.41	0.45	0.95	
 DFN2020-6 (2.0 x 2.0 x 0.65)	PMCPB5530X	N	20	12	5.3	0.4	0.9	
		P	20	12	4.5	0.47	0.9	

Types in **bold** represent new products

					SOT363 (SC-88)	DFN2020-6 (SOT1118)	DFN1010B-6 (SOT1216)
							
					2.0 x 1.25 x 0.95	2.0 x 2.0 x 0.65	1.0 x 1.0 x 0.37
					300	1250	350
R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =							
10 V	4.5 V	2.5 V	1.8 V				
-	470	620	845			PMDXB600UNE	
-	32	40	60		PMDPB30XN		
-	550	660	770			PMDXB550UNE	
-	1000	1400	2000	NX3008NBKS			
-	55	72	-		PMDPB56XNEA		
-	95	130	-		PMDPB95XNE2		
-	170	240	-	PMGD175XNE			
2700	3000	4000	-	NX3020NAKS			
	2700	2900	-	<b>NX6008NBKS</b>			
2800	3500	4500	-	NX138AKS			
2100	2200	2600	-	NX138BKS			
3000	3700	-	-	NX7002AKS			
2200	2500	-	-	NX7002BKS		NX7002BKXB	
-	58	74	97		PMDPB58UPE		
-	1020	1270	1700			PMDXB950UPE	
-	82	107	142		PMDPB85UPE		
-	55	75	110		PMDPB55XP		
-	66	98	-		PMDPB70XPE		
-	80	95	120		PMDPB80XP		
-	1200	1700	2100			PMDXB1200UPE	
-	2800	5300	-	NX3008PBKS			
-	70	89	-		PMDPB70XP		
4500	5700	-	-	BSS84AKS			

t <sub>on</sub> typ (ns)	t <sub>off</sub> typ (ns)	Q <sub>c</sub> typ (nC)	ESD protection (kV)	R <sub>DS(on)</sub> typ (mΩ) @ V <sub>GS</sub> =					
				10 V	4.5 V	2.5 V	1.8 V	1.5 V	1.2 V
26	88	0.52	2	-	1000	1400	2000	-	-
49	103	0.55	2	-	2800	5300	-	-	-
6	20	0.33	yes	3000	3700				
13	48	0.26	1	4500	5700				
5.6	19	0.4	1	-	470	620	845	1125	2210
2.3	13.5	1.19	1	-	1020	1270	1700	2300	3500
4	12	0.6	2	-	550	660	770	890	-
3	14	0.7	2	-	1200	1700	2100	3000	-
19	56	14.4	-	-	26	33	50	-	-
18	56	16.5	-	-	55	75	110	-	-

## Small-signal MOSFETs nomenclature









# Power GaN FETs

5

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# Power GaN FETs

## Performance, efficiency, reliability

Nexperia's 650 V GaN technology provides the power density, efficient power conversion, and reduced power losses required when designing high-end power supplies for industrial automation, data centres, and telecommunications infrastructure, or motor drive/controllers for the next generation battery electric vehicles.

With superior switching FOMs, high power performance and high-frequency switching, our GaN FETs can also simplify application designs thanks to the design and cascode configuration which eliminates the need for complicated drivers and controls.

### Automotive grade

As an established supplier into the automotive industry our rigorous attention to detail and commitment to automotive quality yields sub-part-per-million (sub-ppm) failure rates across our existing portfolio of Discretes, MOSFETs and Analog & Logic ICs. We extend our AEC-Q101 qualification into our GaN FETs development.

### Features and benefits

- › Ultra low reverse recovery loss
- › Easy simple gate drive (0 V to +10 V or 12 V), easy to drive
- › Robust gate oxide quality (+ - 20 V capability)
- › High gate threshold voltage (+4 V) for very
- › Good gate bounce immunity
- › Integrated very low  $V_f$  body diode. No external antiparallel diode required
- › Bidirectional topology. Reverse conduction capability
- › Easy to control slew rate for turn on and turn off
- › Large transient voltage capability (800 V for 650 V devices)

### TO-247 through-hole package, 650 V products

GAN063-650WSA		
	$V_{DS}$	650 V
	$V_{GS(th)}$ typ	3.9 V
	$R_{DS(on)}$ max	60 m $\Omega$
	$R_{DS(on)}$ typ	50 m $\Omega$
	Package	TO-247 (SOT429)
	$E_{OSS}$	15 $\mu$ J @ 400 V
	$Q_{rr}$	125 nC @ 400 V - 1000 A/ $\mu$ s

GAN041-650WSB - 2nd generation		
	$V_{DS}$	650 V
	$V_{GS(th)}$ typ	3.9 V
	$R_{DS(on)}$ max	41 m $\Omega$
	$R_{DS(on)}$ typ	35 m $\Omega$
	Package	TO-247 (SOT429)
	$E_{OSS}$	17 $\mu$ J @ 400 V
	$Q_{rr}$	150 nC @ 400 V - 1000 A/ $\mu$ s

### CCPAK surface-mount copper-clip package

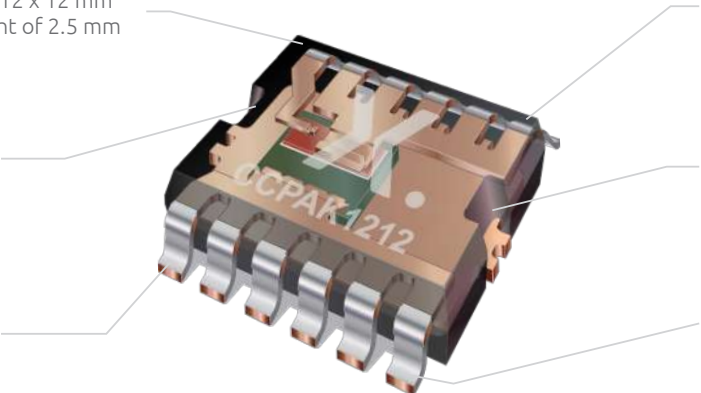
As the innovators of copper-clip package technology, Nexperia brings almost 20 years experience of producing high-quality, high-robustness SMD packaging to our Power GaN FET portfolio. Adopting proven technology, CCPAK gives industry-leading performance in a truly innovative package. Wire-bond free for optimized thermal and electrical performance, and simplified design of cascode configuration to eliminate the need for complicated drivers and controls.

### CCPAK SMD package, 650 V products

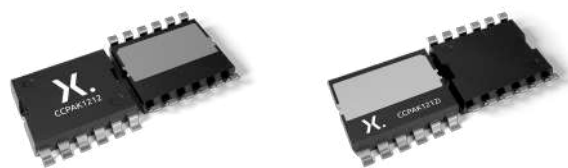
Types in **bold red** are in development

Package	Type name	Grade	$R_{DS(on)}$ (Typ) (m $\Omega$ )	$I_D$ (Max) (A)	$Q_{oss}$ (Typ) (nC)
CCPAK1212	<b>GAN039-650NBB</b>	Industrial	33	60	150
	<b>GAN039-650NBBA</b>	Automotive AEC-Q101			
CCPAK1212i	<b>GAN039-650NTB</b>	Industrial			
	<b>GAN039-650NTBA</b>	Automotive AEC-Q101			

Products available for sampling now, release in 2022



- › Compact footprint of 12 x 12 mm and low package height of 2.5 mm
- › Wire-bond free for low inductances
- › Flexible leads for improved reliability
- › < 0.5 K/W thermal resistance
- › Ultra-low package resistance
- › Exposed leads allow for easy optical inspection



### Top side and bottom side cooling

For added flexibility in designs and to further improve heat dissipation, CCPAK is available in both top-side cooling and traditional bottom-side cooling package designs. The first in the portfolio of GaN SMD packages, the CCPAK1212 and CCPAK1212i have a compact footprint of only 12 x 12 mm and a low package height of 2.5 mm.

For more information including product datasheets visit: [www.nexperia.com/gan-fets](http://www.nexperia.com/gan-fets)



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# Q100 Standard logic functions and packages

## Analog switches

Types in **bold** represent new products

Type number	Description	Features					Package (suffix)								
		Configuration	V <sub>cc</sub> (V)	R <sub>ON</sub> (Ω)	R <sub>ON</sub> (FLAT) (Ω)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT137-1 (D)	SOT355-1 (PW)	SOT1815-1 (BQ)
74HC4051-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4051-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	225	20	-40 to 125				•	•	•			
74HC4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4052-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	200	20	-40 to 125				•	•	•			
74HC4053-Q100	Triple single-pole, double-throw analog switch	SP8T-Z	2.0 - 10.0	200	20	-40 to 125				•	•	•			
74HCT4053-Q100	Triple single-pole, double-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	200	20	-40 to 125				•	•	•			
74HC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	2.0 - 10.0	105	23	-40 to 125	•	•	•						
74HCT4066-Q100	Quad single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125	•	•	•						
74HC4067-Q100	Single-pole, 16-throw analog switch	SP16T-Z	2.0 - 10.0	200	25	-40 to 125							•	•	•
74HCT4067-Q100	Single-pole, 16-throw analog switch; TTL-enabled	SP16T-Z	4.5 - 5.5	225	25	-40 to 125							•	•	•
74HC4851-Q100	Single-pole, octal-throw analog switch	SP8T-Z	2.0 - 10.0	220	-	-40 to 125				•	•	•			
74HCT4851-Q100	Single-pole, octal-throw analog switch; TTL-enabled	SP8T-Z	4.5 - 5.5	240	-	-40 to 125				•	•	•			
74HC4852-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	2.0 - 10.0	220	-	-40 to 125				•	•	•			
74HCT4852-Q100	Dual single-pole, quad-throw analog switch; TTL-enabled	SP4T-Z	4.5 - 5.5	240	-	-40 to 125				•	•	•			
<b>74LV4051PW-Q100</b>	8-channel analog multiplexer/demultiplexer	SP8T-Z	1.0 - 6.0	135	35	-40 to 125				•	•	•			
74LV4052-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	1.0 - 6.0	125	15	-40 to 125				•	•				
74LV4053-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	1.0 - 6.0	150	30	-40 to 125				•	•	•			
74LVC4066-Q100	Quad single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125	•	•	•						
HEF4051B-Q100	Single-pole, octal-throw analog switch	SP8T-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4052B-Q100	Dual single-pole, quad-throw analog switch	SP4T-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4053B-Q100	Triple single-pole, double-throw analog switch	SPDT-Z	3.0 - 15	175	30	-40 to 85				•	•				
HEF4066B-Q100	Quad single-pole, single-throw analog switch	SPST-NO	3.0 - 15	175	20	-40 to 85	•								
HEF4067B-Q100	Single-pole, 16-throw analog switch	SP16T-Z	3.0 - 15	175	20	-40 to 85							•		



## Buffers/Inverters

Type number	Description	Features				Package (suffix)									
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74AHC04-Q100	Hex inverter	2.0 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74AHT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74AHC125-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74AHT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74AHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•							
74AHT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74AHC240-Q100	Octal inverter/line driver (3-state)	2.0 - 5.5	± 8	2.8	-40 to 125						•	•	•		
74AHT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125						•	•	•		
74AHC244-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125						•	•	•		•
74AHT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125						•	•	•		
74AHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125						•	•	•		
74AHT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125						•	•	•		
74AHCU04-Q100	Hex inverter; unbuffered	2.0 - 5.5	± 8	2.4	-40 to 125	•	•	•							
74ALVC125-Q100	Quad buffer/line driver (3-state)	1.65 - 3.6	± 24	1.8	-40 to 85	•	•	•							
74ALVC541-Q100	Octal buffer/line driver (3-state)	1.65 - 3.6	± 24	2.3	-40 to 85						•	•	•		•
74HC05-Q100	Hex inverter; open-drain	2.0 - 6.0	5.2	11	-40 to 125	•	•	•							
74HC04-Q100	Hex inverter	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•							
74HCT04-Q100	Hex inverter; TTL-enabled	4.5 - 5.5	± 4.0	8.0	-40 to 125	•	•	•							
74HC125-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•								
74HCT125-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40 to 125	•	•								
74HC126-Q100	Quad buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•								
74HCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125	•	•								
74HC240-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•	•	•		
74HCT240-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	9.0	-40 to 125						•	•	•		
74HC244-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•	•	•		
74HCT244-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•	•	•		
74HC365-Q100	Hex buffer/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•	•			
74HCT365-Q100	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•	•			
74HC366-Q100	Hex inverter/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40 to 125						•	•			
74HCT366-Q100	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•	•			
74HC540-Q100	Octal inverter/line driver (3-state)	2.0 - 6.0	± 7.8	9.0	-40 to 125						•				
74HCT540-Q100	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	11	-40 to 125						•				
74HC541-Q100	Octal buffer/line driver (3-state)	2.0 - 6.0	± 7.8	10	-40 to 125						•	•			

## Buffers/Inverters

Type number	Description	Features				Package (suffix)									
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74HCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 6	12	-40 to 125						•	•			
74HCU04-Q100	Hex inverter; unbuffered	2.0 - 6.0	± 5.2	5.0	-40 to 125	•	•	•							
74LV244-Q100	Octal buffer/line driver (3-state)	1.0 - 5.5	± 16	8.0	-40 to 125						•	•			
74LVC04A-Q100	Hex inverter	1.65 - 5.5	± 24	2.0	-40 to 125	•	•	•							
74LVC06A-Q100	Hex inverter; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•	•							
74LVC07A-Q100	Hex buffer; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•	•							
74LVC125A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125	•	•	•							
74LVC126A-Q100	Quad buffer/line driver (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125	•	•	•							
74LVC541A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	3.3	-40 to 125						•	•	•		
74LVC16240A-Q100	16-bit inverter/line driver (3-state)	1.2 - 3.6	± 24	2.7	-40 to 125									•	
74LVC244A-Q100	Octal buffer/line driver (3-state)	1.2 - 3.6	± 24	2.8	-40 to 125						•	•	•		
74LVCH244A-Q100	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	2.8	-40 to 125						•	•	•		
74LVC16244A-Q100	16-bit buffer/line driver (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125									•	•
74LVCH16244A-Q100	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125									•	•
74LVCU04A-Q100	Hex inverter; unbuffered	1.2 - 3.6	± 24	2.0	-40 to 125	•	•								
74LVT04-Q100	Hex inverter	2.7 - 3.6	-20 / +32	2.6	-40 to 85	•	•								
74LVT244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40 to 85						•	•			
74LVTH244A-Q100	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	-32 / +64	2.6	-40 to 85						•	•			
74VHC126-Q100	Quad buffer/line driver (3-state)	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•							
74VHCT126-Q100	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.0	-40 to 125	•	•	•							
74VHC541-Q100	Octal buffer/line driver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125						•	•	•		
74VHCT541-Q100	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.5	-40 to 125						•	•	•		
HEF4049B-Q100	Hex inverter/line driver	3.0 - 15.0	-3 / +20	20	-40 to 85				•						
HEF4050B-Q100	Hex buffer/line driver	3.0 - 15.0	-3 / +20	40	-40 to 85				•						
HEF4069UB-Q100	Hex inverter; unbuffered	3.0 - 15.0	± 3.4	15	-40 to 85	•	•								

## Counters/Frequency dividers

Type number	Description	Features				Package (suffix)					
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74HC161-Q100	Presettable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	± 5.2	19	-40 to 125				•	•	
74HC163-Q100	Presettable synchronous 4-bit binary counter; synchronous reset	2.0 - 6.0	± 5.2	17	-40 to 125				•	•	
74HCT163-Q100	Presettable synchronous 4-bit binary counter; synchronous reset; TTL-enabled	4.5 - 5.5	± 4.0	20	-40 to 125				•	•	
74HC193-Q100	Presettable synchronous 4-bit binary up/down counter	2.0 - 6.0	± 5.2	20	-40 to 125				•	•	
74HCT193-Q100	Presettable synchronous 4-bit binary up/down counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40 to 125				•	•	
74HC393-Q100	Dual 4-bit binary ripple counter	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•			
74HCT393-Q100	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	20	-40 to 125	•	•	•			
74HC4017-Q100	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	± 5.2	18	-40 to 125				•	•	•
74HCT4017-Q100	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125				•		•
74HC4020-Q100	14-stage binary ripple counter	2.0 - 6.0	± 5.2	11	-40 to 125				•	•	•
74HCT4020-Q100	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	15	-40 to 125				•	•	•
74HC4024-Q100	7-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40 to 125	•	•				
74HC4040-Q100	12-stage binary ripple counter	2.0 - 6.0	± 5.2	14	-40 to 125				•	•	•
74HCT4040-Q100	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	± 4.0	16	-40 to 125				•	•	•
74HC4060-Q100	14-stage binary ripple counter with oscillator	2.0 - 6.0	± 5.2	31	-40 to 125				•	•	•
74HCT4060-Q100	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	± 4.0	31	-40 to 125				•		•
74HC4520-Q100	Dual 4-bit synchronous binary counter	2.0 - 6.0	± 5.2	24	-40 to 125				•		
74HCT4520-Q100	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	± 4.0	24	-40 to 125				•		
74LV393-Q100	Dual 4-bit binary ripple counter	1.0 - 3.6	± 6	12	-40 to 125	•	•				
HEF4017B-Q100	5-stage Johnson decade counter	3.0 - 15	± 2.4	40	-40 to 85				•		
HEF4020B-Q100	14-stage binary ripple counter	3.0 - 15	± 2.4	30	-40 to 85				•		
HEF4040B-Q100	12-stage binary ripple counter	3.0 - 15	± 2.4	35	-40 to 85				•		
HEF4060B-Q100	14-stage binary ripple counter with oscillator	3.0 - 15	± 2.4	50	-40 to 85				•		
HEF4541B-Q100	Programmable timer	3.0 - 15	- 4/ + 2.7	38	-40 to 85	•					
HEF4520B-Q100	Dual 4-bit synchronous binary counter	3.0 - 15	± 2.4	15	-40 to 85				•		

## Bus switches

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	R <sub>ON</sub> (Ω)	T <sub>amb</sub> (°C)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)
74CB3Q3257-Q100	4-bit 1-of-2 mux/demux with charge pump	2.3 - 3.6	3.3	4	-40 to 85				•				
74CBTLV3125-Q100	Quad bus switch	2.3 - 3.6	3.3	7	-40 to 125	•				•			
74CBTLV3126-Q100	Quad bus switch	2.3 - 3.6	3.3	7	-40 to 125	•	•						
74CBTLV3253-Q100	Dual 4:1 mux/demux	2.3 - 3.6	3.3	7	-40 to 125			•	•	•			
74CBTLV3257-Q100	Quad 2:1 mux/demux	2.3 - 3.6	3.3	7	-40 to 125			•	•	•			
74CBTLV3245-Q100	Octal bus switch	2.3 - 3.6	3.3	7	-40 to 125							•	•
74CBTLVD3245-Q100	Octal bus switch level translator	3.0 - 3.6	1.8	7	-40 to 125							•	•
CBT3245A-Q100	Octal bus switch	4.0 - 5.5	3.9	7	-40 to 85						•	•	•
CBT3257A-Q100	Quad 1-of-2 multiplexer/demultiplexer	4.0 - 5.5	3.9	7	-40 to 85							•	

## Digital decoders/Demultiplexers

Type number	Description	Features				Package (suffix)		
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	± 8	4.4	-40 to 125	•	•	•
74AHCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	± 8	4.4	-40 to 125	•	•	•
74AHC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	± 8	3.9	-40 to 125	•	•	
74AHCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•	
74HC237-Q100	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	± 5.2	18	-40 to 125	•		
74HC138-Q100	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•
74HCT138-Q100	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	•
74HC139-Q100	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	± 5.2	14	-40 to 125	•	•	
74HCT139-Q100	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125	•	•	
74HC238-Q100	3-to-8 decoder/demultiplexer	2.0 - 6.0	± 5.2	14	-40 to 125	•	•	•
74HCT238-Q100	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	± 4	18	-40 to 125	•	•	•
74LVC138A-Q100	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	± 24	2.7	-40 to 125	•	•	•
HEF4555B-Q100	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15	± 2.4	30	-40 to 85	•		

## Digital multiplexers

Type number	Description	Features				Package (suffix)		
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC157-Q100	Quad 2-input multiplexer	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•
74AHCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 8	3.2	-40 to 125	•	•	•
74AHC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 5.5	± 8	2.9	-40 to 125	•	•	
74AHCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 8	3.7	-40 to 125	•	•	
74HC151-Q100	8-input multiplexer	2.0 - 6.0	± 5.2	17	-40 to 125	•	•	
74HCT151-Q100	8-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	
74HC153-Q100	Dual 4-input multiplexer	2.0 - 6.0	± 5.2	17	-40 to 125	•	•	
74HCT153-Q100	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	19	-40 to 125	•	•	
74HC157-Q100	Quad 2-input multiplexer	2.0 - 6.0	± 5.2	11	-40 to 125	•	•	•
74HCT157-Q100	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	± 4	13	-40 to 125	•	•	•
74HC251-Q100	8-input multiplexer (3-State)	2.0 - 6.0	± 5.2	18	-40 to 125	•	•	
74HCT251-Q100	8-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 4	22	-40 to 125	•	•	
74HC253-Q100	Dual 4-input multiplexer (3-State)	2.0 - 6.0	± 7.8	17	-40 to 125	•		
74HCT253-Q100	Dual 4-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	17	-40 to 125	•		
74HC257-Q100	Quad 2-input multiplexer (3-State)	2.0 - 6.0	± 7.8	11	-40 to 125	•	•	
74HCT257-Q100	Quad 2-input multiplexer; TTL-enabled (3-State)	4.5 - 5.5	± 6	13	-40 to 125	•	•	
74LVC157A-Q100	Quad 2-input multiplexer	1.2 - 3.6	± 24	2.5	-40 to 125	•	•	•

## Flip-flops

Type number	Description	Features				Package (suffix)									
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74AHC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	± 8	3.7	-40 to 125	•	•	•							
74AHCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•							
74AHC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	± 8	4.2	-40 to 125						•	•	•		
74AHCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40 to 125						•	•	•		
74AHC374-Q100	Octal D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	4.4	-40 to 125						•	•			
74AHCT374-Q100	Octal D-type flip-flop; positive-edge trigger (3-state); TTL-enabled (3-state)	4.5 - 5.5	± 8	4.3	-40 to 125						•	•			
74AHC377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 5.5	± 8	3.9	-40 to 125							•			
74AHCT377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40 to 125							•	•		
74AVC16374-Q100	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 12	1.5	-40 to 85										•

## Flip-flops

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)									
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
<b>74HC73D-Q100</b>	Dual JK flip-flop with reset; negative-edge trigger	2.0 - 6.0	± 5.2	16	-40 to 125	•									
74HC74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	14	-40 to 125	•	•	•							
74HCT74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40 to 125	•	•	•							
74HC107-Q100	Dual J-K flip-flop with reset; negative-edge trigger	2.0 - 6.0	± 5.2	16	-40 to 125	•	•								
74HCT107-Q100	Dual J-K flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125	•									
74HC109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40 to 125				•						
74HCT109-Q100	Dual J-K flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125				•	•					
74HC174-Q100	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40 to 125				•	•					
74HCT174-Q100	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	18	-40 to 125				•	•					
74HC175-Q100	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	17	-40 to 125				•	•					
74HCT175-Q100	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	16	-40 to 125				•	•					
74HC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	± 5.2	15	-40 to 125						•	•	•		
74HCT273-Q100	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 4	15	-40 to 125						•	•	•		
74HC377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	± 7.8	13	-40 to 125						•	•			
74HCT377-Q100	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 6	14	-40 to 125						•	•			
74HC574-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	± 7.8	14	-40 to 125						•	•			
74HCT574-Q100	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	± 6	15	-40 to 125						•	•			
74LV74-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	± 12	11	-40 to 125	•	•								
74LVC74A-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	± 24	2.5	-40 to 125	•	•	•							
74LVC273-Q100	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	± 24	6.0	-40 to 125						•	•	•		
74LVC374A-Q100	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	2.7	-40 to 125						•	•	•		

## Flip-flops

Type number	Description	Features				Package (suffix)									
		$V_{CC}$ (V)	$I_O$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT815-1 (BQ)	SOT362-1 (DGG)
74LVC573A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.4	-40 to 125						•	•	•		
74LVC823A-Q100	9-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	5.4	-40 to 125									•	
74LVC16374A-Q100	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40 to 125										•
74LVCH16374A-Q100	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	± 24	3.8	-40 to 125										•
HEF4013B-Q100	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15	± 2.4	30	-40 to 85	•	•								
HEF4027B-Q100	Dual J-K flip-flop	3.0 - 15	± 2.4	30	-40 to 85				•						

## Gates

Type number	Description	Features				Package (suffix)			
		$V_{CC}$ (V)	$I_O$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT765-1 (DC)
74AHC00-Q100	Quad 2-input NAND gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•	
74AHCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•	
74AHC02-Q100	Quad 2-input NOR gate	2.0 - 5.5	± 8	2.9	-40 to 125	•	•	•	
74AHCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.8	-40 to 125	•	•	•	
74AHC08-Q100	Quad 2-input AND gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•	
74AHCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
74AHC30-Q100	8-input NAND gate	2.0 - 5.5	± 8	3.6	-40 to 125	•	•	•	
74AHCT30-Q100	8-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•	•	
74AHC32-Q100	Quad 2-input OR gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•	
74AHCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
74AHC86-Q100	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40 to 125	•	•	•	
74AHCT86-Q100	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.4	-40 to 125	•	•	•	
74ALVC00-Q100	Quad 2-input NAND gate	1.65 - 3.6	± 24	2.1	-40 to 85	•	•	•	

## Gates

Type number	Description	Features				Package (suffix)			
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT765-1 (DC)
74ALVC32-Q100	Quad 2-input OR gate	1.65 - 3.6	± 24	2.0	-40 to 125	•	•	•	
74AUP2G00-Q100	Dual 2-input NAND gate	2.0 - 5.5	± 8	3.2	-40 to 125				•
74HC00-Q100	Quad 2-input NAND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT00-Q100	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•	•	
74HC02-Q100	Quad 2-input NOR gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	9.0	-40 to 125	•	•	•	
74HC03-Q100	Quad 2-input NAND gate; open-drain	2.0 - 6.0	5.2	8.0	-40 to 125	•	•		
74HCT03-Q100	Quad 2-input NAND gate; open-drain; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•		
74HC08-Q100	Quad 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•	•	
74HCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40 to 125	•	•	•	
74HC10-Q100	Triple 3-input NAND gate	2.0 - 6.0	± 5.2	9.0	-40 to 125	•	•		
74HCT10-Q100	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40 to 125	•	•		
74HC11-Q100	Triple 3-input AND gate	2.0 - 6.0	± 5.2	10	-40 to 125	•	•		
74HCT11-Q100	Triple 3-input AND gate; TTL-enabled	4.5 - 5.5	± 4	11	-40 to 125	•	•		
74HC20-Q100	Dual 4-input NAND gate	2.0 - 6.0	± 5.2	8.0	-40 to 125	•	•		
74HCT20-Q100	Dual 4-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	13	-40 to 125	•		•	
74HC27-Q100	Triple 3-input NOR gate	2.0 - 6.0	± 5.2	8.0	-40 to 125	•	•	•	
74HCT27-Q100	Triple 3-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•	•	
74HC30-Q100	8-input NAND gate	2.0 - 6.0	± 5.2	12	-40 to 125	•	•		
74HCT30-Q100	8-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125	•	•		
74HC32-Q100	Quad 2-input OR gate	2.0 - 6.0	± 5.2	6.0	-40 to 125	•	•	•	
74HCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 4.0	9.0	-40 to 125	•	•	•	
74HC86-Q100	Quad 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 5.2	11	-40 to 125	•	•		
74HCT86-Q100	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 4	14	-40 to 125	•	•		
74HC4002-Q100	Dual 4-input NOR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125	•	•		
74HC4075-Q100	Triple 3-input OR gate	2.0 - 6.0	± 5.2	8.0	-40 to 125	•	•		
74HCT4075-Q100	Triple 3-input OR gate; TTL-enabled	4.5 - 5.5	± 4	10	-40 to 125	•	•		
74LV08-Q100	Quad 2-input AND gate	1.0 - 5.5	± 12	7.0	-40 to 125	•	•		
74LVC00A-Q100	Quad 2-input NAND gate	1.2 - 3.6	± 24	2.1	-40 to 125	•	•	•	
74LVC02A-Q100	Quad 2-input NOR gate	1.2 - 3.6	± 24	2.1	-40 to 125	•	•	•	
74LVC08A-Q100	Quad 2-input AND gate	1.2 - 3.6	± 24	2.1	-40 to 125	•	•	•	
74LVC11-Q100	Triple 3-input AND gate	1.2 - 3.7	± 24	3.7	-40 to 125	•	•	•	
74LVC32A-Q100	Quad 2-input OR gate	1.2 - 3.6	± 24	2.1	-40 to 125	•	•	•	
74VHC02-Q100	Quad 2-input NOR gate	2.0 - 5.5	± 8	2.9	-40 to 125	•	•	•	



## Gates

Type number	Description	Features				Package (suffix)			
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT765-1 (DC)
74VHCT02-Q100	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.8	-40 to 125	•	•	•	
74VHCT08-Q100	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
74VHC32-Q100	Quad 2-input OR gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•		
74VHCT32-Q100	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•	
HEF4001B-Q100	Quad 2-input NOR gate	3.0 - 15	± 2.4	20	-40 to 85	•			
HEF4011B-Q100	Quad 2-input NAND gate	3.0 - 15	± 2.4	20	-40 to 85	•			
HEF4030B-Q100	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	± 2.4	30	-40 to 85	•			
HEF4070B-Q100	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	± 2.4	30	-40 to 85	•			
HEF4081B-Q100	Quad 2-input AND gate	3.0 - 15	± 2.4	20	-40 to 85	•			
HEF4082B-Q100	Dual 4-input AND gate	3.0 - 15	± 2.4	25	-40 to 85	•			

## Latches/Registered drivers

Type number	Description	Features				Package (suffix)							
		$V_{cc}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74AHC573-Q100	Octal D-type transparent latch (3-state)	2.0 - 5.5	± 8	4.2	-40 to 125				•	•	•		
74AHC573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.9	-40 to 125				•	•	•		
74HC259-Q100	8 bit addressable latch	2.0 - 6.0	± 5.2	18	-40 to 125	•	•	•					
74HCT259-Q100	8 bit addressable latch; TTL-enabled	4.5 - 5.5	± 4	20	-40 to 125	•	•	•					
74HC373-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	12	-40 to 125				•	•	•		
74HCT373-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	14	-40 to 125				•	•	•		
74HC573-Q100	Octal D-type transparent latch (3-state)	2.0 - 6.0	± 7.8	14	-40 to 125				•	•	•		
74HCT573-Q100	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	± 6	17	-40 to 125				•	•	•		
74LVC373A-Q100	Octal D-type transparent latch (3-state)	1.2 - 3.6	± 24	3.0	-40 to 125				•	•	•		
74LVC16373A-Q100	16-bit D-type transparent latch (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125							•	•
74LVCH16373A-Q100	16-bit D-type transparent latch with bushold (3-state)	1.2 - 3.6	± 24	2.4	-40 to 125							•	•
HEF4043B-Q100	Quad R/S latch with set and reset (3-state)	3.0 - 15	± 2.4	25	-40 to 85	•							

## Level shifters/Translators

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)														
		V <sub>cc</sub> (A) (V)	V <sub>cc</sub> (B) (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT402-1 (PW)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT137-1 (D)	SOT355-1 (PW)	SOT815-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)	SOT364-1 (DGG)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT762-1 (BQ)	SOT1161-1 (GU)	
74ALVC164245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	1.5 - 3.6	1.5 - 5.5	± 24	-40 to 125								•							
74AVC4T245-Q100	4-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•	•	•											•
<b>74AVC4T774-Q100</b>	4-bit dual supply translating transceiver; 3-state	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125			•												
74AVC8T245-Q100	8-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125						•	•								
74AVC16T245-Q100	16-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125								•							
74AVC20T245-Q100	20-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125										•					
74AVCH4T245-Q100	4-bit dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•	•	•											
74HC4050-Q100	Hex buffer with 15V tolerant inputs	2.0 - 6.0	n.a	± 5.2	-40 to 125		•	•												
74LVC4T3144-Q100	4-bit dual supply buffer/line driver (3-state)	1.2 to 5.5	1.2 to 5.5	± 24	-40 to 125	•														
74LVC4245A-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	± 24	-40 to 125					•	•	•								
74LVC8T245-Q100	8-bit dual-supply voltage translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125						•	•								
74LVCH8T245-Q100	8-bit dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125						•	•								
HEF4104B-Q100	Quad low-to-high voltage translator (3-state)	3.0 - 15.0	3.0 - 15.0	± 2.4	-40 to 85		•													
LSF0108-Q100	8-bit bidirectional level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125											•	•			
LSF0204-Q100	4-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125	•														
NXB0104-Q100	4-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125	•														•
NXB0108-Q100	8-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125												•	•		
NXS0104-Q100	4-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02/+1	-40 to 125	•														•
NXS0108-Q100	8-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02/+1	-40 to 125												•	•		

## Multivibrators

Type number	Description	Features				Package (suffix)		
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)
74AHC123A-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	± 8	5.1	-40 to 125	•	•	•
74AHCT123A-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•
74HC123-Q100	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	± 7.8	9.0	-40 to 125	•	•	•
74HCT123-Q100	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	± 4	26	-40 to 125	•	•	•
74HC4538-Q100	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	± 5.2	27	-40 to 125	•	•	
74HCT4538-Q100	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	± 4	30	-40 to 125	•	•	
HEF4528B-Q100	Dual retriggerable monostable multivibrator with reset	3.0 - 15	± 2.4	40	-40 to 85	•		
HEF4538B-Q100	Dual retriggerable precision monostable multivibrator	3.0 - 15	± 2.4	60	-40 to 85	•		

## Schmitt-triggers

Type number	Description	Features				Package (suffix)				
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pd}$ (ns)	$T_{amb}$ (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC14-Q100	Hex inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125	•	•	•		
74AHCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.0	-40 to 125	•	•	•		
74AHC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	± 8	3.3	-40 to 125	•	•	•		
74AHCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•	•		
74HC7014-Q100	Hex buffer precision Schmitt-trigger	2.0 - 6.0	± 5.2	27	-40 to 125	•				
74HC14-Q100	Hex inverter Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•		
74HCT14-Q100	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125	•	•	•		
74HC132-Q100	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	± 5.2	11	-40 to 125	•	•	•		
74HCT132-Q100	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4	17	-40 to 125	•	•	•		
74HC7541-Q100	Octal buffer/line driver Schmitt-trigger (3-State)	2.0 - 6.0	± 7.8	11	-40 to 125				•	•
74HCT7541-Q100	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	± 6	16	-40 to 125				•	•
74LV132-Q100	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	± 12	10	-40 to 125	•	•	•		
74LVC14A-Q100	Hex inverter Schmitt-trigger	1.2 - 3.6	± 24	3.2	-40 to 125	•	•	•		
74LVC132A-Q100	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	± 24	3.4	-40 to 125	•	•	•		
HEF40106B-Q100	Hex inverter Schmitt-trigger	4.5 - 15.5	± 2.4	30	-40 to 85	•	•			

## Shift registers

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74AHC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 5.5	± 8	4.5	-40 to 125	•	•	•					
74AHCT164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 8	3.4	-40 to 125	•	•	•					
74AHC594-Q100	8-bit serial-in/parallel-out shift register with output register	2.0 - 5.5	± 8	4.1	-40 to 125				•	•	•		
74AHCT594-Q100	8-bit serial-in/parallel-out shift register with output register; TTL-enabled	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
74AHC595-Q100	8-bit serial-in/parallel-out shift register with output register (3-state)	2.0 - 5.5	± 8	4.0	-40 to 125				•	•	•		
74AHCT595-Q100	8-bit serial-in/parallel-out shift register with output storage; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
74HC164-Q100	8-bit serial-in/parallel-out shift register	2.0 - 6.0	± 5.2	12	-40 to 125	•	•	•					
74HCT164-Q100	8-bit serial-in/parallel-out shift register; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125	•	•	•					
74HC165-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	16	-40 to 125				•	•	•		
74HCT165-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	14	-40 to 125				•	•	•		
74HC166-Q100	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	± 5.2	15	-40 to 125				•	•			
74HCT166-Q100	8-bit parallel or serial-in/serial-out shift register; TTL-enabled	4.5 - 5.5	± 4	23	-40 to 125				•				
74HC299-Q100	8-bit universal shift register; 3-state	2.0 - 6.0	± 7.8	15	-40 to 125							•	
74HC594-Q100	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 6.0	± 7.8	14	-40 to 125			•					
74HCT594-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled	4.5 - 5.5	± 6	15	-40 to 125				•				
74HC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 6.0	± 7.8	16	-40 to 125				•	•	•		
74HCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 6	25	-40 to 125				•	•	•		
74HC597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register	2.0 - 6.0	± 5.2	16	-40 to 125				•	•			
74HCT597-Q100	8-bit parallel or serial-in/parallel-out shift register with parallel input register; TTL-enabled	4.5 - 5.5	± 4	20	-40 to 125				•				
74HC4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	2.0 - 6.0	± 5.2	15	-40 to 125				•	•			
74HCT4094-Q100	8-bit serial-in/serial or parallel-out shift register with output register; TTL-enabled (3-state)	4.5 - 5.5	± 4	19	-40 to 125				•				
74LV164-Q100	8-bit serial-in/parallel-out shift register	1.0 - 5.5	± 12	12	-40 to 125	•	•	•					
74LV165-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	18	-40 to 125				•	•			

## Shift registers

Type number	Description	Features				Package (suffix)							
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT108-1 (D)	SOT402-1 (PW)	SOT762-1 (BQ)	SOT109-1 (D)	SOT403-1 (PW)	SOT763-1 (BQ)	SOT163-1 (D)	SOT360-1 (PW)
74LV165A-Q100	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	± 12	7.5	-40 to 125				•	•			
74LV4060-Q100	14-stage binary ripple counter with oscillator	1.0 - 5.5	± 6	29	-40 to 125				•	•			
74LVC594A-Q100	8-bit serial-in/parallel-out shift register with output storage register	1.2 - 5.5	± 24	3.1	-40 to 125				•	•	•		
74VHC595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	± 8	4.0	-40 to 125				•	•	•		
74VHCT595-Q100	8-bit serial-in/parallel-out shift register with output storage register; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.8	-40 to 125				•	•	•		
HEF4014B-Q100	8-bit shift register with synchronous parallel enable	3.0 - 15	± 2.4	40	-40 to 85				•				
HEF4021B-Q100	8-bit shift register with asynchronous parallel load	3.0 - 15	± 2.4	40	-40 to 85				•	•			
HEF4094B-Q100	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	3.0 - 15	± 2.4	50	-40 to 85				•	•			
HEF4794B-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40 to 85				•				
HEF4894B-Q100	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	3.0 - 15	-20	45	-40 to 85							•	•
NPIC6C595-Q100	8-bit serial-in/parallel-out shift register with output storage register (3-state)	4.5 - 5.5	-100	90	-40 to 125				•	•	•		
NPIC6C596-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 5.5	-100	90	-40 to 125				•	•	•		
NPIC6C596A-Q100	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	2.3 - 5.5	-100	90	-40 to 125				•	•	•		
NPIC6C4894-Q100	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 5.5	-100	105	-40 to 125							•	•

## Transceivers

Type number	Description	Features				Package (suffix)				
		$V_{CC}$ (V)	$I_o$ (mA)	$t_{pud}$ (ns)	$T_{amb}$ (°C)	SOT163-1 (D)	SOT360-1 (PW)	SOT764-1 (BQ)	SOT362-1 (DGG)	SOT480-1 (DGV)
74AHC245-Q100	Octal transceiver (3-state)	2.0 - 5.5	± 8	3.5	-40 to 125	•	•	•		
74AHCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 8	5.0	-40 to 125	•	•	•		
74AVC16245-Q100	16-bit transceiver (3-state)	1.2 - 3.6	± 12	2.0	-40 to 85				•	
74HC245-Q100	Octal transceiver (3-state)	2.0 - 6.0	± 7.8	7.0	-40 to 125	•	•	•		
74HCT245-Q100	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	± 6	10	-40 to 125	•	•	•		
74LVC245A-Q100	Octal transceiver (3-state)	1.2 - 3.6	± 24	2.9	-40 to 125	•	•	•		
74LVCH245A-Q100	Octal transceiver with bus hold (3-state)	1.2 - 3.6	± 24	2.9	-40 to 125	•	•	•		
74LVC16245A-Q100	16-bit bus transceiver with diRection pin; 5 V tolerant (3-state)	1.3 - 3.6	± 24	5.2	-40 to 125				•	•
74LVC162245A-Q100	16-bit transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	± 12	3.3	-40 to 125				•	•
74LVCH16245A-Q100	16-bit bus transceiver with bus hold with diRection pin; 5 V tolerant (3-state)	1.3 - 3.6	± 24	5.2	-40 to 125				•	•

# Q100 mini logic functions and packages

## Analog switches

Type number	Description	Features					Package (suffix)						
		Configuration	$V_{CC}$ (V)	$R_{ON}$ ( $\Omega$ )	$R_{ON}(FLAT)$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT552-1 (DP)
74AHC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 5.5	40	5	-40 to 125	•	•					
74AHC1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	40	5	-40 to 125	•	•					
74HC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40 to 125	•	•					
74HCT1G66-Q100	Single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125	•	•					
74HC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	2.0 - 9.0	105	23	-40 to 125					•	•	
74HCT2G66-Q100	Dual single-pole, single-throw analog switch; TTL-enabled	SPST-NO	4.5 - 5.5	118	23	-40 to 125					•	•	
74LVC1G53-Q100	Single-pole, double-throw analog switch	SPDT-Z	1.65 - 5.5	15	1.5	-40 to 125					•	•	
74LVC1G66-Q100	Single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125	•	•					
74LVC1G384-Q100	Single-pole, single-throw analog switch	SPST-NC	1.65 - 5.5	15	1.5	-40 to 125	•	•					
74LVC1G3157-Q100	Single-pole, double-throw analog switch	SPDT	1.65 - 5.5	15	1.5	-40 to 125			•	•			
74LVC2G3157-Q100	Dual 10 $\Omega$ single-pole double-throw analog switch	SPDT	1.65 - 5.5	15	1.5	-40 to 125							•
74LVC2G66-Q100	Dual single-pole, single-throw analog switch	SPST-NO	1.65 - 5.5	15	1.5	-40 to 125					•	•	

## Bus switches

Type number	Description	Features				Package (suffix)	
		$V_{CC}$ (V)	$V_{PASS}$ (V)	$R_{ON}$ ( $\Omega$ )	$T_{amb}$ ( $^{\circ}C$ )	SOT96-1 (D)	SOT530-1 (PW)
CBT3306-Q100	Dual bus switch	4.5 - 5.5	3.9	7	-40 to 85	•	•

## Counters/frequency dividers

Type number	Description	Features				Package (suffix)	
		$V_{CC}$ (V)	Output drive capability (mA)	Logic switching levels	$t_{pd}$ (ns)	$T_{amb}$ ( $^{\circ}C$ )	SOT353-1 (GW)
74AHC1G4208-Q100	08-stage divider and oscillator	2.0 - 5.5	$\pm 5.2$	CMOS	14	-40 to 125	•
74AHC1G4210-Q100	10-stage divider and oscillator	2.0 - 5.5	$\pm 8$	CMOS	14	-40 to 125	•
74AHC1G4212-Q100	12-stage divider and oscillator	2.0 - 5.5	$\pm 8$	CMOS	20	-40 to 125	•
74AHC1G4214-Q100	14-stage divider and oscillator	2.0 - 5.5	$\pm 8$	CMOS	23	-40 to 125	•
74AHC1G4215-Q100	15-stage divider and oscillator	2.0 - 5.5	$\pm 8$	CMOS	24	-40 to 125	•

## Buffers/Inverters

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1202 (GS)
74AHC1GU04-Q100	Single inverter; unbuffered	2.0 - 5.5	± 8	2.6	-40 to 125	•	•						
74AHC3GU04-Q100	Triple inverter; unbuffered	2.0 - 5.5	± 8	2.5	-40 to 125					•	•		
74AHC1G04-Q100	Single inverter	2.0 - 5.5	± 8	3.1	-40 to 125	•	•						
74AHC1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC1G07-Q100	Single buffer; open-drain	2.0 - 5.5	8	4.2	-40 to 125	•	•						
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	± 8	3.2	-40 to 125	•							
74AHC1G17-Q100	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	± 8	4.1	-40 to 125	•							
74AHC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC1G126-Q100	Single buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC1G126-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC2G126-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC2G126-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC2G241-Q100	Dual buffer/line driver (3-state)	2.0 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC2G241-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 8	3.4	-40 to 125					•	•		
74AHC3G04-Q100	Triple inverter	2.0 - 5.5	± 8	3.1	-40 to 125					•	•		
74AHC3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	± 8	3.0	-40 to 125					•	•		
74AUP1G04-Q100	Single inverter	1.1 - 3.6	± 1.9	4.0	-40 to 125	•	•						
74AUP1G06-Q100	Single inverter; open-drain	1.1 - 3.6	1.9	4.5	-40 to 125	•							
74AUP1G07-Q100	Buffer; open-drain	0.8 - 3.6	1.9	4.5	-40 to 125	•							
74AUP1G34-Q100	Single buffer	1.1 - 3.6	± 1.9	3.9	-40 to 125	•							
74AUP1G125-Q100	Single buffer/line driver (3-state)	1.1 - 3.6	± 1.9	4.3	-40 to 125	•						•	•
74AUP2G04-Q100	Dual inverter	1.1 - 3.6	± 1.9	4.0	-40 to 125			•					
74AUP2GU04-Q100	Dual inverter; unbuffered	1.1 - 3.6	± 1.9	2.3	-40 to 125			•				•	
74HC1GU04-Q100	Single inverter; unbuffered	2.0 - 6.0	± 2.6	5.0	-40 to 125	•	•						
74HC2GU04-Q100	Dual inverter; unbuffered	2.0 - 6.0	± 5.2	5.0	-40 to 125			•	•				
74HC3GU04-Q100	Triple inverter; unbuffered	2.0 - 6.0	± 5.2	6.0	-40 to 125					•	•		
74HC1G04-Q100	Single inverter	2.0 - 6.0	± 2.6	7.0	-40 to 125	•	•						
74HCT1G04-Q100	Single inverter; TTL-enabled	4.5 - 5.5	± 2.0	8.0	-40 to 125	•	•						
74HC1G125-Q100	Single buffer/line driver (3-state)	2.0 - 6.0	± 2.6	9.0	-40 to 125	•	•						



## Buffers/Inverters

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1202 (GS)
74HCT1G125-Q100	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 2.0	10	-40 to 125	•	•						
74HC2G04-Q100	Dual inverter	2.0 - 6.0	± 5.2	8.0	-40 to 125			•	•				
74HCT2G04-Q100	Dual inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125			•	•				
74HC2G34-Q100	Dual buffer	2.0 - 6.0	± 5.2	9.0	-40 to 125			•	•				
74HCT2G34-Q100	Dual buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125			•	•				
74HC2G125-Q100	Dual buffer/line driver (3-state)	2.0 - 6.0	± 5.2	10	-40 to 125					•	•		
74HCT2G125-Q100	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	± 4.0	12	-40 to 125					•	•		
74HC3G04-Q100	Triple inverter	2.0 - 6.0	± 5.2	8.0	-40 to 125					•	•		
74HCT3G04-Q100	Triple inverter; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125					•	•		
74HC3G07-Q100	Triple buffer; open-drain	2.0 - 6.0	5.2	9.0	-40 to 125					•	•		
74HCT3G07-Q100	Triple buffer; open-drain; TTL-enabled	4.5 - 5.5	4	9.0	-40 to 125					•	•		
74HC3G34-Q100	Triple buffer	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•		
74HCT3G34-Q100	Triple buffer; TTL-enabled	4.5 - 5.5	± 4.0	10	-40 to 125						•		
74LVC1G04-Q100	Single inverter	1.65 - 5.5	± 32	2.0	-40 to 125	•	•						
<b>74LVC1G16-Q100</b>	Single inverter	1.65 - 5.5	± 32	2.0	-40 to 125	•							
74LVC1G06-Q100	Single inverter; open-drain	1.65 - 5.5	32	2.3	-40 to 125	•	•						
74LVC1G07-Q100	Single buffer; open-drain	1.65 - 5.5	32	2.2	-40 to 125	•	•						•
74LVC1G34-Q100	Single buffer	1.65 - 5.5	± 32	2.0	-40 to 125	•	•						
74LVC1G125-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.1	-40 to 125	•	•						•
74LVC1G126-Q100	Single buffer/line driver (3-state)	1.65 - 5.5	± 32	2.0	-40 to 125	•	•						
74LVC1GU04-Q100	Single inverter; unbuffered	1.65 - 5.5	± 32	1.6	-40 to 125	•	•						
74LVC2G04-Q100	Dual inverter	1.65 - 5.5	± 32	2.7	-40 to 125			•	•				•
74LVC2G06-Q100	Dual inverter; open-drain	1.65 - 5.5	32	2.3	-40 to 125			•	•				
74LVC2G07-Q100	Dual buffer; open-drain	1.65 - 5.5	32	2.6	-40 to 125			•	•				
74LVC2G125-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.3	-40 to 125					•	•		
74LVC2G126-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.4	-40 to 125					•	•		
74LVC2G240-Q100	Dual inverter/line driver (3-state)	1.65 - 5.5	± 32	2.5	-40 to 125					•	•		
74LVC2G241-Q100	Dual buffer/line driver (3-state)	1.65 - 5.5	± 32	2.6	-40 to 125					•	•		
74LVC2GU04-Q100	Dual inverter; unbuffered	1.65 - 5.5	± 32	2.3	-40 to 125			•	•				
74LVC3G04-Q100	Triple inverter	1.65 - 5.5	± 32	2.7	-40 to 125					•	•		
74LVC3G07-Q100	Triple buffer; open-drain	1.65 - 5.5	32	2.1	-40 to 125					•	•		
74LVC3G34-Q100	Triple buffer	1.65 - 5.5	± 32	2.2	-40 to 125					•	•		

## Digital decoders/Demultiplexers

Type number	Description	Features				Package (suffix)	
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)	SOT457 (GV)
74LVC1G18-Q100	1-to-2 demultiplexer (3-state)	1.65 - 5.5	± 32	2.3	-40 to 125	•	•
74LVC1G19-Q100	1-to-2 demultiplexer	1.65 - 5.5	± 32	1.8	-40 to 125	•	

## Digital multiplexers

Type number	Description	Features				Package (suffix)		
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)	SOT457 (GV)	SOT886 (GM)
74AUP1G157-Q100	Single 2-input multiplexer	1.1 - 3.6	± 1.9	3.2	-40 to 125			•
74LVC1G157-Q100	Single 2-input multiplexer	1.65 - 5.5	± 32	2.2	-40 to 125	•	•	

## Flip-flops

Type number	Description	Features				Package (suffix)					
		V <sub>cc</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)
74AHC1G79-Q100	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	± 8	3.5	-40 to 125	•	•				
74AHC1G79-Q100	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•				
74AUP1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	± 1.9	8.1	-40 to 125						•
74AUP1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	± 1.9	7.4	-40 to 125			•			
74AUP1G374-Q100	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	± 1.9	7.9	-40 to 125			•			
74AUP2G79-Q100	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	± 1.9	8.5	-40 to 125						•
74LVC1G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40 to 125					•	•
74LVC1G79-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.2	-40 to 125	•	•				
74LVC1G80-Q100	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	± 32	2.4	-40 to 125	•	•				
74LVC1G175-Q100	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	± 32	3.1	-40 to 125			•	•		
74LVC2G74-Q100	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	± 32	3.5	-40 to 125					•	•

## Gates

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1203 (GS)
74AHC1G09-Q100	Single 2-input AND gate; open-drain	2.0 - 5.5	± 8	3.2	-40 to 125	•	•						
74AHC1G00-Q100	Single 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40 to 125	•	•						
74AHC1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•						
74AHC1G02-Q100	Single 2-input NOR gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•						
74AHC1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•						
74AHC1G08-Q100	Single 2-input AND gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•						
74AHC1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125	•	•						
74AHC1G32-Q100	Single 2-input OR gate	2.0 - 5.5	± 8	3.2	-40 to 125	•	•						
74AHC1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125	•	•						
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate	2.0 - 5.5	± 8	3.4	-40 to 125	•	•						
74AHC1G86-Q100	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 8	3.5	-40 to 125	•	•						
74AHC2G00-Q100	Dual 2-input NAND gate	2.0 - 5.5	± 8	3.5	-40 to 125					•	•		
74AHC2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125					•	•		
74AHC2G08-Q100	Dual 2-input AND gate	2.0 - 5.5	± 8	3.2	-40 to 125					•	•		
74AHC2G08-Q100	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	± 8	3.6	-40 to 125					•	•		
74AHC2G32-Q100	Dual 2-input OR gate	2.0 - 5.5	± 8	3.2	-40 to 125					•	•		
74AHC2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 8	3.3	-40 to 125					•	•		
74AUP1G00-Q100	Single 2-input NAND gate	1.1 - 3.6	± 1.9	8.3	-40 to 125	•							
74AUP1G02-Q100	Single 2-input NOR gate	1.1 - 3.6	± 1.9	8.2	-40 to 125	•							
74AUP1G08-Q100	Single 2-input AND gate	1.1 - 3.6	± 1.9	8.2	-40 to 125	•						•	
74AUP1G09-Q100	Single 2-input AND gate; open-drain	2.0 - 5.5	± 8	3.2	-40 to 125	•							
74AUP1G32-Q100	Single 2-input OR gate	1.1 - 3.6	± 1.9	7.9	-40 to 125	•						•	
74AUP1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.1 - 3.6	± 1.9	3.3	-40 to 125	•							
74AUP1T98-Q100	Configurable gate with voltage level translation	2.3 - 3.6 V	± 1.9	8.7	-40 to 125			•					
74HC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 2.6	9.0	-40 to 125	•	•						
74HC1G00-Q100	Single 2-input NAND gate	2.0 - 6.0	± 2.6	7.0	-40 to 125	•							
74HCT1G00-Q100	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 2	10	-40 to 125	•	•						
74HC1G02-Q100	Single 2-input NOR gate	2.0 - 6.0	± 2.6	7.0	-40 to 125	•	•						
74HCT1G02-Q100	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 2.0	9.0	-40 to 125	•	•						
74HC1G08-Q100	Single 2-input AND gate	2.0 - 6.0	± 5.2	7.0	-40 to 125	•	•						
74HCT1G08-Q100	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	± 2	11	-40 to 125	•	•						
74HC1G32-Q100	Single 2-input OR gate	2.0 - 6.0	± 2.6	8.0	-40 to 125	•	•						
74HCT1G32-Q100	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	± 2.0	10	-40 to 125	•	•						
74HC2G00-Q100	Dual 2-input NAND gate	2.0 - 6.0	± 5.6	9.0	-40 to 125					•	•		
74HCT2G00-Q100	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125					•	•		
74HC2G02-Q100	Dual 2-input NOR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•		

## Gates

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1203 (GS)
74HCT2G02-Q100	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	± 4	12	-40 to 125					•	•		
74HC2G08-Q100	Dual 2-input AND gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•		
74HCT2G08-Q100	Dual 2-input AND gate; TTL-enabled	4.5 - 5.5	± 4	14	-40 to 125					•	•		
74HC2G32-Q100	Dual 2-input OR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•		
74HCT2G32-Q100	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	± 4.0	13	-40 to 125					•	•		
74HC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	± 5.2	9.0	-40 to 125					•	•		
74HCT2G86-Q100	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 4.0	11	-40 to 125					•	•		
74HCT1G86-Q100	Single 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	± 2.0	10	-40 to 125	•	•						
74LVC1G00-Q100	Single 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40 to 125	•	•						
74LVC1G02-Q100	Single 2-input NOR gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•						
74LVC1G08-Q100	Single 2-input AND gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•						
74LVC1G10-Q100	Single 3-input NAND gate	1.65 - 5.5	± 32	2.6	-40 to 125			•					
74LVC1G11-Q100	Single 3-input AND gate	1.65 - 5.5	± 32	2.6	-40 to 125			•	•				
74LVC1G27-Q100	Single 3-input NOR gate	1.65 - 5.5	± 32	2.6	-40 to 125			•					
74LVC1G32-Q100	Single 2-input OR gate	1.65 - 5.5	± 32	2.1	-40 to 125	•	•						
74LVC1G38-Q100	Single 2-input NAND gate; open-drain	1.65 - 5.5	32	2.3	-40 to 125	•	•						
74LVC1G57-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40 to 125			•	•				
74LVC1G58-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	3.8	-40 to 125			•	•				
74LVC1G86-Q100	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.4	-40 to 125	•	•						
74LVC1G97-Q100	Configurable gate; Schmitt-trigger	1.65 - 5.5	± 32	6.3	-40 to 125			•					
74LVC1G332-Q100	Single 3-input OR gate	1.65 - 5.5	± 32	2.6	-40 to 125			•	•				
74LVC1GX04-Q100	Crystal driver	1.65 - 5.5	± 24	2.8	-40 to 125			•	•				
74LVC2G00-Q100	Dual 2-input NAND gate	1.65 - 5.5	± 32	2.2	-40 to 125						•		
74LVC2G02-Q100	Dual 2-input NOR gate	1.65 - 5.5	± 32	2.4	-40 to 125					•	•		
74LVC2G08-Q100	Dual 2-input AND gate	1.65 - 5.5	± 24	2.1	-40 to 125					•	•		•
74LVC2G32-Q100	Dual 2-input OR gate	1.65 - 5.5	± 32	2.2	-40 to 125					•	•		
74LVC2G34-Q100	Dual buffer	1.65 - 5.5	± 32	2.2	-40 to 125			•	•				
74LVC2G86-Q100	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	± 32	2.3	-40 to 125					•	•		

## Latches/Registered drivers

Type number	Description	Features				Package (suffix)
		V <sub>CC</sub> (V)	I <sub>O</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT363 (GW)
74AUP1G373-Q100	Single D-type transparent latch (3-state)	1.1 - 3.6	±1.9	8.5	-40 to 125	•

## Multivibrators

Type number	Description	Features				Package (suffix)	
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT505-2 (DP)	SOT765-1 (DC)
74LVC1G123-Q100	Single retriggerable monostable multivibrator	1.65 - 5.5	± 32	3.5	-40 to 125	•	•

## Schmitt-triggers

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)							
		V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT753 (GV)	SOT363 (GW)	SOT457 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT886 (GM)	SOT1269-2 (GX4)
74AHC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125	•	•						
74AHC1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40 to 125	•	•						
74AHC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 5.5	± 8	3.2	-40 to 125					•	•		
74AHC3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 8	4.1	-40 to 125					•	•		
<b>74AUP1G14-Q100</b>	Low-power Schmitt trigger inverter	0.8 - 3.6	± 1.9	3.7	-40 to 125								•
<b>74AUP1G17-Q100</b>	Low-power Schmitt trigger	0.8 - 3.6	± 1.9	3.6	-40 to 125	•							
74AUP1G132-Q100	Single 2-input NAND gate; Schmitt-trigger	1.1 - 3.6	± 1.9	10	-40 to 125	•							
74HC1G14-Q100	Single inverter Schmitt-trigger	2.0 - 6.0	± 2.6	10	-40 to 125	•	•						
74HCT1G14-Q100	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 2.0	15	-40 to 125	•	•						
74HC2G14-Q100	Dual inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40 to 125			•	•				
74HCT2G14-Q100	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125			•	•				
74HC2G17-Q100	Dual buffer Schmitt-trigger	2.0 - 6.0	± 5.2	12	-40 to 125			•	•				
74HCT2G17-Q100	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125			•	•				
74HC3G14-Q100	Triple inverter Schmitt-trigger	2.0 - 6.0	± 5.2	16	-40 to 125					•	•		
74HCT3G14-Q100	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	± 4.0	21	-40 to 125					•	•		
<b>74LVC1G14-Q100</b>	Single inverter Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40 to 125	•	•					•	•
74LVC1G17-Q100	Single buffer Schmitt-trigger	1.65 - 5.5	± 32	3.0	-40 to 125	•	•					•	
74LVC2G14-Q100	Dual inverter Schmitt-trigger	1.65 - 5.5	± 32	3.9	-40 to 125			•	•			•	
74LVC2G17-Q100	Dual buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40 to 125			•	•				
74LVC3G17-Q100	Triple buffer Schmitt-trigger	1.65 - 5.5	± 32	3.6	-40 to 125					•	•		

## Level shifters/Translators

Types in **bold** represent new products

Type number	Description	Features				Package (suffix)										
		V <sub>cc</sub> (A) (V)	V <sub>cc</sub> (B) (V)	I <sub>o</sub> (mA)	T <sub>amb</sub> (°C)	SOT353-1 (GW)	SOT363 (GW)	SOT753 (GV)	SOT505-2 (DP)	SOT765-1 (DC)	SOT552-1 (DP)	SOT833-1 (GT)	SOT886 (GM)	SOT1202 (GS)	SOT1203 (GS)	SOT1160-1 (GU)
<b>74AUP1T08-Q100</b>	Low-power 2-input AND gate with voltage-level translator	2.3 - 3.6	n.a	± 1.9	-40 to 125	•										
74AUP1T34-Q100	Single dual supply translating buffer	1.1 - 3.6	1.1 - 3.6	± 1.9	-40 to 125	•							•			
<b>74AUP1T97-Q100</b>	Low-power configurable gate with voltage-level translator	2.3 - 3.6	n.a	± 1.9	-40 to 125		•									
74AVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125		•						•	•		
74AVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	± 12	-40 to 125				•	•		•				
74AXP1T57-Q100	Dual-supply translating configurable multiple function gate, Schmitt-trigger inputs	0.7 - 2.75	1.2 - 5.5	± 12	-40 to 125					•						
74AXP2T08-Q100	Dual-supply 2-input AND gate	0.7 - 2.75	1.2 - 5.5	± 12	-40 to 125						•					
74LV1T04-Q100	Single supply translating inverter	1.6 - 5.5	n.a	± 8	-40 to 125	•										
74LV1T34-Q100	Single supply translating buffer	1.6 - 5.5	n.a	± 8	-40 to 125			•								
74LVC1T45-Q100	Single dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125		•						•	•		
74LVCH1T45-Q100	Single dual-supply voltage translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125		•						•	•		
74LVC2T45-Q100	Dual-bit dual-supply voltage level translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125					•		•			•	
74LVCH2T45-Q100	Dual-bit dual-supply voltage level translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	± 24	-40 to 125					•		•			•	
LSF0102-Q100	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	+64	-40 to 125					•	•					
NXB0102-Q100	2-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	± 0.02	-40 to 125					•						
NXS0102-Q100	2-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	-0.02/+1	-40 to 125					•						

## Buffers/Inverters/Drivers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74ABT04	Hex inverter	4.5 - 5.5	TTL	-15 / 20	50	2.2	100	-40 to 85
74ABT125	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.1	100	-40 to 85
74ABT126	Quad buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	3.0	100	-40 to 85
74ABT162244	16-bit buffer/line driver with 30 Ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	50	3.2	100	-40 to 85
74ABT16240A	16-bit inverter/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.0	150	-40 to 85
74ABT16244A	16-bit buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.1	150	-40 to 85
74ABT244	Octal buffer/line driver (3-state)	4.5 - 5.5	TTL	-32 / 64	50	2.9	100	-40 to 85
74AHC04	Hex inverter	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74AHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74AHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40 to 125
74AHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1G04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40 to 125
74AHC1G125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC1G126	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC1G14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1G17	Single buffer with Schmitt-trigger inputs	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC1GU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.6	60	-40 to 125
74AHC244	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74AHC2G125	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC2G126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC2G241	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
74AHC3G04	Triple inverter	2.0 - 5.5	CMOS	±8	50	3.1	60	-40 to 125
74AHC3G14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74AHC3GU04	Triple inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.5	60	-40 to 125
74AHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74AHC9541A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±8	15	3.4	60	-40 to 125
74AHCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT04A	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.1	60	-40 to 125
74AHCT07A	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	±8	15	4.0	60	-40 to 125
74AHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT14	Hex inverting; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT14A	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.7	60	-40 to 125
74AHCT17A	Hex buffer; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	15	3.2	60	-40 to 125
74AHCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT1G17	Single buffer with Schmitt-trigger inputs; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
74AHCT244A	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40 to 125
74AHCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHCT2G126	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT2G241	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
74AHCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74AHCT3G14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74AHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
74AHCT541A	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	15	3.5	60	-40 to 125
74AHCU04	Hex inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	2.4	60	-40 to 125
74AHCV05A	Hex inverter; Schmitt trigger; open-drain	2.0 - 5.5	CMOS	± 16	15	8.5	10	-40 to 125
74AHCV07A	Hex buffer; Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	15	3.8	60	-40 to 125
74AHCV14A	Hex inverter; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40 to 125
74AHCV17A	Hex buffer; Schmitt-trigger	1.8 - 5.5	CMOS	±16	15	3.2	60	-40 to 125
74AHCV244A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40 to 125
74AHCV541A	Octal buffer/line driver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	15	3.0	60	-40 to 125
74ALVC04	Hex inverter	1.65 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVC125	Quad buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	1.8	145	-40 to 85
74ALVC14	Hex inverter; Schmitt-trigger	1.65 - 3.6	TTL	±24	30	2.4	150	-40 to 85
74ALVC16244	16-bit buffer/line driver (3-state)	1.2 - 3.6	TTL	±24	50	1.9	150	-40 to 85
74ALVC244	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.9	130	-40 to 85
74ALVC541	Octal buffer/line driver (3-state)	1.65 - 3.6	TTL	±24	30	2.3	130	-40 to 85
74ALVCH162244	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.7	150	-40 to 85
74ALVCH16244	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	TTL	±24	30	1.9	150	-40 to 85
74ALVCH162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	30	2.9	150	-40 to 85
74ALVCH16825	18-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVCH16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	TTL	±24	30	2.0	150	-40 to 85
74ALVT16244	16-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.5	200	-40 to 85
74ALVT162827	20-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	LVTTTL	±12	50	2.2	75	-40 to 85
74ALVT16827	20-bit buffer/line driver with bus hold (3-state)	2.3 - 3.6	LVTTTL	-32 / 64	50	1.3	200	-40 to 85
74AUP1G04	Single inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40 to 125
74AUP1G06	Single inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40 to 125
74AUP1G07	Single buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40 to 125
74AUP1G125	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40 to 125
74AUP1G126	Single buffer/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.3	70	-40 to 125
74AUP1G14	Single inverter; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40 to 125
74AUP1G16	Single buffer	1.1 - 3.6	CMOS	±1.9	30	4.7	70	-40 to 125
74AUP1G240	Single inverter/line driver (3-state)	1.1 - 3.6	CMOS	±1.9	30	4.2	70	-40 to 125
74AUP1G34	Single buffer	1.1 - 3.6	CMOS	±1.9	30	3.9	70	-40 to 125
74AUP1GU04	Single inverter; unbuffered	1.1 - 3.6	CMOS	±1.9	30	2.3	70	-40 to 125
74AUP1T04	Single supply voltage-translating inverter	2.3 - 3.6	CMOS	±4	15	3.9	70	-40 to 125
74AUP1T14	Single supply voltage-translating inverter	2.3 - 3.6	CMOS	±4	15	3.6	70	-40 to 125
74AUP1T17	Single supply voltage-translating buffer	2.3 - 3.6	CMOS	±4	15	3.6	70	-40 to 125
74AUP1T50	Single supply voltage-translating buffer	2.3 - 3.6	CMOS	±4	15	3.6	70	-40 to 125
74AUP2G04	Dual inverter	1.1 - 3.6	CMOS	±1.9	30	4.0	70	-40 to 125
74AUP2G06	Dual inverter; open drain	1.1 - 3.6	CMOS	1.9	30	4.5	70	-40 to 125



## Buffers/Inverters/Drivers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AUP2G07	Dual buffer; open drain	1.1 - 3.6	CMOS	1.9	30	4.4	70	-40 to 125
74AUP2G125	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40 to 125
74AUP2G126	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.3	70	-40 to 125
74AUP2G14	Dual inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP2G16	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP2G17	Dual buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	7.8	70	-40 to 125
74AUP2G240	Dual inverter/line driver (3-state)	1.1 - 3.6	CMOS	+1.9	30	4.2	70	-40 to 125
74AUP2G241	Dual buffer/line driver (3-state)	1.1 - 3.6	CMOS	+ 1.9	30	4.3	70	-40 to 125
74AUP2G34	Dual buffer	1.1 - 3.6	CMOS	+1.9	30	3.9	70	-40 to 125
74AUP2GU04	Dual inverter; unbuffered	1.1 - 3.6	CMOS	+1.9	30	2.3	70	-40 to 125
74AUP3G04	Triple inverter	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40 to 125
74AUP3G14	Triple inverter; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AUP3G16	Triple buffer	1.1 - 3.6	CMOS	+1.9	30	4.0	70	-40 to 125
74AUP3G17	Triple buffer; Schmitt-trigger	1.1 - 3.6	CMOS	+1.9	30	4.7	70	-40 to 125
74AVC16244	16-bit buffer/line driver (3-state)	0.8 - 3.6	CMOS/LVTTL	-12	30	2.0	200	-40 to 85
74AVC1T1004	1-to-4 translating fan-out buffer	0.8 - 3.6	CMOS/LVTTL	±12	15	4.9	200	-40 to 125
74AVC4T3144	4-bit dual-supply buffer/level-translator (3-state)	0.8 - 3.6	CMOS/ LVTTL	±12	15	3.5	200	-40 to 125
74AVC9112	1-to-4 fan-out buffer	0.8 - 3.6	CMOS/LVTTL	±12	15	4.0	200	-40 to 125
74AVCH16244	16-bit buffer/line driver with bus hold (3-state)	0.8 - 3.6	CMOS/LVTTL	+12	30	2.0	200	-40 to 85
74AXP1G04	Single inverter	0.7 - 2.75	CMOS	+4.5	5	2.6	70	-40 to 85
74AXP1G06	Single inverter; open drain	0.7 - 2.75	CMOS	4.5	5	3.5	70	-40 to 85
74AXP1G07	Single buffer; open-drain	0.7 - 2.75	CMOS	4.5	5	3.5	70	-40 to 85
74AXP1G125	Single buffer/line driver (3-state)	0.7 - 2.75	CMOS	+4.5	5	2.7	70	-40 to 85
74AXP1G14	Single inverter; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.9	70	-40 to 85
74AXP1G17	Single buffer; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.8	70	-40 to 85
74AXP2G17	Dual buffer; Schmitt-trigger	0.7 to 2.75	CMOS	+4.5	5	2.8	70	-40 to 85
74AXP2G34	Dual buffer	0.7 to 2.75	CMOS	+4.5	5	2.5	70	-40 to 85
74AXP2G3404	Single buffer and Single inverter	0.7 to 2.75	CMOS	+4.5	5	2.5	70	-40 to 85
74HC04	Hex inverter	2.0 - 6.0	CMOS	+5.2	50	7.0	36	-40 to 125
74HC05	Hex inverter; open drain	2.0 - 6.0	CMOS	5.2	50	11	36	-40 to 125
74HC125	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC126	Quad buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC14	Hex inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+5.2	50	12	36	-40 to 125
74HC1G04	Single inverter	2.0 - 6.0	CMOS	+2.6	50	7.0	36	-40 to 125
74HC1G125	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40 to 125
74HC1G126	Single buffer/line driver (3-state)	2.0 - 6.0	CMOS	+2.6	50	9.0	36	-40 to 125
74HC1G14	Single inverter; Schmitt-trigger	2.0 - 6.0	CMOS	+2.6	50	10	36	-40 to 125
74HC1GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	+ 2.6	50	5.0	36	-40 to 125
74HC240	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC241	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	7.0	36	-40 to 125
74HC244	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	+7.8	50	9.0	36	-40 to 125
74HC2G04	Dual inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40 to 125
74HC2G125	Dual buffer/line driver (3-state)	2.0 - 6.0	CMOS	±5.2	50	10	36	-40 to 125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC2G14	Dual inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40 to 125
74HC2G17	Dual buffer; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	12	36	-40 to 125
74HC2G34	Dual buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC2GU04	Single inverter; unbuffered	2.0 - 6.0	CMOS	±2.6	50	5.0	36	-40 to 125
74HC365	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC366	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40 to 125
74HC367	Hex buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	8.0	36	-40 to 125
74HC368	Hex inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC3G04	Triple inverter	2.0 - 6.0	CMOS	±5.2	50	8.0	36	-40 to 125
74HC3G06	Triple inverter; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40 to 125
74HC3G07	Triple buffer; open drain	2.0 - 6.0	CMOS	5.2	50	9.0	36	-40 to 125
74HC3G14	Triple inverter; Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	16	36	-40 to 125
74HC3G16	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC3G34	Triple buffer	2.0 - 6.0	CMOS	±5.2	50	9.0	36	-40 to 125
74HC3GU04	Triple inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	6.0	36	-40 to 125
74HC540	Octal inverter/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	9.0	36	-40 to 125
74HC541	Octal buffer/line driver (3-state)	2.0 - 6.0	CMOS	±7.8	50	10	36	-40 to 125
74HC7014	Hex buffer; precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	50	27	36	-40 to 125
74HC7540	Octal inverter/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	11	36	-40 to 125
74HC7541	Octal buffer/line driver; Schmitt-trigger (3-State)	2.0 - 6.0	CMOS	±7.8	15	10	36	-40 to 125
74HC9114	9-bit inverter; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40 to 125
74HC9115	9-bit buffer; Schmitt-trigger; open-drain (3-state)	2.0 - 6.0	CMOS	5.2	15	12	36	-40 to 125
74HCT04	Hex inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	8.0	36	-40 to 125
74HCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40 to 125
74HCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	17	36	-40 to 125
74HCT1G04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±2	50	8.0	36	-40 to 125
74HCT1G125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40 to 125
74HCT1G126	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±2	50	10	36	-40 to 125
74HCT1G14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2	50	15	36	-40 to 125
74HCT240	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	9.0	36	-40 to 125
74HCT241	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT244	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT2G04	Dual inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125
74HCT2G125	Dual buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	12	36	-40 to 125
74HCT2G14	Dual inverter; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40 to 125
74HCT2G17	Dual buffer; Schmitt-trigger; TTL-enabled	4.5 to 5.5	TTL	±4	50	21	36	-40 to 125
74HCT2G34	Dual buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	32	-40 to 125
74HCT365	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT366	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT367	Hex buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT368	Hex inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT3G04	Triple inverter; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HCT3G06	Triple inverter; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40 to 125
74HCT3G07	Triple buffer; open drain; TTL-enabled	4.5 - 5.5	TTL	4	50	9.0	36	-40 to 125
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	50	21	36	-40 to 125
74HCT3G16	Triple buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125
74HCT3G34	Triple buffer; TTL-enabled	4.5 - 5.5	TTL	±4	50	10	36	-40 to 125
74HCT540	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	11	36	-40 to 125
74HCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	12	36	-40 to 125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40 to 125
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-State)	4.5 - 5.5	TTL	±6	15	16	36	-40 to 125
74HCT9114	9-bit inverter Schmitt-trigger; open-drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	15	13	36	-40 to 125
74HCU04	Hex inverter; unbuffered	2.0 - 6.0	CMOS	±5.2	50	5.0	36	-40 to 125
74LV04	Hex inverter	1.0 - 5.5	CMOS	±12	50	6.0	30	-40 to 125
74LV04AT	Hex buffer	4.5 - 5.5	TTL	±12	15	3.3	60	-40 to 125
74LV05A	Hex inverter; open-drain	2.0 - 5.5	CMOS	12	15	2.9	60	-40 to 125
74LV07A	Hex buffer; open-drain	2.0 - 5.5	CMOS	16	15	3.6	60	-40 to 125
74LV07AT	Hex buffer; open-drain; TTL-enabled	4.5 - 5.5	TTL	16	15	3.5	60	-40 to 125
74LV14	Hex inverter; Schmitt-trigger	1.0 - 5.5	TTL	±12	50	13	30	-40 to 125
74LV14A	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40 to 125
74LV17A	Hex buffer; Schmitt-trigger	2.0 - 5.5	CMOS	±12	15	3.4	60	-40 to 125
74LV1T04	Single supply translating inverter	1.6 - 5.5	CMOS	±8	15	3.1	60	-40 to 125
74LV1T34	Single supply translating buffer	1.6 - 5.5	CMOS	±8	15	3.1	60	-40 to 125
74LV1T125	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	CMOS	±8	15	3.2	60	-40 to 125
74LV1T126	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	CMOS	±8	15	3.2	60	-40 to 125
74LV244	Octal buffer/line driver (3-state)	1.0 - 5.5	CMOS	±16	50	8.0	30	-40 to 125
74LV244A	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40 to 125
74LV244AT	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40 to 125
74LV365	Hex buffer/line driver (3-state)	1.0 - 3.6	CMOS	±8	50	9.0	30	-40 to 125
74LV540A	Octal buffer/line driver (3-state); inverting	1.65 - 5.5	CMOS/LVTTL	±16	15	3.1	60	-40 to 125
74LV541A	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±16	15	2.9	60	-40 to 125
74LV541AT	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	15	2.8	60	-40 to 125
74LVC04A	Hex inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC06A	Hex inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125
74LVC07A	Hex buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125
74LVC125A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40 to 125
74LVC126A	Quad buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	175	-40 to 125
74LVC14A	Hex inverter; Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	50	3.2	175	-40 to 125
74LVC162244A	16-bit buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40 to 125
74LVC16240A	16-bit inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVC16241A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.9	175	-40 to 125
74LVC16244A	16-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40 to 125
74LVC1G04	Single inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40 to 125
74LVC1G06	Single inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40 to 125
74LVC1G07	Single buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.2	175	-40 to 125

## Buffers/Inverters/Drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load CL (pF)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVC1G125	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.1	175	-40 to 125
74LVC1G126	Single buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.0	175	-40 to 125
74LVC1G14	Single inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40 to 125
74LVC1G16	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC1G17	Single buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.0	175	-40 to 125
74LVC1G34	Single buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC1GU04	Single inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	1.6	175	-40 to 125
74LVC244A	Octal buffer/line driver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	3.1	175	-40 to 125
74LVC240A	Octal inverter/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.5	175	-40 to 125
74LVC244A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40 to 125
74LVC2G04	Dual inverter	1.65 - 5.5	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVC2G06	Dual inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.3	175	-40 to 125
74LVC2G07	Dual buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.6	175	-40 to 125
74LVC2G125	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC2G126	Dual buffer/line driver; TTL-enabled (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.4	175	-40 to 125
74LVC2G14	Dual inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.9	175	-40 to 125
74LVC2G16	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC2G17	Dual buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40 to 125
74LVC2G240	Dual inverter/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.5	175	-40 to 125
74LVC2G241	Dual buffer/line driver (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	50	2.6	175	-40 to 125
74LVC2G34	Dual buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40 to 125
74LVC2GU04	Dual inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC3G04	Triple inverter	1.65 - 5.5	CMOS/LVTTL	±32	50	2.7	175	-40 to 125
74LVC3G06	Triple inverter; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.0	175	-40 to 125
74LVC3G07	Triple buffer; open drain	1.65 - 5.5	CMOS/LVTTL	32	50	2.1	175	-40 to 125
74LVC3G14	Triple inverter; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.2	175	-40 to 125
74LVC3G16	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVC3G17	Triple buffer; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	50	3.6	175	-40 to 125
74LVC3G34	Triple buffer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	175	-40 to 125
74LVC3GU04	Triple inverter; unbuffered	1.65 - 5.5	CMOS/LVTTL	±32	50	2.3	175	-40 to 125
74LVC541A	Octal buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.3	175	-40 to 125
74LVC827A	10-bit buffer/line driver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	4.0	175	-40 to 125
74LVCH162244A	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	50	2.9	175	-40 to 125
74LVCH16244A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	3.0	175	-40 to 125
74LVCH16541A	16-bit buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.7	175	-40 to 125
74LVCH244A	Octal buffer/line driver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.8	175	-40 to 125
74LVCU04A	Hex inverter; unbuffered	1.2 - 3.6	CMOS/LVTTL	±24	50	2.0	175	-40 to 125
74LVT04	Hex inverter	2.7 - 3.6	TTL	-20 / 32	50	2.6	150	-40 to 85
74LVT125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40 to 85
74LVT126	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.4	150	-40 to 85
74LVT14	Hex inverter; Schmitt-trigger	2.7 - 3.6	TTL	-32 / 64	50	3.8	150	-40 to 85

## Buffers/Inverters/Drivers

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74LVT162240A	16-bit inverter/line driver with bus hold and 30 Ω termination (3-state)	2.7 - 3.6	TTL	±12	50	2.6	150	-40 to 85
74LVT162244B	16-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.8	150	-40 to 85
74LVT16240A	16-bit inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVT16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74LVT2241	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	3.3	150	-40 to 85
74LVT2244	Octal buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	50	2.9	150	-40 to 85
74LVT240	Octal inverter/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.5	150	-40 to 85
74LVT241	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.8	150	-40 to 85
74LVT244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40 to 85
74LVT244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVTH125	Quad buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.9	150	-40 to 85
74LVTH16244B	16-bit buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74LVTH244A	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.6	150	-40 to 85
74LVTH244B	Octal buffer/line driver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	50	2.0	150	-40 to 85
74LVTN16244B	16-bit buffer/line driver (3-state)	2.7 - 3.6	TTL	-32 / 64	50	1.8	150	-40 to 85
74VHC125	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.0	60	-40 to 125
74VHC126	Quad buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.3	60	-40 to 125
74VHC14	Hex inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
74VHC244	Octal inverter/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74VHC541	Octal buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
74VHCT125	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74VHCT126	Quad buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.0	60	-40 to 125
74VHCT14	Hex inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
74VHCT244	Octal inverter/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	5.0	60	-40 to 125
74VHCT541	Octal buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
HEF40098B	Hex inverter	3.0 - 15.0	CMOS	-10 / 20	50	25	10	-40 to 125
HEF40244B	Octal buffer/line driver (3-state)	3.0 - 15.0	CMOS	-62 / 45	50	30	10	-40 to 125
HEF4049B	Hex inverter/line driver	3.0 - 15.0	CMOS	-3 / 20	50	20	10	-40 to 125
HEF4050B	Hex buffer/line driver	3.0 - 15.0	CMOS	-3 / 20	50	40	10	-40 to 125
HEF4069UB	Hex inverter; unbuffered	3.0 - 15.0	CMOS	±3.4	50	15	10	-40 to 125
PDI1284P11	Printer parallel interface transceiver/buffer	3.0 - 3.6	LVTTTL	±14	50	13.9		0 to 70
XC7SET04	Single inverter; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.5	60	-40 to 125
XC7SET125	Single buffer/line driver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.4	60	-40 to 125
XC7SET14	Single inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125
XC7SH04	Single inverter	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
XC7SH125	Single buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
XC7SH14	Single inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
XC7SHU04	Single inverter; unbuffered	2.0 - 5.5	CMOS	±8	50	3.5	60	-40 to 125
XC7WH126	Dual buffer/line driver (3-state)	2.0 - 5.5	CMOS	±8	50	3.4	60	-40 to 125
XC7WH14	Triple inverter; Schmitt-trigger	2.0 - 5.5	CMOS	±8	50	3.2	60	-40 to 125
XC7WT14	Triple inverter; Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	50	4.1	60	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40 to 125
74AHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40 to 125
74AHC1G14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC1G17	Single buffer Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC3G14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40 to 125
74AHCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40 to 125
74AHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	60	6	-40 to 125
74AHCT17A	Hex buffer Schmitt-trigger	4.5 - 5.5	TTL	±8	3.2	50	60	8	-40 to 125
74AHCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
74AHCT1G17	Single buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
74AHCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40 to 125
74AHCV05A	Hex inverter; Schmitt trigger; open-drain	2.0 - 5.5	CMOS	±16	5.8	15	10	6	-40 to 125
74AHCV07A	Hex buffer Schmitt-trigger; open-drain	1.8 - 5.5	CMOS	16	3.8	15	60	6	-40 to 125
74AHCV14A	Hex inverter Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40 to 125
74AHCV17A	Hex buffer Schmitt-trigger	1.8 - 5.5	CMOS	±16	3.2	15	60	6	-40 to 125
74AHCV244A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40 to 125
74AHCV245A	Octal transceiver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	15	60	8	-40 to 125
74AHCV541A	Octal buffer/line driver Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.0	15	60	8	-40 to 125
74ALVC14	Hex inverter Schmitt-trigger	1.65 - 3.6	TTL	±24	2.4	50	150	6	-40 to 85
74AUP1G132	Single 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10.0	30	70	1	-40 to 125
74AUP1G14	Single inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	1	-40 to 125
74AUP1G17	Single buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	1	-40 to 125
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	1	-40 to 125
74AUP2G132	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40 to 125
74AUP2G14	Dual inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	4.7	30	70	2	-40 to 125
74AUP2G17	Dual buffer Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	7.8	30	70	2	-40 to 125
74AUP2G58	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40 to 125
74AUP2G97	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	2	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP2G98	Dual configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	2	-40 to 125
74AUP3G14	Triple inverter Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40 to 125
74AUP3G17	Triple Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	2.4	30	70	3	-40 to 125
74AXP1G14	Single inverter Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.9	5	70	1	-40 to 85
74AXP1G17	Single buffer Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.8	5	70	1	-40 to 85
74AXP1G57	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.6	5	70	1	-40 to 85
74AXP1G58	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74AXP1G97	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74AXP1G98	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74AXP1T14	Dual-supply Schmitt-trigger inverter	0.75 - 2.75	CMOS	±12	4.9	5	45	1	-40 to 125
74AXP1T57	Single dual-supply translating configurable gate; Schmitt-trigger inputs	0.75 - 2.75	CMOS	±12	4.8	5	45	1	-40 to 125
74AXP2G14	Dual inverter Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.9	5	70	2	-40 to 85
74AXP2G17	Dual buffer Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	2.8	5	70	1	-40 to 85
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HC14	Hex inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	6	-40 to 125
74HC1G14	Single inverter Schmitt-trigger	2.0 - 6.0	CMOS	±2.6	10	50	36	1	-40 to 125
74HC2G14	Dual inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	2	-40 to 125
74HC2G17	Dual buffer Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	12	50	36	2	-40 to 125
74HC3G14	Triple inverter Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	16	50	36	3	-40 to 125
74HC7014	Hex buffer precision Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	27	50	36	6	-40 to 125
74HC7540	Octal inverter/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40 to 125
74HC7541	Octal buffer/line driver Schmitt-trigger (3-state)	2.0 - 6.0	CMOS	±7.8	11	50	36	8	-40 to 125
74HC9114	9-bit inverter Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5.2	12	50	36	9	-40 to 125
74HC9115	9-bit buffer Schmitt-trigger; open drain (3-state)	2.0 - 6.0	CMOS	5.2	12	50	36	9	-40 to 125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40 to 125
74HCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	6	-40 to 125
74HCT1G14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±2.0	15	50	36	1	-40 to 125
74HCT2G14	Dual inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40 to 125
74HCT2G17	Dual buffer Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	2	-40 to 125
74HCT3G14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4.0	21	50	36	3	-40 to 125
74HCT7540	Octal inverter/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40 to 125

## Schmitt-triggers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74HCT7541	Octal buffer/line driver Schmitt-trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	16	50	36	8	-40 to 125
74HCT9114	9-bit inverter Schmitt-trigger; open drain; TTL-enabled (3-state)	4.5 - 5.5	TTL	4	13	50	36	9	-40 to 125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40 to 125
74LV14	Hex inverter Schmitt-trigger	1.0 - 5.5	TTL	±12	13	50	30	6	-40 to 125
74LV14A	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±12	3.4	15	60	6	-40 to 125
74LV7032A	Quad 2-input OR gate; Schmitt trigger	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	175	4	-40 to 125
74LVC14A	Hex inverter Schmitt-trigger	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	175	6	-40 to 125
74LVC1G14	Single inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40 to 125
74LVC1G17	Single buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.0	50	175	1	-40 to 125
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	8.4	50	150	1	-40 to 125
74LVC2G14	Dual inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.9	50	175	2	-40 to 125
74LVC2G17	Dual buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	2	-40 to 125
74LVC3G14	Triple inverter Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.2	50	175	3	-40 to 125
74LVC3G17	Triple buffer Schmitt-trigger	1.65 - 5.5	CMOS/LVTTL	±32	3.6	50	175	3	-40 to 125
74LVT14	Hex inverter Schmitt-trigger	2.7 - 3.6	TTL	±32	3.8	50	150	6	-40 to 125
74VHC14	Hex inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	6	-40 to 125
74VHCT14	Hex inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	6	-40 to 125
HEF40106B	Hex inverter Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	6	-40 to 85
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 125
XC7SET14	Single inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	1	-40 to 125
XC7SH14	Single inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
XC7WH14	Triple inverter Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.2	50	60	3	-40 to 125
XC7WT14	Triple inverter Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.1	50	60	3	-40 to 125



## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>vj</sub> (°C)
74ABT162245A	16-bit transceiver with 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	100	-40 to 85
74ABT16245B	16-bit transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.3	16	150	-40 to 85
74ABT245	Octal transceiver (3-state)	4.5 - 5.5	TTL	-32 / 64	2.9	8	100	-40 to 85
74ABTH162245A	16-bit transceiver with bus hold and 30 ohm termination resistors (3-state)	4.5 - 5.5	TTL	-32 / 12	3.0	16	80	-40 to 85
74AHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40 to 125
74AHC245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40 to 125
74AHC245A	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.0	8	60	-40 to 125
74AHCV245A	Octal transceiver; Schmitt-trigger (3-state)	1.8 - 5.5	CMOS	±16	3.2	8	60	-40 to 125
74ALVC16245	16-bit transceiver (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40 to 85
74ALVC245	Octal transceiver (3-state)	1.65 - 3.6	TTL	±24	2.3	8	130	-40 to 85
74ALVCH162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±12	2.4	16	150	-40 to 85
74ALVCH16245	16-bit transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	1.9	16	150	-40 to 85
74ALVCH162601	18-bit universal bus transceiver with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±12	3.1	18	150	-40 to 85
74ALVCH16500	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.9	18	150	-40 to 85
74ALVCH16501	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16543	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.8	16	150	-40 to 85
74ALVCH16600	18-bit universal bus transceiver with bus hold; negative edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16601	18-bit universal bus transceiver with bus hold; positive edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.8	18	150	-40 to 85
74ALVCH16646	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40 to 85
74ALVCH16652	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	2.6	16	150	-40 to 85
74ALVCH16952	16-bit registered transceiver with bus hold (3-state)	1.65 - 3.6	TTL	±24	3.2	16	150	-40 to 85
74ALVT162245	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	2.3	16	75	-40 to 85
74AVC16245	16-bit transceiver (3-state)	1.2 - 3.6	CMOS	±12	2.0	16	200	-40 to 85
74AVC4T774	4-bit dual supply translating transceiver (3-state)	0.8 - 3.6	CMOS/LVTTL	±12	3.5	4	200	-40 to 125
74AVCH16245	16-bit transceiver with bus hold (3-state)	1.2 - 3.6	CMOS	±12	2.0	16	200	-40 to 85
74HC245	Octal transceiver (3-state)	2.0 - 6.0	CMOS	±7.8	7.0	8	36	-40 to 125
74HCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	10	8	36	-40 to 125
74LV245	Octal transceiver (3-state)	1.0 - 5.5	TTL	±16	7.0	8	30	-40 to 125
74LV245A	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±16	3	8	60	-40 to 125
74LV245AT	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±16	3	8	60	-40 to 125
74LVC162245A	16-bit transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	16	175	-40 to 125
74LVC16245A	16-bit transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	16	175	-40 to 125
74LVC2245A	Octal transceiver with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	8	175	-40 to 125
74LVC245A	Octal transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.9	8	175	-40 to 125
74LVC32245A	32-bit transceiver (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.2	32	175	-40 to 125
74LVCH162245A	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.3	16	175	-40 to 125
74LVCH16245A	16-bit transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	16	175	-40 to 125
74LVCH245A	Octal transceiver with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	2.9	8	175	-40 to 125

## Transceivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Number of bits	f <sub>max</sub> (MHz)	T <sub>vj</sub> (°C)
74LVT162245B	16-bit transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	2.5	16	150	-40 to 85
74LVT16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2.2	16	150	-40 to 85
74LVT16543A	16-bit registered transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	2	16	150	-40 to 85
74LVT2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40 to 85
74LVT245	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40 to 85
74LVT245B	Octal transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	2	8	150	-40 to 85
74LVT640	Octal transceiver with bus hold; inverting (3-state)	2.7 - 3.6	TTL	-32 / 64	2.4	8	150	-40 to 85
74LVTH16245B	16-bit transceiver with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74LVTH2245	Octal transceiver with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	3.2	8	150	-40 to 85
74LVTN16245B	16-bit transceiver (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	16	150	-40 to 85
74VHC245	Octal transceiver (3-state)	2.0 - 5.5	CMOS	±8	3.5	8	60	-40 to 125
74VHCT245	Octal transceiver; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	5.0	8	60	-40 to 125

## Voltage translators (level-shifters)

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74ALVC164245	16-bit dual-supply voltage-translating transceiver (3-state)	1.5 - 5.5	1.5 - 3.6	CMOS/LVTTL	±24	2.9	50	16	-40 to 85
74AUP1T00	Single supply 2-input voltage-translating NAND gate	2.3 - 3.6	n.a.	CMOS	±4	3.7	15	1	-40 to 125
74AUP1T02	Single supply 2-input voltage-translating NOR gate	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T04	Single supply voltage-translating inverter	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T08	Single supply 2-input voltage-translating AND gate	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T14	Single supply voltage-translating inverter	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T17	Single supply voltage-translating buffer	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T32	Single supply 2-input voltage-translating OR gate	2.3 - 3.6	n.a.	CMOS	±4	3.6	15	1	-40 to 125
74AUP1T34	Single dual-supply translating buffer	1.1 - 3.6	1.1 - 3.6	CMOS	±4	3.9	15	1	-40 to 125
74AUP1T45	Single dual-supply voltage-translating transceiver (3-state)	1.1 - 3.6	1.1 - 3.6	CMOS	±4	4.5	15	1	-40 to 125
74AUP1T50	Single supply voltage-translating buffer	2.3 - 3.6	n.a.	CMOS	±4	8.7	15	1	-40 to 125
74AUP1T57	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T58	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T86	Single supply 2-input voltage-translating XOR gate	2.3 - 3.6	n.a.	CMOS	±4	8.7	15	1	0
74AUP1T87	Single supply 2-input voltage-translating XNOR gate	2.3 - 3.6	n.a.	CMOS	±4	8.7	15	1	-40 to 125
74AUP1T97	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AUP1T98	Configurable gate with voltage-level translation	2.3 - 3.6	n.a.	CMOS	±4	3.8	15	1	-40 to 125
74AVC1T1004	1-to-4 fan-out buffer	0.8 - 3.6	n.a.	CMOS/LVTTL	±12	4.9	15	1	-40 to 125

## Voltage translators (level-shifters)

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74AVC1T8128	Single dual-supply translating 2-input NOR with enable	0.8 - 3.6	n.a.	CMOS/ LVTTTL	±12	2.4	15	1	-40 to 125
74AVC1T8832	Single dual-supply translating 2-input OR with strobe	0.8 - 3.6	n.a.	CMOS/ LVTTTL	±12	2.4	15	1	-40 to 125
74AVC16T245	16-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	16	-40 to 125
74AVC1T1022	1-to-4 fan out buffer	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	1	-40 to 125
74AVC1T45	Single dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	1	-40 to 125
74AVC20T245	20-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	3.5	30	20	-40 to 125
74AVC2T245	2-bit dual-supply voltage-translating transceiver	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	2	-40 to 125
74AVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	2	-40 to 125
74AVC4T245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	4	-40 to 125
74AVC4T774	4-bit dual supply translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	3.5	15	4	-40 to 125
74AVC4T3144	4-bit dual-supply buffer/level-translator (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	3.5	15	4	-40 to 125
74AVC4TD245	4-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	4	-40 to 125
74AVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	8	-40 to 125
74AVCH16T245	16-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	16	-40 to 125
74AVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	1	-40 to 125
74AVCH20T245	20-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	3.5	30	20	-40 to 125
74AVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	2	-40 to 125
74AVCH4T245	4-bit dual-supply voltage-translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS/ LVTTTL	±12	2.1	30	4	-40 to 125
74AVCH8T245	8-bit dual-supply voltage translating transceiver with bus hold (3-state)	0.8 - 3.6	0.8 - 3.6	CMOS	±12	2.1	15	8	-40 to 125
74AXP1T125	Dual-supply buffer/line driver (3-state)	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.4	5	1	-40 to 85
74AXP1T14	Dual-supply schmitt-trigger inverter	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.6	5	1	-40 to 85
74AXP1T32	Dual-supply 2-input or gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.4	5	1	-40 to 85
74AXP1T34	Single dual-supply voltage-translating buffer	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.4	5	1	-40 to 85
74AXP1T45	1-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	5.1	5	1	-40 to 125
74AXP1T57	Schmitt-trigger inputs. Dual supply configurable multiple function gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.8	5	1	-40 to 85
74AXP2T08	Dual-supply 2-input AND gate	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.9	5	1	-40 to 85
74AXP2T3407	Dual-supply single buffer and single buffer with open drain	0.7 - 2.75	1.2 - 5.5	CMOS	±12	4.2	5	1	-40 to 85
74AXP2T45	2-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	5.1	5	2	-40 to 125
74AXP4T245	4-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	5.1	5	4	-40 to 125
74AXP8T245	8-bit dual supply translating transceiver; 3-state	0.9 - 5.5	0.9 - 5.5	CMOS	±12	5.1	5	8	-40 to 125
74HC4049	Hex inverter with 15 V-tolerant inputs	2.0 - 6.0	n.a.	CMOS	±5.2	8.0	50	6	-40 to 125
74HC4050	Hex buffer with 15 V-tolerant inputs	2.0 - 6.0	n.a.	CMOS	±5.2	7.0	50	6	-40 to 125
74LV1T00	Single supply 2-input translating NAND gate	1.6 - 5.5	n.a.	CMOS	±8	3.1	15	1	-40 to 125
74LV1T02	Single supply 2-input translating NOR gate	1.6 - 5.5	n.a.	CMOS	±8	3.1	15	1	-40 to 125
74LV1T04	Single supply translating inverter	1.6 - 5.5	n.a.	CMOS	±8	4.1	15	1	-40 to 125

## Voltage translators (level-shifters)

Type number	Description	V <sub>CC(A)</sub> (V)	V <sub>CC(B)</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74LV1T08	Single supply 2-input translating AND gate	1.6 - 5.5	n.a.	CMOS	±8	4.1	15	1	-40 to 125
74LV1T32	Single supply 2-input translating OR gate	1.6 - 5.5	n.a.	CMOS	±8	3.2	15	1	-40 to 125
74LV1T34	Single supply translating buffer	1.6 - 5.5	n.a.	CMOS	±8	3.1	15	1	-40 to 125
74LV1T86	Single supply 2-input translating XOR gate	1.6 - 5.5	n.a.	CMOS	±8	3.4	15	1	-40 to 125
74LV1T87	Single supply 2-input translating XNOR gate	1.6 - 5.5	n.a.	CMOS	±8	3.4	15	1	-40 to 125
74LV1T125	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	n.a.	CMOS	±8	3.2	15	1	-40 to 125
74LV1T126	Single supply translating buffer / line driver (3-state)	1.6 - 5.5	n.a.	CMOS	±8	2.9	15	1	-40 to 125
74LVC1T45	Single dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	1	-40 to 125
74LVC2T45	Dual-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	2	-40 to 125
74LVC4245	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
74LVC4245A	8-bit dual-supply voltage translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
74LVC8T245	8-bit dual-supply voltage-translating transceiver (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
74LVC8T595	Dual supply 8-bit serial-in/serial-out or parallel-out shift register; 3-state	1.1 - 5.5	1.1 - 5.5	CMOS/ LVTTTL	±24	4.1	15	8	-40 to 125
74LVCH1T45	Single dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	1	-40 to 125
74LVCH2T45	Dual-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	2.5	50	2	-40 to 125
74LVCH8T245	8-bit dual-supply voltage-translating transceiver with bus hold (3-state)	1.2 - 5.5	1.2 - 5.5	CMOS/ LVTTTL	±24	3.5	50	8	-40 to 125
HEF4104B	Quad low-to-high voltage translator (3-state)	3.0 - 15	3.0 - 15	CMOS	±2.4	3.4	50	16	-40 to 85
LSF0101	1-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.7	30	1	-40 to 125
LSF0102	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.7	30	2	-40 to 125
LSF0204	4-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.6	30	4	-40 to 125
LSF0108	8-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	1.4	30	8	-40 to 125
NCA9306	2-bit bidirectional multi-voltage level translator; open-drain; push-pull	0.95 - 5.0	0.95 - 5.0	CMOS	+64	0.7	30	2	-40 to 125
NXB0101	1-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	1	-40 to 125
NXB0102	2-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	2	-40 to 125
NXB0104	4-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	4	-40 to 125
NXB0108	8-bit Dual supply translating transceiver; auto direction sensing; 3-state	1.2 - 3.6	1.65 - 5.5	CMOS	± 0.02	5.5	15	8	-40 to 125
NXS0101	1-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	-0.02/+1	4.7	15	1	-40 to 125
NXS0102	2-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	-0.02/+1	5.2	15	2	-40 to 125
NXS0104	4-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	-0.02/+1	6	15	4	-40 to 125
NXS0108	8-bit Dual supply translating transceiver; open drain; auto direction sensing	1.65 - 3.6	2.3 - 5.5	CMOS	-0.02/+1	6.3	15	8	-40 to 125

## Analog Switches

Types in **bold** represent new products

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	R <sub>ON(FLAT)</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	T <sub>HD</sub> (%)	X <sub>talk</sub> (dB)	T <sub>amb</sub> (°C)
74AHC1G66	Single-pole, single-throw analog switch	2.0 - 5.5	CMOS	40	14	280	0.015		-40 to 125
74AHCT1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	40	14	280	0.015		-40 to 125
74HC1G66	Single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02		-40 to 125
74HC2G66	Dual single-pole, single-throw analog switch	2.0 - 9.0	CMOS	105	23	200	0.02	-60	-40 to 125
74HC4016	Quad single-pole, single-throw analog switch	2.0 - 10	CMOS	300	80	160	0.4	-60	-40 to 125
74HC4051	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02		-40 to 125
74HC4052	Dual single-pole, quad-throw analog switch	2.0 - 10	CMOS	200	20	180	0.02	-60	-40 to 125
74HC4053	Triple single-pole, double-throw analog switch	2.0 - 10	CMOS	200	20	170	0.02		-40 to 125
74HC4066	Quad single-pole, single-throw analog switch	2.0 - 10	CMOS	105	23	200	0.02	-60	-40 to 125
74HC4067	Single-pole, 16-throw analog switch	2.0 - 10	CMOS	200	25	100	0.02		-40 to 125
74HC4316	Quad single-pole, single-throw analog switch with translation	2.0 - 10	CMOS	300	80	160	0.4	-60	-40 to 125
74HC4351	Single-pole, octal-throw analog switch with latch	2.0 - 10	CMOS	200	20	180	0.02		-40 to 125
74HC4851	Single-pole, octal-throw analog switch	2.0 - 10	CMOS	220					-40 to 125
74HC4852	Dual single-pole, quad-throw analog switch; TTL-enabled	2.0 - 10	CMOS	220					-40 to 125
74HCT1G66	Single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04		-40 to 125
74HCT2G66	Dual single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40 to 125
74HCT4051	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40 to 125
74HCT4052	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04	-60	-40 to 125
74HCT4053	Triple single-pole, double-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	20	160	0.04		-40 to 125
74HCT4066	Quad single-pole, single-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	118	23	180	0.04	-60	-40 to 125
74HCT4067	Single-pole, 16-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	225	25	90	0.04		-40 to 125
74HCT4316	Quad single-pole, single-throw analog switch with translation; TTL-enabled	4.5 - 5.5	TTL	400	50	150	0.8	-60	-40 to 125
74HCT4351	Single-pole, octal-throw analog switch with latch; TTL-enabled	4.5 - 5.5	TTL	225	20	170	0.04		-40 to 125
74HCT4851	Single-pole, octal-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40 to 125
74HCT4852	Dual single-pole, quad-throw analog switch; TTL-enabled	4.5 - 5.5	TTL	240					-40 to 125
74LV4051	Single-pole, octal-throw analog switch	1.0 - 6.0	TTL	135	35	200	0.4	-60	-40 to 125
74LV4052	Dual single-pole, quad-throw analog switch	1.0 - 6.0	TTL	125	15	180	0.4	-60	-40 to 125
74LV4053	Triple single-pole, double-throw analog switch	1.0 - 6.0	TTL	150	30	180	0.4	-60	-40 to 125
74LV4066	Quad single-pole, single-throw analog switch	1.0 - 6.0	TTL	50	3.0	180	0.02	-60	-40 to 125
74LVC1G3157	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC1G384	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.001		-40 to 125
74LVC1G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC1G66	Single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.001		-40 to 125
74LVC2G3157	Dual single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078	-54	-40 to 125
74LVC2G53	Single-pole, double-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	300	0.078		-40 to 125
74LVC2G66	Dual single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.005	-56	-40 to 125
74LVC4066	Quad single-pole, single-throw analog switch	1.65 - 5.5	CMOS/LVTTL	15	1.5	440	0.005	-58	-40 to 125
74LVCV2G66	Dual single-pole, single-throw analog switch; overvoltage tolerant	2.3 - 5.5	CMOS/LVTTL	15	3.0	210	0.01	-55	-40 to 125
HEF4016B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	350	65	90	0.04	-50	-40 to 85
HEF4051B	Single-pole, octal-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4052B	Dual single-pole, quad-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4053B	Triple single-pole, double-throw analog switch	3.0 - 15	CMOS	175	30	70	0.04	-50	-40 to 85
HEF4066B	Quad single-pole, single-throw analog switch	3.0 - 15	CMOS	175	20	90	0.04	-50	-40 to 85
<b>HEF4067B</b>	Single-pole, 16-throw analog switch	3.0 - 15	CMOS	175	20	13	0.04	-50	-40 to 85
XS3A1T5157	Low-ohmic single-pole double-throw analog switch	1.4 - 4.3	CMOS	0.5	0.2	40	0.03	-90	-40 to 125
XS3A1T3157	Low-ohmic single-pole double-throw analog switch	1.4 - 4.3	CMOS	0.5	0.2	40	0.03	-90	-40 to 125
HEF4067B	Single-pole, 16-throw analog switch	4.5 - 5.5	CMOS	4	0.9	190	0.04	-76	-40 to 125

## Bus Switches

Type number	Description	V <sub>CC</sub> (V)	V <sub>PASS</sub> (V)	Logic switching levels	R <sub>ON</sub> (Ω)	f <sub>(-3dB)</sub> (MHz)	Number of bits	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74CB3Q3253	Dual 1-of-4 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	VCC	CMOS/LVTTL	4	500	2	0.2	-40 to 85
74CB3Q3257	Quad 1-of-2 FET multiplexer/demultiplexer with charge pump	2.3 - 3.6	VCC	CMOS/LVTTL	4	500	4	0.2	-40 to 85
74CBTLV16211	24-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLV1G125	Single bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	1	0.2	-40 to 125
74CBTLV3125	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
74CBTLV3126	Quad bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
74CBTLV3244	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLV3245	Octal bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLV3253	Dual 4:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	2	0.2	-40 to 125
74CBTLV3257	Quad 2:1 mux/demux	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	4	0.2	-40 to 125
74CBTLV3306	2-bit bus switch	2.3 - 3.6	5.0	CMOS/LVTTL	7	400	2	0.2	-40 to 125
74CBTLV3384	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLV3861	10-bit bus switch	2.3 - 3.6	3.3	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLVD3244	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLVD3245	Octal bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	8	0.2	-40 to 125
74CBTLVD3384	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40 to 125
74CBTLVD3861	10-bit bus switch level translator	3.0 - 3.6	1.8	CMOS/LVTTL	7	400	10	0.2	-40 to 125
CBT16210	20-bit bus switch	4.5 - 5.5	3.9	TTL	7	300	20	0.25	-40 to 85
CBT3125	Quad bus switch	4.5 - 5.5	3.9	TTL	7	300	4	0.25	-40 to 85
CBT3244A	Octal bus switch	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40 to 85
CBT3245A	Octal bus switch	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40 to 85
CBT3251	8:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	8	0.25	-40 to 85
CBT3253	Dual 4:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40 to 85
CBT3253A	Dual 4:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40 to 85
CBT3257A	Quad 2:1 mux/demux	4.5 - 5.5	3.9	TTL	7	300	4	0.25	-40 to 85
CBT3306	Dual bus switch	4.5 - 5.5	3.9	TTL	7	300	2	0.25	-40 to 85
CBT3861	10-bit bus switch	4.5 - 5.5	3.9	TTL	7	300	10	0.25	-40 to 85
CBTD16210	20-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	20	0.25	-40 to 85
CBTD3306	Dual bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	2	0.25	-40 to 85
CBTD3384	10-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	10	0.25	-40 to 85
CBTD3861	10-bit bus switch level translator	4.5 - 5.5	3.3	TTL	7	300	10	0.25	-40 to 85

## Decoders/Demultiplexers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 5.5	CMOS	±8	4.4	50	-40 to 125
74AHC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 5.5	CMOS	±8	3.9	50	-40 to 125
74AHCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±8	4.4	50	-40 to 125
74AHCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	-40 to 125
74AUP1G18	1-to-2 demultiplexer (3-state)	1.1 - 3.6	CMOS	±1.9	3.2	30	-40 to 125
74AUP1G19	1-to-2 decoder/demultiplexer	1.1 - 3.6	CMOS	±1.9	3.0	30	-40 to 125
74HC137	3-to-8 line decoder/demultiplexer with address latches; inverting	2.0 - 6.0	CMOS	±5.2	18	50	-40 to 125
74HC138	3-to-8 line decoder/demultiplexer; inverting	2.0 - 6.0	CMOS	±5.2	12	50	-40 to 125
74HC139	Dual 2-to-4 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40 to 125
74HC154	4-to-16 line decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	11	50	-40 to 125
74HC237	3-to-8 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	18	50	-40 to 125
74HC238	3-to-8 decoder/demultiplexer	2.0 - 6.0	CMOS	±5.2	14	50	-40 to 125
74HC42	BCD to decimal decoder (1-of-10)	2.0 - 6.0	CMOS	±5.2	17	50	-40 to 125
74HC4511	BCD to 7-segment latch/decoder/driver with lamp test input	2.0 - 6.0	CMOS	-10	28	50	-40 to 125
74HC4514	4-to-16 decoder/demultiplexer with address latches	2.0 - 6.0	CMOS	±5.2	27	50	-40 to 125
74HC4515	4-to-16 decoder/demultiplexer with address latches; inverting	2.0 - 6.0	CMOS	±5.2	29	50	-40 to 125
74HCT138	3-to-8 line decoder/demultiplexer; inverting; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	-40 to 125
74HCT139	Dual 2-to-4 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	-40 to 125
74HCT154	4-to-16 line decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	13	50	-40 to 125
74HCT238	3-to-8 decoder/demultiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	-40 to 125
74HCT4511	BCD to 7-segment latch/decoder/driver with lamp test input; TTL-enabled	4.5 - 5.5	TTL	-10	28	50	-40 to 125
74HCT4514	4-to-16 decoder/demultiplexer with address latches; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40 to 125
74LV138	3-to-8 line decoder/demultiplexer; inverting	1.0 - 5.5	TTL	±12	12	50	-40 to 125
74LVC138A	3-to-8 line decoder/demultiplexer; inverting	1.2 - 3.6	CMOS/LVTTL	±24	2.7	50	-40 to 125
74LVC139	Dual 2-to-4 line decoder/demultiplexer	1.2 - 3.6	CMOS/LVTTL	±24	2.5	50	-40 to 125
74LVC1G18	1-to-2 demultiplexer (3-state)	1.65 - 5.5	CMOS/LVTTL	±32	2.3	50	-40 to 125
74LVC1G19	1-to-2 decoder/demultiplexer	1.65 - 5.5	CMOS/LVTTL	±32	1.8	50	-40 to 125
HEF4028B	1-of-10 decoder	3.0 - 15.0	CMOS	±2.4	30	50	-40 to 85
HEF4543B	BCD to 7-segment latch/decoder/driver with phase input	3.0 - 15.0	CMOS	±2.4	55	50	-40 to 85
HEF4555B	Dual 1-to-4 line decoder/demultiplexer	3.0 - 15.0	CMOS	±2.4	30	50	-40 to 85

## Digital Multiplexers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	Output Load C <sub>L</sub> (pF)	t <sub>pd</sub> (ns)	T <sub>amb</sub> (°C)
74AHC157	Quad 2-input multiplexer	2.0 - 5.5	CMOS	±8	50	3.2	-40 to 125
74AHC257	Quad 2-input multiplexer (3-state)	2.0 - 5.5	CMOS	±8	50	2.9	-40 to 125
74AHCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±8	50	3.2	-40 to 125
74AHCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	50	3.7	-40 to 125
74AUP1G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.2	-40 to 125
74AUP1G158	Single 2-input multiplexer; inverting	1.1 - 3.6	CMOS	±1.9	30	3.2	-40 to 125
74AUP2G157	Single 2-input multiplexer	1.1 - 3.6	CMOS	±1.9	30	3.4	-40 to 125
74AXP1G157	Single 2-input multiplexer	0.7 - 2.75	CMOS	±4.5	5	2.7	-40 to 85
74HC151	8-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40 to 125
74HC153	Dual 4-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	17	-40 to 125
74HC157	Quad 2-input multiplexer	2.0 - 6.0	CMOS	±5.2	50	11	-40 to 125
74HC158	Quad 2-input multiplexer; inverting	2.0 - 6.0	CMOS	±5.2	50	12	-40 to 125
74HC251	8-input multiplexer (3-state)	2.0 - 6.0	CMOS	±5.2	50	18	-40 to 125
74HC253	Dual 4-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	17	-40 to 125
74HC257	Quad 2-input multiplexer (3-state)	2.0 - 6.0	CMOS	±7.8	50	11	-40 to 125
74HCT151	8-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40 to 125
74HCT153	Dual 4-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	19	-40 to 125
74HCT157	Quad 2-input multiplexer; TTL-enabled	4.5 - 5.5	TTL	±4	50	13	-40 to 125
74HCT251	8-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±4	50	22	-40 to 125
74HCT253	Dual 4-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	17	-40 to 125
74HCT257	Quad 2-input multiplexer; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	50	13	-40 to 125
74LVC157A	Quad 2-input multiplexer	1.2 - 3.6	CMOS/LVTTL	±24	50	2.5	-40 to 125
74LVC1G157	Single 2-input multiplexer	1.65 - 5.5	CMOS/LVTTL	±32	50	2.2	-40 to 125
74LVC257A	Quad 2-input multiplexer (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	50	2.4	-40 to 125

## Shift Registers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74HC194	4-bit bidirectional parallel or serial-in/parallel-out shift register	2.0 - 6.0	CMOS	+/- 5.2	14	102	4	-40 to 125
74AHC164	8-bit serial-in/parallel-out shift register	2.0 - 5.5	CMOS	+/- 8	4.5	115	8	-40 to 125
74AHCT164	8-bit serial-in/parallel-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 8	3.4	115	8	-40 to 125
74AHC594	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 5.5	CMOS	+/- 8	4.1	160	8	-40 to 125
74AHCT594	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled	4.5 - 5.5	TTL	+/- 8	3.8	160	8	-40 to 125
74AHC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	CMOS	+/- 8	4	170	8	-40 to 125
74AHCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 8	3.8	170	8	-40 to 125
74HC299	8-bit universal shift register (3-state)	2.0 - 6.0	CMOS	+/- 7.8	19	54	8	-40 to 125



## Shift Registers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74HC164	8-bit serial-in/parallel-out shift register	2.0 - 6.0	CMOS	+/- 5.2	12	78	8	-40 to 125
74HCT164	8-bit serial-in/parallel-out shift register; TTL enabled	2.0 - 6.0	TTL	+/- 5.2	12	78	8	-40 to 125
74HC165	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	CMOS	+/- 5.2	16	56	8	-40 to 125
74HCT165	8-bit parallel or serial-in/serial-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 4	14	48	8	-40 to 125
74HC166	8-bit parallel or serial-in/serial-out shift register	2.0 - 6.0	CMOS	+/- 5.2	15	63	8	-40 to 125
74HCT166	8-bit parallel or serial-in/serial-out shift register; TTL enabled	4.5 - 5.5	TTL	+/- 4.0	23	50	8	-40 to 125
74HC594	8-bit serial-in/parallel-out shift register with output storage register	2.0 - 6.0	CMOS	+/- 7.8	14	109	8	-40 to 125
74HCT594	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled	4.5 - 5.5	TTL	+/- 6	15	100	8	-40 to 125
74HC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 6.0	CMOS	+/- 7.8	16	108	8	-40 to 125
74HCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 6	25	57	8	-40 to 125
74HC597	8-bit parallel or serial-in/parallel-out shift register with parallel input storage register	2.0 - 6.0	CMOS	+/- 5.2	16	108	8	-40 to 125
74HCT597	8-bit parallel or serial-in/parallel-out shift register with parallel input storage register; TTL enabled	4.5 - 5.5	TTL	+/- 4	20	83	8	-40 to 125
74HC4094	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	2.0 - 6.0	CMOS	+/- 5.2	15	95	8	-40 to 125
74HCT4094	8-bit serial-in/serial or parallel-out shift register with output register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 4	19	86	8	-40 to 125
74LV164	8-bit serial-in/parallel-out shift register	1.0 - 5.5	CMOS	+/- 12	12	78	8	-40 to 125
74LV165	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	CMOS	+/- 12	18	78	8	-40 to 125
74LV165A	8-bit parallel or serial-in/serial-out shift register	1.0 - 5.5	CMOS	+/- 12	7.5	115	8	-40 to 125
74LV595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	1.0 - 3.6	CMOS	+/- 8	15	77	8	-40 to 125
74LV4094	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	1.0 - 3.6	CMOS	+/- 6	14	95	8	-40 to 125
74LVC594A	8-bit serial-in/parallel-out shift register with output storage register	1.2 - 5.5	CMOS/LVTTL	+/- 24	3.1	180	8	-40 to 125
74LVC595A	8-bit serial-in/parallel-out shift register with output storage register (3-state)	1.2 - 5.5	CMOS/LVTTL	+/- 24	4	180	8	-40 to 125
74LVC8T595	Dual supply 8-bit serial-in/serial-out or parallel-out shift register; 3-state	1.1 - 5.5	CMOS/LVTTL	±24	4.1	15	8	-40 to 125
74VHC595	8-bit serial-in/parallel-out shift register with output storage register (3-state)	2.0 - 5.5	CMOS	+/- 8	4	170	8	-40 to 125
74VHCT595	8-bit serial-in/parallel-out shift register with output storage register; TTL enabled (3-state)	4.5 - 5.5	TTL	+/- 8	3.8	170	8	-40 to 125
NPIC6C595	8-bit serial-in/parallel-out shift register with output storage register (3-state); open-drain	4.5 - 5.5	CMOS	100	90	10	8	-40 to 125
NPIC6C596	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state); open-drain	4.5 - 5.5	CMOS	100	90	10	8	-40 to 125
NPIC6C596A	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state); open-drain	2.3 - 5.5	CMOS	100	90	10	8	-40 to 125
NPIC6C4894	12-bit shift registers; open-drain	4.5 - 5.5	CMOS	100	90	10	12	-40 to 125
HEF4014B	8-bit shift register with synchronous parallel enable	4.5 - 15	CMOS	+/- 2.4	40	40	8	-40 to 85
HEF4015B	dual 4-bit serial-in/parallel-out shift register	4.5 - 15	CMOS	+/- 2.4	40	44	2	-40 to 85
HEF4021B	8-bit shift register with asynchronous parallel load	4.5 - 15	CMOS	+/- 2.4	40	40	8	-40 to 85
HEF4094B	8-bit serial-in/serial or parallel-out shift register with output register (3-state)	4.5 - 15	CMOS	+/- 2.4	50	28	8	-40 to 85
HEF4557B	1-to-64 bit shift register with variable length	4.5 - 15	CMOS	+/- 2.4	65	20	64	-40 to 85
HEF4794B	8-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 15	CMOS	-20	45	28	8	-40 to 85
HEF4894B	12-bit serial-in/serial or parallel-out shift register with output register LED driver (3-state)	4.5 - 15	CMOS	-20	45	28	12	-40 to 85

## Latches/Registered drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74AHC373	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.3	50	8	-40 to 125
74AHC573	Octal D-type transparent latch (3-state)	2.0 - 5.5	CMOS	±8	4.2	50	8	-40 to 125
74AHCT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	3.9	50	8	-40 to 125
74ALVC162334A	16-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	16	-40 to 85
74ALVC162834A	18-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	18	-40 to 85
74ALVC162835A	18-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	18	-40 to 85
74ALVC162836A	20-bit registered driver with 30 Ω termination resistors (3-state)	1.65 - 3.6	TTL	±24	6.0	50	20	-40 to 85
74ALVC16834A	18-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	18	-40 to 85
74ALVC16835A	18-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	18	-40 to 85
74ALVC16836A	20-bit registered driver (3-state)	1.65 - 3.6	TTL	±24	4.0	50	20	-40 to 85
74ALVC373	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40 to 85
74ALVC573	Octal D-type transparent latch (3-state)	1.65 - 3.6	TTL	±24	2.2	50	8	-40 to 85
74ALVCH16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	16	-40 to 85
74ALVCH16841	20-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.4	50	20	-40 to 85
74ALVCH16843	18-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	±24	2.1	50	18	-40 to 85
74ALVCH32973	16-bit transceiver and transparent D-type latch with 8 independent buffers	1.8 - 3.6	TTL	±24	2.5	50	16	-40 to 85
74ALVT16373	16-bit D-type transparent latch with bus hold (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	16	-40 to 85
74AUP1G373	Single D-type transparent latch (3-state)	1.1 - 3.6	CMOS	±1.9	8.5	30	1	-40 to 125
74AVC16334A	16-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	16	-40 to 85
74AVC16373	16-bit D-type transparent latch (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	16	-40 to 85
74AVC16834A	18-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	18	-40 to 85
74AVC16835A	18-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	18	-40 to 85
74AVC16836A	20-bit registered driver (3-state)	1.2 - 3.6	CMOS	±12	2.0	30	20	-40 to 85
74HC259	8-bit addressable latch	2.0 - 6.0	CMOS	±5.2	18	50	8	-40 to 125
74HC373	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	12	50	8	-40 to 125
74HC573	Octal D-type transparent latch (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	8	-40 to 125
74HC75	Quad bistable transparent latch	2.0 - 6.0	CMOS	±5.2	11	50	4	-40 to 125
74HCT259	8-bit addressable latch; TTL-enabled	4.5 - 5.5	TTL	±4	20	50	8	-40 to 125
74HCT373	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	14	50	8	-40 to 125
74HCT573	Octal D-type transparent latch; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	8	-40 to 125
74LVC162373A	16-bit D-type transparent latch with 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±12	3.2	50	16	-40 to 125
74LVC16373A	16-bit D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40 to 125
74LVC373A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	8	-40 to 125
74LVC573A	Octal D-type transparent latch (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.4	50	8	-40 to 125
74LVCH162373A	16-bit D-type transparent latch with bus hold and 30 Ω termination resistors (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.2	50	16	-40 to 125
74LVCH16373A	16-bit D-type transparent latch with bus hold (3-state)	1.2 - 3.6	CMOS/LVTTL	±24	3.0	50	16	-40 to 125
74LVT162373	16-bit D-type transparent latch with bus hold and 30 Ω termination resistors (3-state)	2.7 - 3.6	TTL	±12	2.5	50	16	-40 to 85

## Latches/Registered drivers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	Number of bits	T <sub>amb</sub> (°C)
74LVT16373A	16-bit D-type transparent latch with bus hold (3-state)	2.7 - 3.6	TTL	-32 / 64	1.9	50	16	-40 to 85
74LVT573	Octal D-type transparent latch (3-state)	2.7 - 3.6	TTL	-32 / 64	2.7	50	8	-40 to 85
HEF40373B	Octal D-type transparent latch (3-state)	3.0 - 15.0	CMOS	-50 / 62	40	50	8	-40 to 85
HEF4043B	Quad R/S latch with set and reset (3-state)	3.0 - 15.0	CMOS	±2.4	25	50	4	-40 to 85

## Flip-flops

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHC1G79	Single D-type flip-flop; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.5	50	90	-40 to 125
74AHC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	4.2	50	165	-40 to 125
74AHC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	185	-40 to 125
74AHC377	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.9	50	175	-40 to 125
74AHC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 5.5	CMOS	±8	4.4	50	130	-40 to 125
74AHC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 5.5	CMOS	±8	3.7	50	170	-40 to 125
74AHCT1G79	Single D-type flip-flop; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	90	-40 to 125
74AHCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	120	-40 to 125
74AHCT374	Octal D-type flip-flop; positive-edge trigger (3-state)	4.5 - 5.5	TTL	±8	4.3	50	140	-40 to 125
74AHCT377	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	4.0	50	140	-40 to 125
74AHCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±8	4.4	50	130	-40 to 125
74AHCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	160	-40 to 125
74ALVC374	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40 to 85
74ALVC574	Octal D-type flip-flop; positive-edge trigger (3-state)	1.65 - 3.6	TTL	±24	2.5	50	300	-40 to 85
74ALVC74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.65 - 3.6	TTL	±24	2.3	50	425	-40 to 85
74ALVCH16374	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.3	50	350	-40 to 85
74ALVCH16821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±24	2.5	50	350	-40 to 85
74ALVCH16823	18-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	TTL	±24	2.1	50	350	-40 to 85
74ALVT162821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	±12	3.2	50	150	-40 to 85
74ALVT162823	18-bit buffer/line driver with bus hold and 30 Ω termination resistors (3-state)	2.3 - 3.6	TTL	±12	3.0	50	150	-40 to 85
74ALVT16821	20-bit D-type flip-flop; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.8	50	150	-40 to 85
74ALVT16823	18-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.3 - 3.6	TTL	-32 / 64	1.9	50	250	-40 to 85
74AUP1G175	Single D flip-flop with reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	7.4	30	70	-40 to 125
74AUP1G374	Single D-type flip-flop; positive-edge trigger (3-state)	1.1 - 3.6	CMOS	±1.9	7.9	30	400	-40 to 125
74AUP1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.2	30	400	-40 to 125
74AUP1G79	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74AUP1G80	Single D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74AUP2G79	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	8.5	30	400	-40 to 125
74AUP2G80	Dual D-type flip-flop; positive-edge trigger	1.1 - 3.6	CMOS	±1.9	9.1	30	400	-40 to 125
74AVC16374	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS	±12	1.5	30	350	-40 to 85
74HC107	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	78	-40 to 125
74HC109	Dual JK-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	75	-40 to 125
74HC112	Dual JK-type flip-flop with set and reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	66	-40 to 125
74HC173	Quad D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	17	50	88	-40 to 125
74HC174	Hex D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	99	-40 to 125
74HC175	Quad D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	17	50	83	-40 to 125
74HC273	Octal D-type flip-flop with reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	15	50	122	-40 to 125

## Flip-Flops

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC374	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	83	-40 to 125
74HC377	Octal D-type flip-flop with data enable; positive-edge trigger	2.0 - 6.0	CMOS	±7.8	13	50	83	-40 to 125
74HC574	Octal D-type flip-flop; positive-edge trigger (3-state)	2.0 - 6.0	CMOS	±7.8	14	50	133	-40 to 125
74HC73	Dual JK-type flip-flop with reset; negative-edge trigger	2.0 - 6.0	CMOS	±5.2	16	50	77	-40 to 125
74HC74	Dual D-type flip-flop with set and reset; positive-edge trigger	2.0 - 6.0	CMOS	±5.2	14	50	82	-40 to 125
74HCT107	Dual JK-type flip-flop with reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	73	-40 to 125
74HCT109	Dual JK-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	61	-40 to 125
74HCT112	Dual JK-type flip-flop with set and reset; negative-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	19	50	70	-40 to 125
74HCT173	Quad D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	17	50	88	-40 to 125
74HCT174	Hex D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	69	-40 to 125
74HCT175	Quad D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	16	50	54	-40 to 125
74HCT273	Octal D-type flip-flop with reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	36	-40 to 125
74HCT374	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	13	50	48	-40 to 125
74HCT377	Octal D-type flip-flop with data enable; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±6	14	50	53	-40 to 125
74HCT574	Octal D-type flip-flop; positive-edge trigger; TTL-enabled (3-state)	4.5 - 5.5	TTL	±6	15	50	76	-40 to 125
74HCT74	Dual D-type flip-flop with set and reset; positive-edge trigger; TTL-enabled	4.5 - 5.5	TTL	±4	15	50	59	-40 to 125
74LV74	Dual D-type flip-flop with set and reset; positive-edge trigger	1.0 - 5.5	TTL	±12	11	50	75	-40 to 125
74LVC16374A	16-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40 to 125
74LVC1G175	Single D flip-flop with reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.1	50	300	-40 to 125
74LVC1G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.5	50	280	-40 to 125
74LVC1G79	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	450	-40 to 125
74LVC1G80	Single D-type flip-flop; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	450	-40 to 125
74LVC273	Octal D-type flip-flop with reset; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	6.0	50	230	-40 to 125
74LVC2G74	Single D-type flip-flop with set and reset; positive-edge trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	3.5	50	280	-40 to 125
74LVC374A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	2.7	50	100	-40 to 125
74LVC377	Octal D-type flip-flop with data enable; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	6.0	50	230	-40 to 125
74LVC574A	Octal D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.2	50	150	-40 to 125
74LVC74A	Dual D-type flip-flop with set and reset; positive-edge trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	2.5	50	250	-40 to 125
74LVC823A	9-bit D-type flip-flop; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	5.4	50	150	-40 to 125
74LVCH162374A	16-bit D-type flip-flop with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40 to 125
74LVCH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	1.2 - 3.6	CMOS/ LVTTTL	±24	3.8	50	150	-40 to 125
74LVT162374	16-bit D-type flip-flop with bus hold and 30 Ω termination resistors; positive-edge trigger (3-state)	2.7 - 3.6	TTL	±12	3.0	50	150	-40 to 85
74LVT16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40 to 85
74LVTH16374A	16-bit D-type flip-flop with bus hold; positive-edge trigger (3-state)	2.7 - 3.6	TTL	-32 / 64	3.0	50	150	-40 to 85
HEF4013B	Dual D-type flip-flop with set and reset; positive-edge trigger	3.0 - 15.0	CMOS	±2.4	30	50	40	-40 to 85
HEF40175B	Quad D-type flip-flop with reset; positive-edge trigger	3.0 - 15.0	CMOS	±2.4	25	50	45	-40 to 85
HEF4027B	Dual JK-type flip-flop	3.0 - 15.0	CMOS	±2.4	30	50	30	-40 to 85

## FIFO registers

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC40105	4-bit x 16-word FIFO register	2.0 - 6.0	CMOS	±5.2	15	50	30	-40 to 125

## Counters/frequency dividers

Type number	Description	V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AHC1G4208	08-stage divider and oscillator	2.0 - 5.5	±8	CMOS	14	15	165	-40 to 125
74AHC1G4210	10-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	17	15	125	-40 to 125
74AHC1G4212	12-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	20	15	125	-40 to 125
74AHC1G4214	14-stage divider and oscillator	2.0 - 5.5	±5.2	CMOS	23	15	125	-40 to 125
74AHC1G4215	14-stage divider and oscillator	2.0 - 5.5	± 8	CMOS	24	15	165	-40 to 125
74HC160	Presetable synchronous BCD decade counter; asynchronous reset	2.0 - 6.0	±5.2	CMOS	18	50	55	-40 to 125
74HC161	Presetable synchronous 4-bit binary counter; asynchronous reset	2.0 - 6.0	±5.2	CMOS	19	50	48	-40 to 125
74HCT161	Presetable synchronous 4-bit binary counter; asynchronous reset; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	41	-40 to 125
74HCT163	Presetable synchronous 4-bit binary counter; synchronous reset; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	50	-40 to 125
74HC191	Presetable synchronous 4-bit binary up/down counter	2.0 - 6.0	±5.2	CMOS	22	50	36	-40 to 125
74HC193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks	2.0 - 6.0	±5.2	CMOS	20	50	49	-40 to 125
74HCT193	Presetable synchronous 4-bit binary up/down counter; separate up/down clocks; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	43	-40 to 125
74HC390	Dual decade ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	60	-40 to 125
74HCT390	Dual decade ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	18	50	55	-40 to 125
74HC393	Dual 4-bit binary ripple counter	2.0 - 6.0	±5.2	CMOS	12	50	107	-40 to 125
74HCT393	Dual 4-bit binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	20	50	53	-40 to 125
74HC4017	Johnson decade counter with 10 decoded outputs	2.0 - 6.0	±5.2	CMOS	18	50	77	-40 to 125
74HCT4017	Johnson decade counter with 10 decoded outputs; TTL-enabled	4.5 - 5.5	±4.0	TTL	21	50	67	-40 to 125
74HC4020	14-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	11	50	52	-40 to 125
74HCT4020	14-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	15	50	52	-40 to 125
74HC4040	12-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40 to 125
74HCT4040	12-stage binary ripple counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	16	50	79	-40 to 125
74HC4060	14-stage binary ripple counter with oscillator	2.0 - 6.0	±5.2	CMOS	31	50	95	-40 to 125
74HCT4060	14-stage binary ripple counter with oscillator; TTL-enabled	4.5 - 5.5	±4.0	TTL	31	50	88	-40 to 125
74HC4520	Dual 4-bit synchronous binary counter	2.0 - 6.0	±5.2	CMOS	24	50	64	-40 to 125
74HCT4520	Dual 4-bit synchronous binary counter; TTL-enabled	4.5 - 5.5	±4.0	TTL	24	50	64	-40 to 125
74HC5555	Programmable delay timer with oscillator	2.0 - 6.0	-0.8	CMOS	89	50	24	-40 to 125
74HC6323	Programmable ripple counter with oscillator (3-state)	2.0 - 6.0	±7.8	CMOS	17	50	100	-40 to 125
74HCT6323	Programmable ripple counter with oscillator (3-state); TTL-enabled	4.5 - 5.5	±4.0	TTL	17	50	85	-40 to 125
74HC40103	8-bit synchronous binary down counter	2.0 - 6.0	±5.2	CMOS	15	50	14	-40 to 125
74HC4024	7-stage binary ripple counter	2.0 - 6.0	±5.2	CMOS	14	50	90	-40 to 125
74HC590	8-bit binary counter with output register (3-state)	2.0 - 6.0	±5.2	CMOS	19	50	61	-40 to 125
74LV393	Dual 4-bit binary ripple counter	1.0 - 3.6	±6	TTL	12	50	90	-40 to 125
74LV4020	14-stage binary ripple counter	1.0 - 5.5	±6	TTL	16	50	100	-40 to 125
74LV4060	14-stage binary ripple counter with oscillator	1.0 - 5.5	±6	TTL	29	50	100	-40 to 125

## Counters/frequency dividers

Type number	Description	V <sub>CC</sub> (V)	Output drive capability (mA)	Logic switching levels	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74LVC161	Presetable synchronous 4-bit binary counter; asynchronous reset	1.2 - 3.6	±24	CMOS/LVTTL	4.9	50	200	-40 to 125
74LVC163	Presetable synchronous 4-bit binary counter; synchronous reset	1.2 - 3.6	±24	CMOS/LVTTL	4.9	50	200	-40 to 125
HEF4017B	Johnson decade counter with 10 decoded outputs	3.0 - 15	±2.4	CMOS	40	50	30	-40 to 85
HEF4020B	14-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	35	-40 to 85
HEF4024B	7-stage binary ripple counter	3.0 - 15	±2.4	CMOS	30	50	35	-40 to 85
HEF4040B	12-stage binary ripple counter	3.0 - 15	±2.4	CMOS	35	50	50	-40 to 85
HEF4060B	14-stage binary ripple counter with oscillator	3.0 - 15	±2.4	CMOS	50	50	30	-40 to 85
HEF4518B	Dual BCD counter	3.0 - 15	±2.4	CMOS	40	50	40	-40 to 85
HEF4520B	Dual 4-bit synchronous binary counter	3.0 - 15	±2.4	CMOS	15	50	40	-40 to 85
HEF4521B	24-stage frequency divider and oscillator	3.0 - 15	±2.4	CMOS	220	50	35	-40 to 85
HEF4541B	Programmable timer	3.0 - 15	-4/ 2.7	CMOS	38	50	150	-40 to 85

## Multivibrators

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74AHC123A	Dual retriggerable monostable multivibrator with reset	2.0 - 5.5	CMOS	±8	5.1	50	-40 to 125
74AHC123A	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	-40 to 125
74HC123	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±7.8	9.0	50	-40 to 125
74HCT123	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40 to 125
74HCT221	dual non-retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	32	50	-40 to 125
74HC423	Dual retriggerable monostable multivibrator with reset	2.0 - 6.0	CMOS	±5.2	23	50	-40 to 125
74HCT423	Dual retriggerable monostable multivibrator with reset; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40 to 125
74HC4538	Dual retriggerable precision monostable multivibrator	2.0 - 6.0	CMOS	±5.2	27	50	-40 to 125
74HCT4538	Dual retriggerable precision monostable multivibrator; TTL-enabled	4.5 - 5.5	TTL	±4	30	50	-40 to 125
74LV123	Dual retriggerable monostable multivibrator with reset	1.0 - 5.5	TTL	±12	20	50	-40 to 125
74LVC1G123	Single retriggerable monostable multivibrator	1.65 - 5.5	CMOS/LVTTL	±32	3.5	50	-40 to 125
HEF4047B	Monostable/astable multivibrator	3.0 - 15	CMOS	±2.4	50	50	-40 to 85
HEF4528B	Dual retriggerable monostable multivibrator with reset	3.0 - 15	CMOS	±2.4	40	50	-40 to 85
HEF4538B	Dual retriggerable precision monostable multivibrator	3.0 - 15	CMOS	±2.4	60	50	-40 to 85

## Phase-locked loops

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	F <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74HC4046A	Phase-locked loop with VCO	3.0 - 6.0	CMOS	±5.2	18	50	21	-40 to 125
74HCT4046A	Phase-locked loop with VCO; TTL-enabled	4.5 - 5.5	TTL	±4	23	50	19	-40 to 125
74HCT9046A	Phase-locked loop with bandgap controlled VCO; TTL-enabled	4.5 - 5.5	TTL	±4	23	50	19	-40 to 125
HEF4046B	Phase-locked loop with VCO	3.0 - 15.0	CMOS	±2.4		50	2.7	-40 to 125

## AND Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT08	Quad 2-input AND gate	4.5 - 5.5	TTL	-15 / 20	2.4	50	100	4	-40 to 85
74AHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74AHC1G08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC1G09	Single 2-input AND gate; open drain	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHC2G08	Dual 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	2	-40 to 125
74AHT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
74AHT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
74AHT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	2	-40 to 125
74ALVC08	Quad 2-input AND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.0	50	145	4	-40 to 85
74AUP1G08	Single 2-input AND gate	1.1 - 3.6	CMOS	±1.9	8.2	30	70	1	-40 to 125
74AUP1G09	Single 2-input AND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	1	-40 to 125
74AUP1G11	Single 3-input AND gate	1.1 - 3.6	CMOS	±1.9	6.9	30	70	1	-40 to 125
74AUP1T08	Single supply 2-input voltage-translating AND gate	2.3 - 3.6	CMOS	±4	3.6	15	70	1	-40 to 125
74AUP2G08	Dual 2-input AND gate	1.1 - 3.6	CMOS	±1.9	8.2	30	70	2	-40 to 125
74AXP1G08	Single 2-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74AXP1G09	Single 2-input AND gate with open-drain output	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74AXP1G11	Single 3-input AND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74HC08	Quad 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HC11	Triple 3-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50	36	3	-40 to 125
74HC1G08	Single 2-input AND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	1	-40 to 125
74HC21	Dual 4-input AND gate	2.0 - 6.0	CMOS	±5.2	10	50	36	2	-40 to 125
74HC2G08	Dual 2-input AND gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	4	-40 to 125
74HCT11	Triple 3-input AND gate	4.5 - 5.5	TTL	±4	11	50	36	3	-40 to 125
74HCT1G08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±2	11	50	36	1	-40 to 125
74HCT2G08	Dual 2-Input AND gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50	36	2	-40 to 125
74LV08	Quad 2-input AND gate	1.0 - 5.5	TTL	±12	7.0	50	30	4	-40 to 125
74LV08A	Quad 2-input AND gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV1T08	Single supply 2-input translating AND gate	1.6 - 5.5	CMOS	±8	13.4	15	60	1	-40 to 125
74LVC08A	Quad 2-input AND gate	1.2 - 3.6	CMOS / LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC11	Triple 3-input AND gate	1.2 - 3.6	CMOS / LVTTTL	±24	3.7	50	150	3	-40 to 125
74LVC1G08	Single 2-input AND gate	1.65 - 5.5	CMOS / LVTTTL	±24	2.1	50	150	1	-40 to 125
74LVC1G11	Single 3-input AND gate	1.65 - 5.5	CMOS / LVTTTL	±24	2.6	50	150	1	-40 to 125
74LVC2G08	Dual 2-input AND gate	1.65 - 5.5	CMOS / LVTTTL	±24	2.1	50	150	2	-40 to 125
74LVT08	Quad 2-input AND gate	2.7 - 3.6	TTL	-20 / 32	3.4	50	150	4	-40 to 85
74VHC08	Quad 2-input AND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74VHCT08	Quad 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
HEF4073B	Triple 3-input AND gate	3.0 - 15	CMOS	±2.4	20	50	10	3	-40 to 85
HEF4081B	Quad 2-input AND gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85
HEF4082B	Dual 4-input AND gate	3.0 - 15	CMOS	±2.4	25	50	10	2	-40 to 85
XC7SET08	Single 2-input AND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
XC7SH08	Single 2-input AND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125



## Combination Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G0832	Single 3-input AND-OR gate	1.1 - 3.6	CMOS	±1.9	6.7	30	70	1	-40 to 125
74AUP1G3208	Single 3-input OR-AND gate	1.1 - 3.6	CMOS	±1.9	7.4	30	70	1	-40 to 125
74AUP1G885	Dual function gate	1.1 - 3.6	CMOS	±1.9	7.6	30	70	1	-40 to 125
74AUP1Z04	Crystal driver with enable and internal resistor	1.1 - 3.6	CMOS	±1.9	5.6	30	70	1	-40 to 125
74AUP1Z125	Crystal driver with enable and internal resistor (3-state)	1.1 - 3.6	CMOS	±1.9	4.7	30	70	1	-40 to 125
74AUP2G0604	Inverter with open drain and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	2	-40 to 125
74AUP2G3404	Buffer and inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	2	-40 to 125
74AUP2G3407	Buffer and buffer with open drain	1.1 - 3.6	CMOS	±1.9	4.1	30	70	2	-40 to 125
74AUP3G0434	Dual inverter and single buffer	1.1 - 3.6	CMOS	±1.9	4.0	30	70	3	-40 to 125
74AUP3G3404	Dual buffer and single inverter	1.1 - 3.6	CMOS	±1.9	4.0	30	70	3	-40 to 125
74LVC1GX04	Crystal driver	1.65 - 5.5	CMOS/ LVTTTL	±24	2.8	50	150	1	-40 to 125
HEF4007UB	Dual complementary paIR and inverter	3.0 - 15	CMOS	±3.4	15	50	10	2	-40 to 85

## Configurable Gates

Type number	Description	V <sub>CC</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AUP1G57	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G58	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G97	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.7	30	70	1	-40 to 125
74AUP1G98	Configurable gate; Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	8.9	30	70	1	-40 to 125
74AUP1G3208	Configurable multiple function gate	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP1T57	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP1T58	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP1T97	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP1T98	Configurable gate with voltage-level translation	2.3 - 3.6	CMOS	±4	3.8	15	70	1	-40 to 125
74AUP2G57	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G58	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G97	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AUP2G98	Dual configurable gate; Schmitt-trigger	0.8 - 3.6	CMOS	±4	6.6	30	70	1	-40 to 125
74AXP1G57	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.6	5	70	1	-40 to 85
74AXP1G58	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74AXP1G97	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74AXP1G98	Configurable gate; Schmitt-trigger	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74LVC1G57	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G58	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G97	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G98	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	6.3	50	150	1	-40 to 125
74LVC1G99	Configurable gate; Schmitt-trigger	1.65 - 5.5	CMOS/ LVTTTL	±32	8.4	50	150	1	-40 to 125

## EXCLUSIVE-NOR Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	T <sub>amb</sub> (°C)
74AUP1T87	Single supply 2-input translating EXCLUSIVE-NOR gate	2.3 - 3.6	CMOS	±4	3.9	15	70	-40 to 125
74LV1T87	Single supply 2-input translating EXCLUSIVE-NOR gate	1.6 - 5.5	CMOS	±8	15.8	15	60	-40 to 125
HEF4077	Quad 2-input EXCLUSIVE-NOR gate	3.0 - 15	CMOS	±2.4	30	50	10	-40 to 85

## EXCLUSIVE-OR Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC1G86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	1	-40 to 125
74AHC1G86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
74AHC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	4	-40 to 125
74AHC86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.4	50	60	4	-40 to 125
74AUP1G386	Single 3-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	8.6	30	70	1	-40 to 125
74AUP1G86	Single 2-input Exclusive-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30	70	1	-40 to 125
74AUP1T86	Single supply 2-input translating EXCLUSIVE-OR gate	2.3 - 3.6	CMOS	±1.9	3.8	15	70	1	-40 to 125
74AUP2G86	Dual 2-input EXCLUSIVE-OR gate	1.1 - 3.6	CMOS	±1.9	9.0	30	70	2	-40 to 125
74AXP1G86	Single 2-input Exclusive-OR gates	0.7 - 2.75	CMOS	±4.5	4.5	5	70	1	-40 to 85
74HC1G86	Single 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±2.6	9.0	50	36	1	-40 to 125
74HCT1G86	Single 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50	36	1	-40 to 125
74HC2G86	Dual 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G86	Dual 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	11	50	36	2	-40 to 125
74HC86	Quad 2-input EXCLUSIVE-OR gate	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HCT86	Quad 2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	14	50	36	4	-40 to 125
74LV1T86	Single supply 2-input translating EXCLUSIVE-OR gate	1.6 - 5.5	CMOS	±8	13.3	15	60	1	-40 to 125
74LVC1G386	Single 3-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	4.5	50	150	1	-40 to 125
74LVC1G86	Single 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	150	1	-40 to 125
74LVC2G86	Dual 2-input EXCLUSIVE-OR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.3	50	150	2	-40 to 125
74LVC86	Quad 2-input EXCLUSIVE-OR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.0	50	150	4	-40 to 125
HEF4030B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 85
HEF4070B	Quad 2-input EXCLUSIVE-OR gate	3.0 - 15	CMOS	±2.4	30	50	10	4	-40 to 85
XC75ET86	2-input EXCLUSIVE-OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
XC75SH86	2-input EXCLUSIVE-OR gate	2.0 - 5.5	CMOS	±8	3.4	50	60	1	-40 to 125

## NAND Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT00	Quad 2-input NAND gate	4.5 - 5.5	TTL	-15 / 20	2.5	50	100	4	-40 to 85
74ABT20	Dual 4-input NAND gate	4.5 - 5.5	TTL	-15 / 20	2.7	50	100	2	-40 to 85
74AHC00	Quad 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.2	50	60	4	-40 to 125
74AHC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 5.5	CMOS	±8	3.3	50	60	4	-40 to 125
74AHC1G00	Single 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	1	-40 to 125
74AHC2G00	Dual 2-input NAND gate	2.0 - 5.5	CMOS	±8	3.5	50	60	2	-40 to 125
74AHC00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	4	-40 to 125
74AHC132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	4	-40 to 125

## NAND Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	1	-40 to 125
74AHCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.6	50	60	2	-40 to 125
74AUP1T00	Single supply 2-input voltage-translating NAND gate	2.3 - 3.6	CMOS	±1.9	3.7	15	70	1	-40 to 125
74AUP2G132	Dual 2-input NAND gate Schmitt-trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	2	-40 to 125
74AXP1G00	Single 2-input NAND gate	0.7 - 2.75	CMOS	±4.5	2.7	5	70	1	-40 to 85
74AXP1G10	Single 3-input NAND gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74HC132	Quad 2-input NAND gate Schmitt-trigger	2.0 - 6.0	CMOS	±5.2	11	50	36	4	-40 to 125
74HCT132	Quad 2-input NAND gate Schmitt-trigger; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	36	4	-40 to 125
74LV00A	Quad 2-input NAND gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV132	Quad 2-input NAND gate Schmitt-trigger	1.0 - 5.5	TTL	±12	10	50	30	4	-40 to 125
74LVC132A	Quad 2-input NAND gate Schmitt-trigger	1.2 - 3.6	CMOS/ LVTTTL	±24	3.4	50	175	4	-40 to 125
HEF4093B	Quad 2-input NAND gate Schmitt-trigger	3.0 - 15	CMOS	±2.4	3.0	50	10	4	-40 to 85
74AHC30	8-input NAND gate	2.0 - 5.5	CMOS	±8	3.6	50	60	1	-40 to 125
74AHCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
74ALVC00	Quad 2-input NAND gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.1	50	145	4	-40 to 85
74AUP1G00	Single 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	1	-40 to 125
74AUP1G132	Single 2-input NAND gate Schmitt trigger	1.1 - 3.6	CMOS	±1.9	10	30	70	1	-40 to 125
74AUP1G38	Single 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	1	-40 to 125
74AUP2G00	Dual 2-input NAND gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	2	-40 to 125
74AUP2G38	Dual 2-input NAND gate; open drain	1.1 - 3.6	CMOS	1.9	8.5	30	70	2	-40 to 125
74HC00	Quad 2-input NAND gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HC03	Quad 2-input NAND gate; open drain	2.0 - 6.0	CMOS	5.2	8.0	50	36	4	-40 to 125
74HC10	Triple 3-input NAND gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	3	-40 to 125
74HC1G00	Single 2-input NAND gate	2.0 - 6.0	CMOS	±2.6	7.0	50	36	1	-40 to 125
74HC20	Dual 4-input NAND gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	2	-40 to 125
74HC2G00	Dual 2-input NAND gate	2.0 - 6.0	CMOS	±5.6	9.0	50	36	2	-40 to 125
74HC30	8-input NAND gate	2.0 - 6.0	CMOS	±5.2	12	50	36	1	-40 to 125
74HCT00	Quad 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	4	-40 to 125
74HCT03	Quad 2-input NAND gate; TTL-enabled; open drain	4.5 - 5.5	TTL	±4	10	50	36	4	-40 to 125
74HCT10	Triple 3-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	3	-40 to 125
74HCT1G00	Single 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±2	10	50	36	1	-40 to 125
74HCT20	Dual 4-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	13	50	36	2	-40 to 125
74HCT2G00	Dual 2-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	2	-40 to 125
74HCT30	8-input NAND gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	1	-40 to 125
74LV00	Quad 2-input NAND gate	1.0 - 5.5	TTL	±12	7	50	30	4	-40 to 125
74LV03	Quad 2-input NAND gate; TTL-enabled; open drain	1.0 - 5.5	TTL	±12	8.0	50	30	4	-40 to 125
74LV1T00	Single supply 2-input translating NAND gate	1.6 - 5.5	CMOS	±8	3.1	15	60	1	-40 to 125
74LVC00A	Quad 2-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC10A	Triple 3-input NAND gate	1.2 - 3.6	CMOS/ LVTTTL	±24	3.9	50	150	3	-40 to 125
74LVC1G00	Single 2-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	175	1	-40 to 125
74LVC1G10	Single 3-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.6	50	175	1	-40 to 125
74LVC1G38	Single 2-input NAND gate; open drain	1.65 - 5.5	CMOS/ LVTTTL	32	2.3	50	175	1	-40 to 125
74LVC2G00	Dual 2-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.2	50	175	2	-40 to 125
74LVC2G38	Dual 2-input NAND gate; open drain	1.65 - 5.5	CMOS/ LVTTTL	32	2.1	50	175	2	-40 to 125
74LVC30A	8-input NAND gate	1.65 - 5.5	CMOS/ LVTTTL	24	3.6	50	175	1	-40 to 125
HEF4011B	Quad 2-input NAND gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85

## NOR Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74AHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50	60	4	-40 to 125
74AHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50	60	4	-40 to 125
74AHC1G02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
74ALVC02	Quad 2-input NOR gate	1.65 - 3.6	CMOS/ LVTTTL	±24	2.2	50	150	4	-40 to 85
74AUP1G02	Single 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	1	-40 to 125
74AUP1T02	Single supply 2-input voltage-translating NOR gate	2.3 - 3.6	CMOS	±1.9	3.6	15	70	1	-40 to 125
74AUP2G02	Dual 2-input NOR gate	1.1 - 3.6	CMOS	±1.9	8.3	30	70	2	-40 to 125
74AXP1G02	Single 2-input NOR gate	0.7 - 2.75	CMOS	±4.5	2.6	5	70	1	-40 to 85
74HC02	Quad 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	7.0	50	36	4	-40 to 125
74HCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	9.0	50	36	4	-40 to 125
74HC1G02	Single 2-input NOR gate	2.0 - 6.0	CMOS	±2.6	7.0	50	36	1	-40 to 125
74HCT1G02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	9.0	50	36	1	-40 to 125
74HC27	Triple 3-input NOR gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	3	-40 to 125
74HCT27	Triple 3-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	3	-40 to 125
74HC2G02	Dual 2-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G02	Dual 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	12	50	36	2	-40 to 125
74HC4002	Dual 4-input NOR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT4002	Dual 4-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±4	11	50	36	2	-40 to 125
74LV02	Quad 2-input NOR gate	1.0 - 5.5	TTL	±12	6.0	50	30	4	-40 to 125
74LV02A	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LV1T02	Single supply 2-input translating NOR gate	1.6 - 5.5	CMOS	±8	3.2	15	60	1	-40 to 125
74LVC02A	Quad 2-input NOR gate	1.2 - 3.6	CMOS/ LVTTTL	±24	2.1	50	150	4	-40 to 125
74LVC1G02	Single 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.1	50	150	1	-40 to 125
74LVC1G27	Single 3-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.6	50	150	1	-40 to 125
74LVC2G02	Dual 2-input NOR gate	1.65 - 5.5	CMOS/ LVTTTL	±32	2.4	50	150	2	-40 to 125
74LVT02	Quad 2-input NOR gate	2.7 - 3.6	TTL	-20 / 32	2.8	50	150	4	-40 to 85
74VHC02	Quad 2-input NOR gate	2.0 - 5.5	CMOS	±8	2.9	50	60	4	-40 to 125
74VHCT02	Quad 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.8	50	60	4	-40 to 125
HEF4001B	Quad 2-input NOR gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85
HEF4002B	Dual 4-input NOR gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 85
XC7SET02	Single 2-input NOR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.5	50	60	1	-40 to 125
XC7SH02	Single 2-input NOR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125

## OR Gates

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (typ) (pF)	f <sub>max</sub> (MHz)	Number of bits	T <sub>amb</sub> (°C)
74ABT32	Quad 2-input OR gate	4.5 - 5.5	TTL	-15 / 20	2.3	50	100	4	-40 to 85
74AHC1G32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125
74AHCT1G32	Single 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
74AHC2G32	Dual 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	2	-40 to 125
74AHCT2G32	Dual 2-input OR gate	4.5 - 5.5	TTL	±8	3.3	50	60	2	-40 to 125
74AHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74AHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
74ALVC32	Quad 2-input OR gate	1.65 - 3.6	CMOS/LVTTL	±24	2.0	50	150	4	-40 to 125
74AUP1G32	Single 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30	70	1	-40 to 125
74AUP1G332	Single 3-input OR gate	1.1 - 3.6	CMOS	±1.9	6.8	30	70	1	-40 to 125
74AUP1T32	Single supply 2-input voltage-translating OR gate	2.3 - 3.6	CMOS	±1.9	3.6	15	70	1	-40 to 125
74AUP2G32	Dual 2-input OR gate	1.1 - 3.6	CMOS	±1.9	7.9	30	70	2	-40 to 125
74AXP1G32	Single 2-input OR gate	0.7 - 2.75	CMOS	±4.5	2.5	5	70	1	-40 to 85
74HC1G32	Single 2-input OR gate	2.0 - 6.0	CMOS	±2.6	8.0	50	36	1	-40 to 125
74HCT1G32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±2.0	10	50	36	1	-40 to 125
74HC2G32	Dual 2-input OR gate	2.0 - 6.0	CMOS	±5.2	9.0	50	36	2	-40 to 125
74HCT2G32	Dual 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4.0	13	50	36	2	-40 to 125
74HC32	Quad 2-input OR gate	2.0 - 6.0	CMOS	±5.2	6.0	50	36	4	-40 to 125
74HCT32	Quad 2-input OR gate	4.5 - 5.5	TTL	±4.0	9.0	50	36	4	-40 to 125
74HC4075	Triple 3-input OR gate	2.0 - 6.0	CMOS	±5.2	8.0	50	36	3	-40 to 125
74HCT4075	Triple 3-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±4	10	50	36	3	-40 to 125
74LV1T32	Single supply 2-input translating OR gate	1.6 - 5.5	CMOS	±8	4.4	15	60	1	-40 to 125
74LV32A	Quad 2-input OR gate	2.0 - 5.5	CMOS	±12	4.2	15	45	4	-40 to 125
74LV7032A	Quad 2-input OR gate; Schmitt trigger	2.0 - 5.5	CMOS	±12	4.3	15	45	4	-40 to 125
74LVC1G32	Single 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.1	50	150	1	-40 to 125
74LVC1G332	Single 3-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.6	50	150	1	-40 to 125
74LVC2G32	Dual 2-input OR gate	1.65 - 5.5	CMOS/LVTTL	±32	2.2	50	150	2	-40 to 125
74LVC32A	Quad 2-input OR gate	1.2 - 3.6	CMOS/LVTTL	±24	2.1	50	150	4	-40 to 125
74VHC32	Quad 2-input OR gate	2.0 - 5.5	CMOS	±8	3.5	50	60	4	-40 to 125
74VHCT32	Quad 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	5.0	50	60	4	-40 to 125
HEF4071B	Quad 2-input OR gate	3.0 - 15	CMOS	±2.4	20	50	10	4	-40 to 125
XC7SET32	Single 2-input OR gate; TTL-enabled	4.5 - 5.5	TTL	±8	3.3	50	60	1	-40 to 125
XC7SH32	Single 2-input OR gate	2.0 - 5.5	CMOS	±8	3.2	50	60	1	-40 to 125

## Digital comparators

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74HC688	8-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	17	50	-40 to 125
74HCT688	8-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	17	50	-40 to 125
74HC85	4-bit magnitude comparator	2.0 - 6.0	CMOS	±5.2	23	50	-40 to 125
74HCT85	4-bit magnitude comparator; TTL-enabled	4.5 - 5.5	TTL	±4	26	50	-40 to 125

## Parity generators-checkers

Type number	Description	V <sub>cc</sub> (V)	Logic switching levels	Output drive capability (mA)	t <sub>pd</sub> (ns)	Output Load C <sub>L</sub> (pF)	T <sub>amb</sub> (°C)
74HC280	9-bit odd/even parity generator/checker	2.0 - 6.0	CMOS	±5.2	17	50	-40 to 125
74HCT280	9-bit odd/even parity generator/checker; TTL-enabled	4.5 - 5.5	TTL	±4	18	50	-40 to 125

## Standard logic functions

**74 XXX XXX XXX**

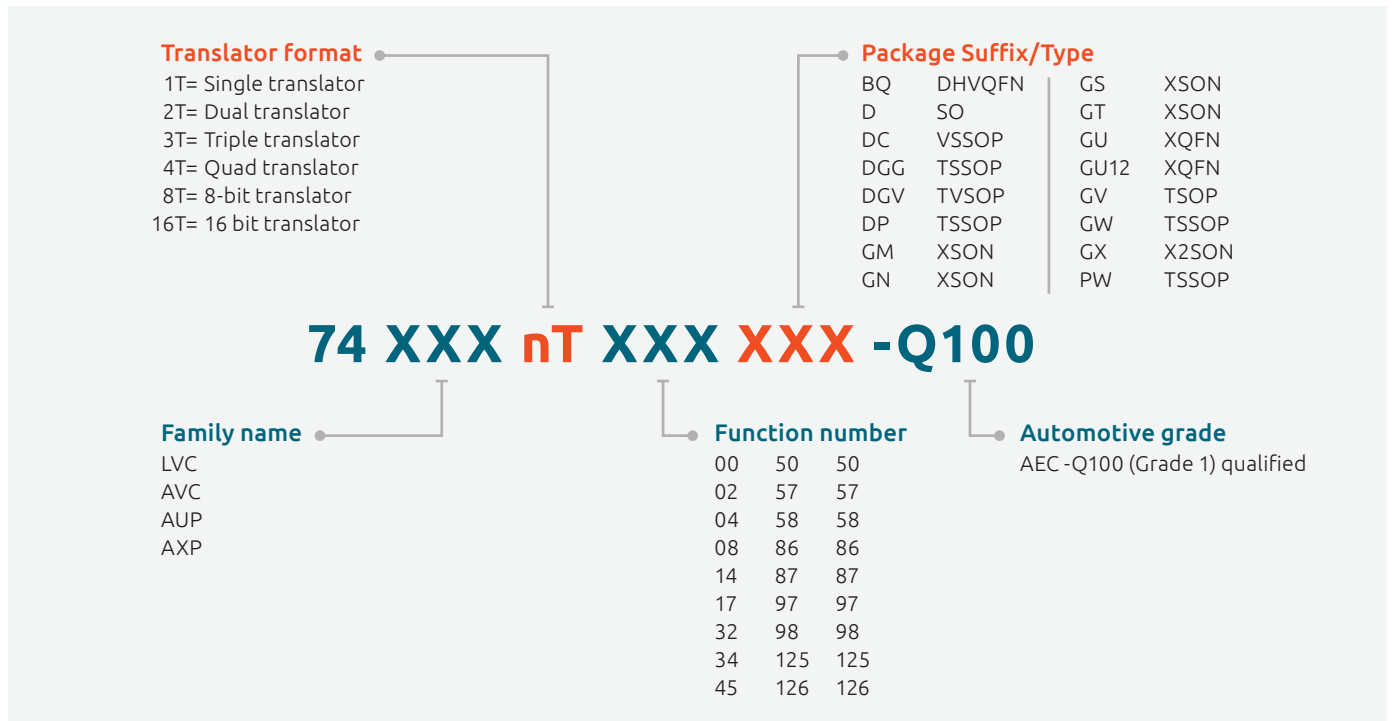
Logic family	Function number	Package type
ABT		BQ DQFN
AHC(T)		D SO
ALVC		DB SSOP
ALVT		DGG TSSOP
AUP		DGV TVSOP
AVC		DL SSOP
CB3Q		DS QSOP
CBT(D)		EV BGA
CBTLV(D)		GU XQFN
HC(T)		GU12 XQFN
HEF4000B		PW TSSOP
LV		T SO
LV-A(T)		TS SSOP
LVC		TT TSSOP
LVT		
NPIC		
VHC(T)		
XC7		

## Mini logic functions

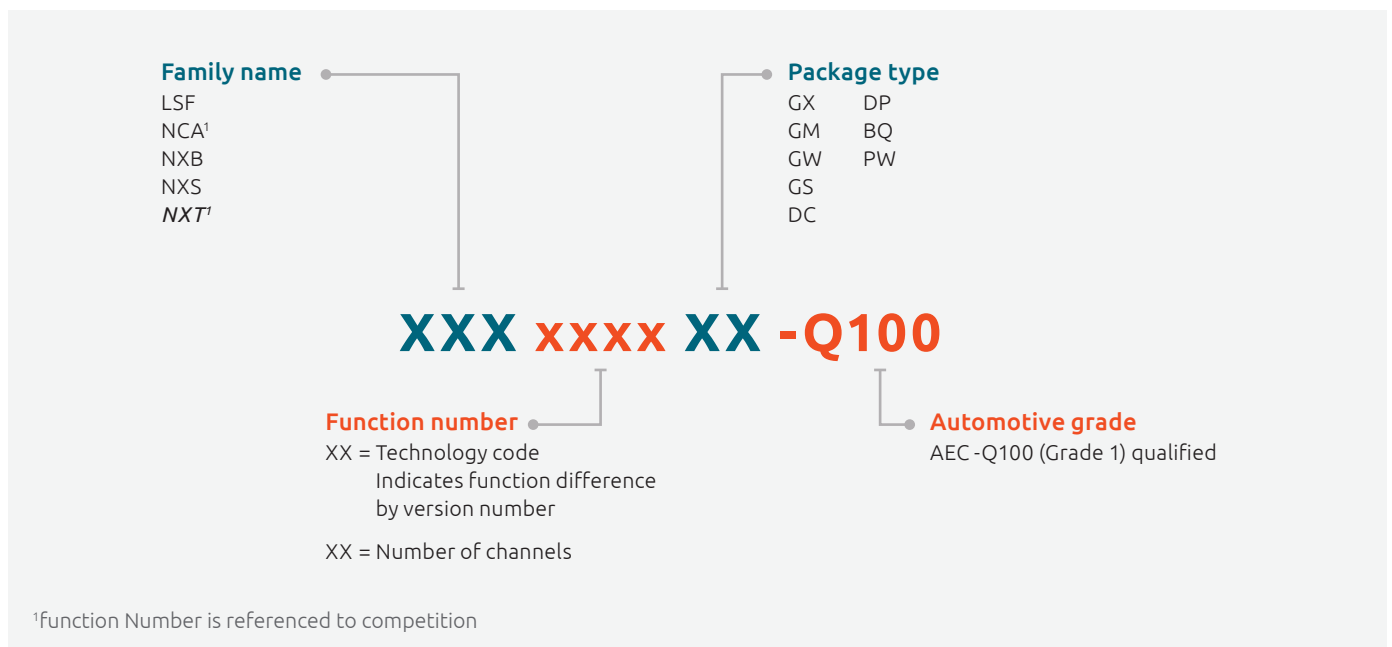
**74 XXX XG XXX XXX**

Logic family	Gate format	Function number	Package type
AHC(T)	1G Single-gate		DC PicoGate
AUP	2G Dual-gate		DP PicoGate
AVC	3G Triple-gate		GF MicroPak
AXP			GM MicroPak
CBT(D)			GN MicroPak
CBTLV(D)			GS MicroPak
HC(T)			GT MicroPak
LV			GU MicroPak
LVC			GU33 MicroPak
XC7			GV PicoGate
			GW PicoGate
			GX MicroPak
			GX4 MicroPak
			PW PicoGate
			UK MicroPak

## Interface ICs nomenclature



## Interface ICs nomenclature







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






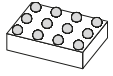
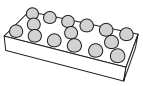












Package details and packing methods WLCSP

Package name	# of balls	Package size (l x w x h) (mm)	Pitch (mm)	Image	Basic type
WLCSP4	4	0.76 x 0.76 x 0.47	0.4		IP4369CX4
		0.8 x 0.8 x 0.15			PMCM4401UNE
					PMCM4401UPE
					PMCM4401VNE
					PMCM4401VPE
					PMCM4402UPE
					PMCM440VNE
WLCSP5	5	0.77 x 1.17 x 0.57	0.4		PCMF1HDMI14S
					PCMF1HDMI2S
					PCMF1USB30
					PCMF1USB3B
					PCMF1USB3S
					PESD1USB30
					PESD1USB3B
PESD1USB3S					
WLCSP6	6	0.95 x 1.34 x 0.6	0.4		IP3319CX6
		0.65 x 0.44 x 0.27	0.44		74AUP1G34UK
					74AUP1G97UK
					74AUP1T97UK
		1.45 x 1 x 0.35	0.5		PMCM6501UNE
					PMCM6501UPE
		1.5 x 1 x 0.35			PMCM6501VNE
		PMCM6501VPE			
		PMCM650CUNE			
WLCSP8	8	1.55 x 0.75 x 0.6	0.4		PCF2003DUS
WLCSP9	9	1.48 x 1.48 x 0.35	0.5		PMCM950ENE
WLCSP10	10	1.57 x 1.17 x 0.57	0.4		PCMF2HDMI14S
					PCMF2HDMI2S
					PCMF2USB30
					PCMF2USB3B
					PCMF2USB3S
					PESD2USB30
					PESD2USB3B
PESD2USB3S					

## Package details and packing methods WLCSP

Package name	# of balls	Package size (l x w x h) (mm)	Pitch (mm)	Image	Basic type
WLCSP12	12	1.86 x 1.36 x 0.6	0.5		NTB0104UK
WLCSP15	15	2.37 x 1.17 x 0.57	0.4		PCMF3HDMI14S
					PCMF3HDMI2S
					PCMF3USB30
					PCMF3USB3B
					PCMF3USB3S
					PESD3USB30
					PESD3USB3B
					PESD3USB3S

## Packing details glass diodes, single ended and through hole packages

Pins/leads	Package	Packing method and tape/reel/tube dimensions	Package	Ordering code (12 NC ending)	Packing quantity	
2	SOD27	26 mm tape ammo pack, axial		-143	5000 pcs	
		52 mm tape ammo pack, axial		-133	10000 pcs	
		52 mm reel pack, axial		-113	10000 pcs	
	SOD66	52 mm tape ammo pack, axial		-133	10000 pcs	
		52 mm reel pack, axial		-113	10000 pcs	
	SOD68	26 mm tape ammo pack, axial		-143	5000 pcs	
		52 mm reel pack, axial		-113	10000 pcs	
		52 mm tape ammo pack, axial		-133	10000 pcs	
		TO-220-2 (SOT8021)	Rail packing, 50pcs/tube, tube length = 534 mm		-127	1000 pcs
		TO-247-2 (SOT8022)	Rail packing, 30 pcs/tube, tube length = 533 mm		-127	450 pcs
3	SOT78 (TO-220)	Rail packing, 50 pcs/tube, tube length = 520 mm		-127	1000 pcs	
	I <sup>2</sup> PAK (SOT226)	Rail packing, 50 pcs/tube, tube length = 520 mm		-127	1000 pcs	
	TO-247 (SOT429)	Rail packing, 30 pcs/tube, tube length = 533 mm		-127	300 pcs	

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
6 Lead DFN	ON Semi	DFN2020-6 (SOT1118)	6
CL2	Toshiba	DSN0402-2 (SOD992)	2
CLP0603	Vishay	DSN0603-2 (SOD962)	2
CMAK/ CMPAK	Renesas	SOT323	3
CMPAK-5(T)	Renesas	SOT353	5
CMPAK-6	Renesas	SOT363	6
CMPAK/ CMAK	Renesas	SOT323	3
CP4	Toshiba	SOT143B	4
CS6	Toshiba	DFN1010-6 (SOT891)	6
CST3	Toshiba	DFN1006-3 (SOT883)	3
CST3	Toshiba	DFN1006B-3 (SOT883B)	3
CTS2 (FSC)	Toshiba	DFN1006-2 (SOD882)	2
CTS2 (FSC)	Toshiba	DFN1006D-2 (SOD882D)	2
D2PAK	Infineon	D2PAK (SOT404)	3
D2PAK	ON Semi	D2PAK (SOT404)	3
D2PAK	ST	D2PAK (SOT404)	3
D2PAK	Toshiba	D2PAK (SOT404)	3
D2PAK	Vishay	D2PAK (SOT404)	3
D2PAK	Infineon	LFPK88 (SOT1235)	4
D2PAK	ON Semi	LFPK88 (SOT1235)	4
D2PAK	ST	LFPK88 (SOT1235)	4
D2PAK	Vishay	LFPK88 (SOT1235)	4
D2PAK	Infineon	D2PAK (SOT404)	3
D2PAK	ST	D2PAK (SOT404)	3
D2PAK	Vishay	D2PAK (SOT404)	3
D2PAK	ST	D2PAK R2P (SOT8018)	2
D2PAK	Ween	D2PAK R2P (SOT8018)	2
D2PAK (TO263-2)	Infineon	D2PAK R2P (SOT8018)	2
D2PAK 3	ON Semi	D2PAK (SOT404)	3
D2PAK 3	ON Semi	LFPK88 (SOT1235)	4
D2PAK 3	ON Semi	D2PAK (SOT404)	3
D2PAK-3	ON Semi	D2PAK (SOT404)	3
D2PAK-7	Infineon	LFPK88 (SOT1235)	4
D2PAK-7	ON Semi	LFPK88 (SOT1235)	4
D2PAK-7	Vishay	LFPK88 (SOT1235)	4
D2PAK*	Diodes Inc.	D2PAK (SOT404)	3
D2PAK+	Toshiba	LFPK88 (SOT1235)	4
DFN-5	ON Semi	LFPK56 (SOT669)	4
DFN-8	ON Semi	LFPK56D (SOT1205)	8
DFN1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1006H4-3	Diodes Inc.	DFN1006-3 (SOT883)	3
DFN1411*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
DFN2	ST	DSN0603-2 (SOD962)	2
DPAK	ST	DPAK RP2 (SOT8017)	2

Type	Competitor	Nexperia	Pins/Leads
DPAK	Ween	DPAK RP2 (SOT8017)	2
DPAK (TO252-2)	Infineon	DPAK RP2 (SOT8017)	2
DSN2, 0.4 x 0.2	ON Semi	DSN0402-2 (SOD992)	2
DSN2, 0.6 x 0.3	ON Semi	DSN0603-2 (SOD962)	2
DSN2, 1.0 x 0.6	ON Semi	DSN1006-2 (SOD993)	2
DSN2, 1.0 x 0.6	ON Semi	DFN1006D-2 (SOD882D)	2
DSN2, 1.6 x 0.8	ON Semi	DFN1608D-2 (SOD1608)	2
EMD2	Rohm	SOD523	2
EMD3/EMT3	Rohm	DFN1006-3 (SOT883)	3
EMT3/EMD3	Rohm	DFN1006-3 (SOT883)	3
EMT3F*	Rohm	DFN1006-3 (SOT883)	3
ESC/TESC	Toshiba	SOD523	2
ESM	Toshiba	DFN1006-3 (SOT883)	3
FM8	Toshiba	SOT96	8
FS6*	Toshiba	DFN1010B-6 (SOT1216)	6
GMD2	Rohm	DSN0603-2 (SOD962)	2
H2PAK-2	ST	D2PAK (SOT404)	3
HSMT8	Rohm	LFPK33 (SOT1210)	8
HSON-8	Renesas	LFPK56 (SOT669)	4
HSON-8 Dual	Renesas	LFPK56D (SOT1205)	8
HSOP8 (Dual)	Rohm	LFPK56D (SOT1205)	8
HSOP8 (Single)	Rohm	LFPK56 (SOT669)	4
HSOP8 (Single)	Rohm	LFPK56E (SOT1023)	4
HUML2020L8 (Dual)	Rohm	DFN2020-6 (SOT1118)	6
HUML2020L8 (Single)	Rohm	DFN2020MD-6 (SOT1220)	6
I2PAK	ON Semi	I2PAK (SOT226)	3
I2PAK	ST	I2PAK (SOT226)	3
KMD2	Rohm	DFN1608D-2 (SOD1608)	2
LDPK(S)-(1)	Renesas	D2PAK (SOT404)	3
LFPK	Renesas	LFPK56 (SOT669)	5
LFPK 5x6	ST	LFPK56 (SOT669)	4
LFPK4	ON Semi	LFPK56 (SOT669)	4
LFPK56, HSON-8	Renesas	LFPK56E (SOT1023)	4
LFPK8	ON Semi	LFPK56E (SOT1023)	4
LG A 1.0 x 0.6mm	Texas Instruments	DFN1006B-3 (SOT883B)	3
LLD	Renesas	SOD80C	2
LLDS	Rohm	SOD80C	2
LLP1006-2L	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2L	Vishay	DFN1006D-2 (SOD882D)	2
LLP1006-2M	Vishay	DFN1006-2 (SOD882)	2
LLP1006-2M	Vishay	DFN1006D-2 (SOD882D)	2
LLP75-7L	Vishay	DFN1616-6 (SOT1189)	6
LPDS/LPTS	Rohm	D2PAK (SOT404)	3
LPTS	Rohm	D2PAK (SOT404)	3

Types with \* show footprint compatibility only



## Package cross reference list

Type	Competitor	Nexperia	Pins/ Leads
LPTS/LPDS	Rohm	D2PAK (SOT404)	3
M-Flat	Toshiba	SOD128	2
Micro 3	Int. Rectifier	SOT23	3
Micro 6	Int. Rectifier	SOT457	6
MICRO FOOT 0.8 x 0.8	Vishay	WLCSP4	4
MICRO FOOT 0.8 x 0.8*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1.2*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1.5*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1 x 1*	Vishay	DFN1010D-3 (SOT1215)	3
MICRO FOOT 1.5 x 1.0	Vishay	WLCSP6	6
MICRO FOOT 1.6 x 1.6*	Vishay	DFN2020MD-6 (SOT1220)	6
MICRO FOOT*	Vishay	DFN2020MD-6 (SOT1220)	6
MicroFET	FalRchild	DFN2020MD-6 (SOT1220)	6
MicroFET 1.6 x 1.6*	FalRchild	DFN2020MD-6 (SOT1220)	6
MicroSMA	Taiwan Semiconductor	CFP2-HP (SOD323HP)	2
MicroSMP	Vishay	CFP2-HP (SOD323HP)	2
MiniMelf	Diodes Inc.	SOD80C	2
MiniMelf	ST	SOD80C	2
MiniMelf	Vishay	SOD80C	2
MP-25(K)	Renesas	TO-220 (SOT78)	3
MP-25SK	Renesas	I2PAK (SOT226)	3
MP-25ZT	Renesas	D2PAK (SOT404)	3
MP6	Renesas	DSN0603-2 (SOD962)	2
MPAK	Renesas	SOT23	3
MPAK-4R	Renesas	SOT143B	4
MPT3	Rohm	SOT89	3
PG-TD SON-8	Infineon	LFPK56 (SOT669)	5
PG-TD- SON-8	Infineon	LFPK56E (SOT1023)	4
PG-TDSON-8	Infineon	LFPK56D (SOT1205)	8
PG-TDSON-8	Infineon	LFPK56 (SOT669)	4
PG-TO220-3	Infineon	TO-220 (SOT78)	3
PG-TO262-3	Infineon	I2PAK (SOT226)	3
PG-TO263-3	Infineon	D2PAK (SOT404)	3
PG-TSDSON-8	Infineon	LFPK33 (SOT1210)	8
PMDT	Rohm	SOD128	2
PMDU	Rohm	SOD123W	2
Power DI3333-8	Diodes Inc.	LFPK33 (SOT1210)	8
Power DI5060-8	Diodes Inc.	LFPK56D (SOT1205)	8
Power DI5060-8	Diodes Inc.	LFPK56 (SOT669)	4
Power FLAT 3.3 x 3.3	ST	LFPK33 (SOT1210)	8
Power FLAT 5x6 Dual	ST	LFPK56D (SOT1205)	8
Power FLAT 5x6 Dual	ST	LFPK56 (SOT669)	4
Power- Di5060-8	Diodes Inc	LFPK56E (SOT1023)	4

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/ Leads
Power- FLAT (6x5)	ST	LFPK56E (SOT1023)	4
Power88 (DFNW-8)	ON Semi	LFPK88 (SOT1235)	4
PowerDI123	Diodes Inc.	SOD123F	2
PowerDI123	Diodes Inc.	SOD123W	2
PowerDI323	Diodes Inc.	SOD323F	2
PowerDI323	Diodes Inc.	CFP2-HP (SOD323HP)	2
PowerDi5	Diodes Inc.	CFP15/B (SOT1289/B)	3
PowerDI5	Diodes Inc.	CFP15B (SOT1289B)	3
PowerFLAT (6 x 5)	ST	LFPK56 (SOT669)	5
PowerFLAT (6 x 5)	ST	LFPK56D (SOT1205)	5
PowerPAK 1212-8	Vishay	LFPK33 (SOT1210)	8
PowerPAK 8x8L	Vishay	LFPK88 (SOT1235)	4
PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
PowerPAK SC-70	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPak SC-70-6L	Vishay	DFN2020-6 (SOT1118)	6
PowerPak SC-75-6L*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC-75*	Vishay	DFN2020MD-6 (SOT1220)	6
PowerPAK SC706L	Vishay	DFN2020-3 (SOT1061)	3
PowerPAK SO-8	Vishay	LFPK56 (SOT669)	5
PowerPAK SO-8(L)	Vishay	LFPK56 (SOT669)	4
PowerPAK SO-8(L)	Vishay	LFPK56E (SOT1023)	4
PowerPAK SO-8L Dual	Vishay	LFPK56D (SOT1205)	8
PW-Mini	Toshiba	SOT89	3
S-Flat	Toshiba	SOD123F	2
S-Flat	Toshiba	SOD123W	2
S-Mini	Toshiba	SOT23	3
S-Mini TSM	Toshiba	SOT23	3
S08	Vishay	SOT96	8
SC-70	ON Semi	SOT323	3
SC-70, 3 leads	Vishay	SOT323	3
SC-74 TSOP-6	ON Semi	SOT457	6
SC-75	ON Semi	DFN1006-3 (SOT883)	3
SC-75	Semtech	DFN1006-3 (SOT883)	3
SC-75A	Vishay	DFN1006-3 (SOT883)	3
SC-88	ON Semi	SOT363	6
SC-88A	ON Semi	SOT353	5
SC2	Toshiba	DSN0603-2 (SOD962)	2
SC59	Diodes Inc.	SOT23	3
SC70	ON Semi	SOT323	3
SC70-3	AOS	SOT323	3
SC70-3	Vishay	SOT323	3
SC70-5L	Semtech	SOT353	5
SC70-6	AOS	SOT363	6
SC70-6	FalRchild	SOT363	6

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
SC70-6	Vishay	SOT363	6
SC70-6L	Semtech	SOT363	6
SC74 TSOP6	Infineon	SOT457	6
SC75	Infineon	DFN1006-3 (SOT883)	3
SC75	ON Semi	DFN1006-3 (SOT883)	3
SC75A	Vishay	DFN1006-3 (SOT883)	3
SC79	Infineon	SOD523	2
SC88/SC 7 0-6/ SOT 363 6 LEAD	ON Semi	SOT363	6
SC89-3	FalRchild	DFN1006-3 (SOT883)	3
SC89-3	ON Semi	DFN1006-3 (SOT883)	3
SC89-3	Vishay	DFN1006-3 (SOT883)	3
SGP0603P2X3	Semtech	DFN0603-2 (SOD972E)	2
SL2	Toshiba	DFN0603-2 (SOD972E)	2
SlimSMAW	Vishay	CFP5 (SOD128)	2
SLP0402P2X3	Semtech	DSN0402-2 (SOD992)	2
SLP1006P2	Semtech	DFN1006-2 (SOD882)	2
SLP1006P2T	Semtech	DFN1006D-2 (SOD882D)	2
SLP1006P3	Semtech	DFN1006-3 (SOT883)	3
SLP1006P3T	Semtech	DFN1006B-3 (SOT883B)	3
SLP1610N2	Semtech	DFN1608D-2 (SOD1608)	2
SLP1610P4	Semtech	DFN2510A-10 (SOT1176)	10
SLP1713P8	Semtech	DFN1714-8 (SOT1166)	8
SLP1713P8	Semtech	DFN1714U-8 (SOT983)	8
SLP2513P12	Semtech	DFN2514-12 (SOT1167)	12
SLP3313P16	Semtech	DFN3314-16 (SOT1168)	16
SM6 VS-6	Toshiba	SOT457	6
SMA flat	ST	SOD128	2
SMAFS	Diodes Inc.	CFP5 (SOD128)	2
SMD TO-263	Renesas	D2PAK (SOT404)	3
SMD0402	Rohm	DSN0402-2 (SOD992)	2
SMD6/SMT6	Rohm	SOT457	6
SMD6/SMZ6	Rohm	SOT457	6
SMF	Vishay	CFP3 (SOD123W)	2
SMPAK	Renesas	DFN1006-3 (SOT883)	3
SMPC	Vishay	CFP15B (SOT1289B)	3
SMPCc	Taiwan Semiconductor	CFP15B (SOT1289B)	3
SMPC TO-277A	Vishay	CFP15/B (SOT1289/B)	3
SMPC4.0	Taiwan Semiconductor	CFP15B (SOT1289B)	3
SMT3	Rohm	SOT23	3
SMT5*	Rohm	SOT457	6
SMT6	Rohm	SOT457	6

Type	Competitor	Nexperia	Pins/Leads
SMZ6/SMD6	Rohm	SOT457	6
SO-8 FL	ON Semi	LFPAK56 (SOT669)	5
SO-8 FL, DFN-5	ON Semi	LFPAK56E (SOT1023)	4
SO-8FL Dual	ON Semi	LFPAK56D (SOT1205)	8
SO-8FL Dual	ON Semi	LFPAK56 (SOT669)	4
SOD-123	ST	SOD123F	2
SOD-123-FL	ON Semi	SOD123W	2
SOD-123FL	ON Semi	CFP3 (SOD123W)	2
SOD-123FL	Rohm	CFP3 (SOD123W)	2
SOD-123W	Taiwan Semiconductor	CFP3 (SOD123W)	2
SOD-128	Rohm	CFP5 (SOD128)	2
SOD-128	Taiwan Semiconductor	CFP5 (SOD128)	2
SOD-323	Diodes Inc.	SOD323	2
SOD-323	ON Semi	SOD323	2
SOD-323	ST	SOD323	2
SOD-323EP	ON Semi	CFP2-HP (SOD323HP)	2
SOD-323HE	Rohm	CFP2-HP (SOD323HP)	2
SOD-523	ON Semi	SOD523	2
SOD-523	ST	SOD523	2
SOD123F	Diodes Inc.	CFP3 (SOD123W)	2
SOD323	Infineon	SOD323	2
SOD323	Semtech	SOD323	2
SOD323	Vishay	SOD323	2
SOD523	Diodes Inc.	SOD523	2
SOD523	Semtech	SOD523	2
SOD523	Vishay	SOD523	2
SOD882	ST	DFN1006-2 (SOD882)	2
SOD882T	ST	DFN1006D-2 (SOD882D)	2
SOD923-2*	ON Semi	DFN1006-2 (SOD882)	2
SOIC-8 NB	ON Semi	SOT96	8
SON 2x2	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SON 3 x 3*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
SOP / DSOP Advance	Toshiba	LFPAK56E (SOT1023)	4
SOP / DSOP Advance	Toshiba	LFPAK56 (SOT669)	4
SOP-8	Renesas	SOT96	8
SOP8	Rohm	SOT96	8
SOT 143	Infineon	SOT143B	4
SOT-143	Diodes Inc.	SOT143B	4
SOT-143	Semtech	SOT143B	4
SOT-223	Diodes Inc.	SOT223	4
SOT-223	Infineon	SOT223	4
SOT-223	ON Semi	SOT223	4

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/ Leads
SOT-223	ST	SOT223	4
SOT-223	Diodes Inc.	SOT223	3
SOT-223	ON Semi	SOT223	3
SOT-323	Diodes Inc.	SOT323	3
SOT-323	ST	SOT323	3
SOT-363	Diodes Inc.	SOT363	6
SOT-89	ON Semi	SOT89	3
SOT063*	ON Semi	DFN1010B-6 (SOT1216)	6
SOT223	Diodes Inc.	SOT223	4
SOT223	FalRchild	SOT223	4
SOT223	Infineon	SOT223	4
SOT223	ON Semi	SOT223	4
SOT223	Vishay	SOT223	4
SOT23	AOS	SOT23	3
SOT23	Diodes Inc.	SOT23	3
SOT23	Infineon	SOT23	3
SOT23	ON Semi	SOT23	3
SOT23	Semtech	SOT23	3
SOT23	ST	SOT23	3
SOT23	Vishay	SOT23	3
SOT23-3	AOS	SOT23	3
SOT23-3	Diodes Inc.	SOT23	3
SOT23-3	ON Semi	SOT23	3
SOT23-5	AOS	SOT457	6
SOT23-5	Diodes Inc.	SOT457	6
SOT23-6	Diodes Inc.	SOT457	6
SOT23-6	ST	SOT457	6
SOT23-6L	Semtech	SOT457	6
SOT23F	Diodes Inc.	SOT23	3
SOT23F	Toshiba	SOT23	3
SOT26	Diodes Inc.	SOT457	6
SOT323	Diodes Inc.	SOT323	3
SOT323	FalRchild	SOT323	3
SOT323	Infineon	SOT323	3
SOT353	Diodes Inc.	SOT353	5
SOT353	Diodes Inc.	SOT363	6
SOT353	Vishay	SOT353	5
SOT363	Diodes Inc.	SOT363	6
SOT363	Infineon	SOT363	6
SOT523	Diodes Inc.	DFN1006-3 (SOT883)	3
SOT523F	FalRchild	DFN1006-3 (SOT883)	3
SOT723-3*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT723*	ON Semi	DFN1010D-3 (SOT1215)	3
SOT89	Diodes Inc.	SOT89	3

Type	Competitor	Nexperia	Pins/ Leads
SOT89	Infineon	SOT89	3
SOT89-3L	Diodes Inc.	SOT89	3
SOT963	ON Semi	DFN1010-6 (SOT891)	6
SOT963*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
SRP-F	Renesas	SOD123W	2
SS CSP2	Toshiba	DFN1006-3 (SOT883)	3
SSD3/SST3	Rohm	SOT23	3
SSM	Toshiba	DFN1006-3 (SOT883)	3
SSOT3	FalRchild	SOT23	3
SSOT6	FalRchild	SOT457	6
SSOT6 FLMP	FalRchild	SOT457	6
SST3	Rohm	SOT23	3
SST3/SSD3	Rohm	SOT23	3
ST01005	STM	DSN0402-2 (SOD992)	2
Stmite flat	ST	SOD123W	2
sTOLL (PG-HSOF-5)	Infineon	LFPAK88 (SOT1235)	4
Sub SMA	Taiwan Semiconductor	CFP3 (SOD123W)	2
T0263	Diodes Inc.	D2PAK(SOT404)	3
T0263-3	Infineon	D2PAK (SOT404)	3
Thin PowerPAK SC-70	Vishay	DFN2020-6 (SOT1118)	6
Thin PowerPAK SC70	Vishay	DFN2020MD-6 (SOT1220)	6
Thin PowerPAK SC75*	Vishay	DFN2020MD-6 (SOT1220)	6
TO-200 real 2pin	Infineon	TO-220-2 (SOT8021)	2
TO-220	ST	TO-220 (SOT78)	3
TO-220	Toshiba	TO-220 (SOT78)	3
TO-220	Vishay	TO-220 (SOT78)	3
TO-220 FP	Onsemi	TO-220-2 (SOT8021)	2
TO-220-2	Cree	TO-220-2 (SOT8021)	2
TO-220-2	Onsemi	TO-220-2 (SOT8021)	2
TO-220-2L	Littelfuse	TO-220-2 (SOT8021)	2
TO-220-2L	Ween	TO-220-2 (SOT8021)	2
TO-220-3	ON Semi	TO-220 (SOT78)	3
TO-220-3L	ON Semi	TO-220 (SOT78)	3
TO-220A	Rohm	TO-220-2 (SOT8021)	2
TO-220AB	Vishay	TO-220 (SOT78)	3
TO-220AB	ST	TO-220-2 (SOT8021)	2
TO-220AC	ST	TO-220-2 (SOT8021)	2
TO-220AC	Rohm	TO-220-2 (SOT8021)	2
TO-220AC2L	Rohm	TO-220-2 (SOT8021)	2
TO-220F-3FS	ON Semi	TO-220 (SOT78)	3
TO-220FM	Rohm	TO-220 (SOT78)	3
TO-220S	Renesas	D2PAK (SOT404)	3
TO-220SM	Toshiba	D2PAK (SOT404)	3

Types with \* show footprint compatibility only

## Package cross reference list

Type	Competitor	Nexperia	Pins/Leads
TO-247	ST	TO-247-2 (SOT8022)	2
TO-247	Littelfuse	TO-247-2 (SOT8022)	2
TO-247	Rohm	TO-247-2 (SOT8022)	2
TO-247 real 2pin	Infineon	TO-247-2 (SOT8022)	2
TO-247-2	Cree	TO-247-2 (SOT8022)	2
TO-247-2	Onsemi	TO-247-2 (SOT8022)	2
TO-247-2L	Ween	TO-247-2 (SOT8022)	2
TO-252-2	Cree	DPAK RP2 (SOT8017)	2
TO-252-2L	Littelfuse	DPAK RP2 (SOT8017)	2
TO-262	Renesas	I2PAK (SOT226)	3
TO-262	Vishay	I2PAK (SOT226)	3
TO-262-2L	ON Semi	I2PAK (SOT226)	3
TO-262-3L	ON Semi	I2PAK (SOT226)	3
TO-263	Renesas	D2PAK-7 (SOT427)	7
TO-263	Renesas	D2PAK (SOT404)	3
TO-263	Vishay	D2PAK (SOT404)	3
TO-263 3-lead	Vishay	D2PAK (SOT404)	3
TO-263 real 2pin	Infineon	D2PAK R2P (SOT8018)	2
TO-263-2L	ON Semi	D2PAK (SOT404)	3
TO-263-2L	Littelfuse	D2PAK R2P (SOT8018)	2
TO-263AB	Vishay	D2PAK (SOT404)	3
TO-273-2	Cree	D2PAK R2P (SOT8018)	2
TO-277	ON Semi	CFP15B (SOT1289B)	3
TO-277A	Rohm	CFP15B (SOT1289B)	3
TO-LL	ON Semi	LFPK88 (SOT1235)	4
TO-LL (PG-HSOF-8-1)	Infineon	LFPK88 (SOT1235)	4
TO220	Infineon	TO-220 (SOT78)	3
TO220-3	Diodes Inc.	TO-220 (SOT78)	3
TO262	Infineon	I2PAK (SOT226)	3
TO263	Diodes Inc.	D2PAK (SOT404)	3
TOLG (PG-HSOG-8)	Infineon	LFPK88 (SOT1235)	4
TSLP-2-1	Infineon	DFN1006-2 (SOD882)	2
TSLP-2-7/-17	Infineon	DFN1006D-2 (SOD882D)	2
TSLP-3-1, -15	Infineon	DFN1006B-3 (SOT883B)	3
TSLP-3-4	Infineon	DFN1006-3 (SOT883)	3
TSLP-9-1	Infineon	DFN2510A-10 (SOT 1176)	10
TSMT5*	Rohm	SOT457	6
TSMT6	Rohm	SOT457	6
TSNP-2-2	Infineon	DFN1608D-2 (SOD 1608)	2
TSON Advance	Toshiba	LFPK33 (SOT1210)	8
TSOP-6	Renesas	SOT457	6
TSOP-6/ TSOP6	Vishay	SOT457	6
TSOP6	AOS	SOT457	6
TSOP6	ON Semi	SOT457	6

Type	Competitor	Nexperia	Pins/Leads
TSOP6	Vishay	SOT457	6
TSSLP-2-1	Infineon	DSN0603-2 (SOD962)	2
TSST8*	Rohm	DFN2020MD-6 (SOT1220)	6
TUMT3	Rohm	SOT323	3
TUMT5*	Rohm	DFN2020-6 (SOT1118)	6
TUMT6*	Rohm	DFN2020-6 (SOT1118)	6
Type B 2.0 x 2.0 x 0.6			
U-DFN2020-3	Diodes Inc.	DFN2020-3 (SOT1061)	3
U-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
U-DFN2523-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
U-WLB1510-6	Diodes Inc.	WLCSP6	6
U-WLB1515-9	Diodes Inc.	WLCSP9	9
U-WLB1515-9 (Type B)	Diodes Inc.	WLCSP9	9
U-WLB1515-9 (Type E)	Diodes Inc.	WLCSP9	9
UDFN 1.7 x 1.35, 0.4P	ON Semi	DFN1714U-8 (SOT983)	8
UDFN-6 WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN10 2.5 x 1, 0.5P	ON Semi	DFN2510A-10 (SOT1176)	10
UDFN12 2.5 x 1.35, 0.4P	ON Semi	DFN2514-12 (SOT1167)	12
UDFN2020-6 Type B	Diodes Inc.	DFN2020-6 (SOT1118)	6
UDFN2020-6 Type E	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
UDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
UDFN6	Toshiba	DFN2020-6 (SOT1118)	6
UDFN6B	Toshiba	DFN2020MD-6 (SOT1220)	6
UF6	Toshiba	SOT363	6
UF6/ USV/ US6	Toshiba	SOT363	6
UFP	Renesas	SOD523	2
UMD2	Rohm	SOD323F	2
UMD3/UMT3	Rohm	SOT323	3
UMD5/UMT5	Rohm	SOT353	5
UMD6/ UMT6	Rohm	SOT363	6
UMLP 1.6 x 1.6*	Fairchild	DFN2020MD-6 (SOT1220)	6
UMT3	Rohm	SOT323	3
UMT3F*	Rohm	SOT323	3
UMTS/ UMD5	Rohm	SOT353	5
UMT6	Rohm	SOT363	6
UMT6/ UMD6	Rohm	SOT363	6
UPAK (SOT89)	Renesas	SOT89	3
URP	Renesas	SOD323	2
US-Flat	Toshiba	SOD323F	2
US6	Toshiba	SOT363	6
US6/ UF6/ USV	Toshiba	SOT363	6
use	Toshiba	SOD323	2
USM	Toshiba	SOT323	3
USV	Toshiba	SOT353	5

Types with \* show footprint compatibility only

Type	Competitor	Nexperia	Pins/Leads
USV	Toshiba	SOT363	6
USV/ US6/ UF6/	Toshiba	SOT363	6
VESM*	Toshiba	DFN1010D-3 (SOT1215)	3
VML0806*	Rohm	DFN1006B-3 (SOT883B)	3
VML1006	Rohm	DFN1006-3 (SOT883)	3
VMN2*	Rohm	DFN1006-2 (SOD882)	2
VMN2*	Rohm	DFN1006D-2 (SOD882D)	2
VMN3*	Rohm	DFN1006-3 (SOT883)	3
VMT3*	Rohm	DFN1010D-3 (SOT1215)	3
VMT6*	Rohm	DFN1010B-6 (SOT1216)	6
VS6	Toshiba	SOT457	6
W-DFN3020-8*	Diodes Inc.	DFN2020-6 (SOT1118)	6
WCSP6C	Toshiba	WLCSP6	6
WDFN-8	ON Semi	LFPK33 (SOT1210)	8
WDFN3	ON Semi	DFN2020-3 (SOT1061)	3
WDFN6	ON Semi	DFN2020-6 (SOT1118)	6
WDFN6	ON Semi	DFN2020MD-6 (SOT1220)	6
WLCSP 1 x 1*	FalRchild	WLCSP4	3
WLCSP-4*	FalRchild	WLCSP4	3
WLCSP-4*	ON Semi	WLCSP4	3
WLCSP1.6 x 1.6*	AOS	WLCSP6	6
WLCSP2	ON Semi	DSN0603-2 (SOD962)	2
WLL-2-2	Infineon	DSN0402-2 (SOD992)	2
WLL-2-2	Infineon	DSN0402B-2 (SOD992B)	2
WLP 1.0 x 1.5	Texas Instruments	WLCSP6	6
WLP1.5 x 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
WLPI.O x 1.0*	Texas Instruments	DFN1010D-3 (SOT1215)	3
WLPI.O x 1.5*	Texas Instruments	DFN2020MD-6 (SOT1220)	6
X1 -DFN 1006-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X1-DFN1212-3*	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X1-DFN1616-6*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X1-WLB0808-4	Diodes Inc.	WLCSP4	4
X2-DFN0606-3	Diodes Inc.	DFN0606 (SOT8001)	3
X2-DFN0806-3	Diodes Inc.	DFN1006-3 (SOT883)	3
X2-DFN1006-2	Diodes Inc.	DFN1006D-2 (SOD882D)	2
X2-DFN1006-3	Diodes Inc.	DFN1006B-3 (SOT883B)	3
X2-DFN1010-3	Diodes Inc.	DFN1010D-3 (SOT1215)	3
X2-DFN1310-6*	Diodes Inc.	DFN1010B-6 (SOT1216)	6
X2-DFN2015-3*	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X2-DFN2020-6	Diodes Inc.	DFN2020MD-6 (SOT1220)	6
X2-WLB0808-4	Diodes Inc.	WLCSP4	4
X2-WLB0808-4 (Type B)	Diodes Inc.	WLCSP4	4
X3-DFN0603-2	Diodes Inc.	DFN0603-2 (SOD972E)	2
X3-DFN0603-2	Diodes Inc.	DSN0603-2 (SOD962)	2

Type	Competitor	Nexperia	Pins/Leads
X3DFN-2	ON Semi	DSN0603-2 (SOD962)	2
X3DFN2	ON Semi	DFN0603-2 (SOD972E)	2
XDFN3	ON Semi	DFN1006-3 (SOT883)	3
XI-DFN1006-2	Diodes Inc.	DFN1006-2 (SOD882)	2
XLLGA-3	ON Semi	DFN0606 (SOT8001)	3
μ8FL	ON Semi	LFPK33 (SOT1210)	8
μQFN-10L	ST	DFN2510A-10 (SOT1176)	10
μQFN-2L	ST	DFN1006-2 (SOD882)	2

Types with \* show footprint compatibility only

## Package cross reference matrix

Pins/ leads	Nexperia	Industry standard names	Size (L x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms									
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech	
2	DSN0402-2 (SOD992)		0.4 x 0.2 x 0.12			SMD0402	CL2	DSN2 0.4 x 0.2					ST01005		SLP- 0402P2X3
	DSN0402B-2 (SOD992B)		0.43 x 0.23 x 0.12												
	DFN0603-2 (SOD972E)		0.63 x 0.33 x 0.25				SL2	X3DFN2			X3-DFN0603-2			SGP- 0603P2X3	
	DSN1006-2 (SOD993)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DSN1006U-2 (SOD995)		1.0 x 0.6 x 0.3					DSN2 1.0 x 0.6							
	DFN1006-2 (SOD882)		1.0 x 0.6 x 0.48	250		(VMN2)	CTS2 (FSC)	(SOD923-2)		TSLP-2-1	XI-DFN1006-2	SOD 882 uQFN-2L	LLP1006-2M LLP1006-2L	SLP1006P2	
	DFN1006D-2 (SOD882D)		1.0 x 0.6 x 0.37	250		(VMN2)	CTS2 (FSC)	DSN2 1.0 x 0.6		TSLP-2-7/ -17	X2-DFN1006-2	SOD882T	LLP1006-2L LLP1006-2M	SLP1006P2T	
	DFN1608D-2 (SOD1608)		1.6 x 0.8 x 0.37	780			KMD2	DSN2 1.6 x 0.8		TSNP-2-2				SLP1610N2	
	DPAK R2P (SOT8017)	TO-252	6.1 x 6.6 x 2.3					DPAK		DPAK		DPAK			
	D2PAK R2P (SOT8018)	TO-263	11 x 10 x 4.3				TO-263AB	D2PAK		D2PAK		D2PAK			
	DSN0603-2 (SOD962)		0.6 x 0.3 x 0.3	525			GMD2	SC2	DSN2, X3DFN-2 WLCSF2	MP6	TSSLP-2-1	X3-DFN0603-2	DFN2	CLP0603	SLP- 0603P2X3
	SOD80C	Mini-Melf	3.5 x 1.5 x 1.5	300			LLDS			LLD		MiniMelf	MiniMelf	MiniMelf	
	SOD123F		2.6 x 1.6 x 1.1	830									SOD-123		
	CFP3 (SOD123W)		2.6 x 1.7 x 1.0	950			SOD-123FL		SOD-123FL			SOD123F	SOD- 123W Sub SMA	SMF	
	CFP5 (SOD128)		3.8 x 2.5 x 1.0	1050			SOD-128					SMAFS	SOD-128	SlimSMAW	
	SOD323	SC-76	1.7 x 1.25 x 0.95	400				USC	SOD-323	URP	SOD323	SOD-323	SOD-323	SOD323	SOD323
	CFP2-HP (SOD323HP)		2.2 x 1.3 x 0.68				SOD-323HE		SOD-323EP			PowerDI323		MicroSMP	
	SOD323F	SC-90	1.7 x 1.25 x 0.7	830			UMD2	US-Flat							
	SOD523	SC-79	1.2 x 0.8 x 0.6	500			EMD2	ESC/TESC	SOD-523	UFP	SC79	SOD523	SOD-523	SOD523	SOD523
	TO-220-2 (SOT8021)	TO-220	10 x 15.6 x 4.4				TO-220	TO-220	TO-220	TO-220	TO-220			TO-220	TO-220
TO-247-2 (SOT8022)	TO-247	15.9 x 20.9 x 5				TO-247	TO-247	TO-247		TO-247			TO-247	TO-247	
3	CFP15B (SOT1289B)		5.8 x 4.3 x 0.95	2150			TO-277A	TO-277			PowerDi5	SMPC SMPC4.0	SMPC		
	DFN1006-3 (SOT883)	SC-101	1.0 x 0.6 x 0.48	250		VML1006	SS CSP2	XDFN3		TSLP-3-4	X1 -DFN 1006-3			SLP1006P3	
	DFN1006B-3 (SOT883B)		1.0 x 0.6 x 0.37	250		VML1006	CST3	XDFN3		TSLP-3-1, -15	X2-DFN1006-3			SLP1006P3T	
	DFN1010D-3 (SOT1215)		1.1 x 1.0 x 0.37	325		(VMT3)	(VESM)	(SOT723)			X2-DFN1010-3				
	DFN2020-3 (SOT1061)	HUSON3	2.0 x 2.0 x 0.62	1300				WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L		
	DFN2020D-3 (SOT1061D)		2.0 x 2.0 x 0.62	1300				WDFN3			U-DFN2020-3 Type B 2.0 x 2.0 x 0.6		PowerPAK SC706L		
	D <sup>2</sup> PAK (SOT404)		11.0 x 11.0 x 4.3			LPDS/ LPTS	TO-220SM D <sup>2</sup> PAK	D <sup>2</sup> PAK D <sup>2</sup> PAK 3 TO-263-2L	TO-220S / SMD TO-263 LPAK(S)-(1) MP-25Z	D <sup>2</sup> PAK, PG- TO263-3	TO263 (D <sup>2</sup> PAK)	D <sup>2</sup> PAK, H <sup>2</sup> PAK-2	TO-263 3-lead TO-263AB / D <sup>2</sup> PAK TO-263		
	SOT23		2.9 x 1.3 x 1.0	250		SSD3/ SST3	S-Mini TSM	SOT-23	MPAK	SOT23	SOT-23	SOT23	SOT23	SOT23	SOT23
	SOT89	SC-62	4.5 x 2.5 x 1.5	1300		MPT3	PW-Mini	SOT-89	UPAK (SOT89)	SOT89	SOT89				
	SOT323	SC-70	2.0 x 1.25 x 0.95	200		UMD3/ UMT3 TUMT3	USM	SC-70	CMAK/ CMPAK	SOT323	SOT-323	SOT-323	SOT-323	SC-70 3 leads	SOT-323
TO-220 (SOT78)		15.6 x 10 x 4.4			TO-220FM	TO-220	TO-220-3L, TO-220F-3FS, TO-220-3	MP-25(K)	PG- TO220-3, TO220	TO220-3	TO-220	TO-220	TO-220, TO- 220AB		
I <sup>2</sup> PAK (SOT226)		11 x 10 x 4.3					I <sup>2</sup> PAK, TO-262-2L, TO-262-3L	MP-25SK, TO-262	PG- TO262-3, TO262		I <sup>2</sup> PAK	TO-262			

Types in brackets (...) show footprint compatibility only

# Package cross reference matrix

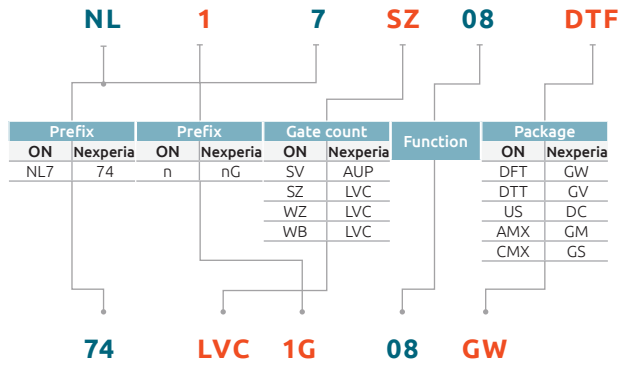
Pins/ leads	Nexperia	Industry standard names	Size (l x w x h) (mm)	P <sub>tot</sub> (mW)	Package	Competitor synonyms								
						Rohm	Toshiba	ON Semi	Renesas	Infineon	Diodes Inc	ST	Vishay	Semtech
4	LPAK56 (SOT669)	Power-S08	4.9 x 4.45 x 1.0	395W		HSOP8 (Single)	SOP / DSOP Advance	SO-8 FL, DFN-5, LPAK4	LPAK56, HSON-8	PG-TD-SON-8	Power-Di5060-8	Power-FLAT (6x5)	PowerPAK SO-8(L)	
	SOT143B		2.9 x 1.3 x 1.0	250			CP4		MPAK-4R	SOT143	SOT-143		SOT-143	
	LPAK56E (SOT1023)		6.2 x 5.3 x 1.1	500W		HSOP8 (Single)	SOP / DSOP Advance	SO-8 FL, DFN-5, LPAK8	LPAK56, HSON-8	PG-TD-SON-8	Power-Di5060-8	Power-FLAT (6x5)	PowerPAK SO-8(L)	
	SOT223	SC-73	6.5 x 3.5 x 1.65	1700				SOT-223		SOT223	SOT-223		SOT223	
	LPAK88 (SOT1235)		8 x 8 x 1.6	375W			D <sup>2</sup> PAK+	TO-LL Power88 D <sup>2</sup> PAK-3 D <sup>2</sup> PAK-7		TO-LL sTOLL TOLG D <sup>2</sup> PAK D <sup>2</sup> PAK7P		D <sup>2</sup> PAK H <sup>2</sup> PAK-2 H <sup>2</sup> PAK-6	PowerPAK 8x8L D <sup>2</sup> PAK-3 D <sup>2</sup> PAK-7	
5	SOT353	SC-88 A	2.0 x 1.25 x 0.95	300		UMD5/UMT5	USV	SC-88 A	CMPAK-SC0		SOT353		SOT353	SC70-5L
6	DFN1010-6 (SOT891)	XSON6	1.0 x 1.0 x 0.48					CS6	SOT963					
	DFN1010B-6 (SOT1216)		1.1 x 1.0 x 0.37	350		(VMT6)	(FS6)	(SOT063)			(SOT963)			
	DFN1410-6 (SOT886)	XSON6	1.45 x 1.0 x 0.48	250										SLP1510N6
	DFN2020-6 (SOT1118)		2.0 x 2.0 x 0.62	1300		HU-ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020-6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70	
	DFN2020D-6 (SOT1118D)		2.0 x 2.0 x 0.62	1300		HU-ML2020L8 (Dual)	UDFN6	6 Lead DFN WDFN6			UDFN2020-6 Type B		PowerPAK SC-70 Thin PowerPAK SC-70	
	DFN-2020MD-6 (SOT1220)		2.0 x 2.0 x 0.62	1250		HU-ML2020L8 (Single)	UDFN6B	UDFN-6 WDFN6			UDFN2020-6 Type E		PowerPAK SC-70 Thin PowerPAK SC-70	
	SOT363	SC-88	2.0 x 1.25 x 0.95	300		UMD6/UMT6	US6 UF6 USV	SC-88	CMPAK-6	SOT363	SOT-363		SC70-6	SC70-6L
	SOT457	SC-74	2.9 x 1.5 x 1.0	750		SMD6/SMT6	SM6 VS-6	SC-74 TSOP-6	TSOP-6	SC74 TSOP6	SOT23-6 SOT26		TSOP6 TSOP-6	SOT23-6L
8	LPAK33 (SOT1210)		3.3 x 3.3 x 0.85	790		HSMT8	TSON Advance	μ8FL, WDFN-8		PG-TSD-SON-8	Power DI3333-8	Power FLAT 3.3 x 3.3	PowerPAK 1212-8	
	LPAK56D (SOT1205)		4.9 x 4.45 x 1.0	680		HSOP8 (Dual)		SO-8FL Dual, DFN-8	HSON-8 dual	PG-TDSON-8	Power DI5060-8	Power FLAT 5x6 Dual	PowerPAK SO-8L Dual	
	DFN1714-8 (SOT1166)	HUSON8	1.7 x 1.35 x 0.52											SLP1713P8
	DFN1714U-8 (SOT983)	HXSON8	1.7 x 1.35 x 0.48					UDFN 1.7 x 1.35, 0.4P						SLP1713P8
10	DFN2510-10 (SOT1165)	XSON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4
	DF-N2510A-10 (SOT1176)	XSON10	2.5 x 1.0 x 0.48					UDFN10 2.5 x 1, 0.5P		TSLP-9-1		pQFN-10L		SLP1610P4
	DFN2626-10 (SOT1197)		2.6 x 2.6 x 0.48					UDFN10 2.6 x 2.6, 0.5P						SLP2626P10
12	DFN2512-12 (SOT1158)	HXSON12	2.5 x 1.2 x 0.48					UDFN12, 2.5 x 1.2, 0.4P						
	DFN2514-12 (SOT1167)	HUSON12	2.5 x 1.35 x 0.53					UDFN12, 2.5 x 1.35, 0.4P						SLP2513P12
16	DFN3312-16 (SOT1159)	HXSON16	3.3 x 1.2 x 0.48					UDFN 16, 3.5 x 1.2, 0.4P						
	DFN3314-16 (SOT1168)	HUSON16	3.3 x 1.35 x 0.53											SLP3313P16

Types in brackets (...) show footprint compatibility only

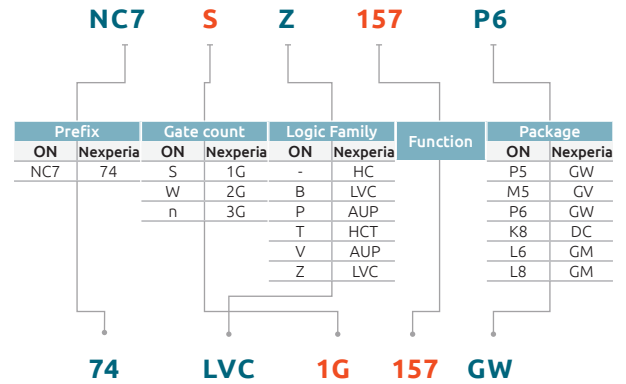
## Competitive cross reference - Analog & logic ICs

This cross reference allows you to match a competitor's part number to a Nexperia part number. Once you have the equivalent part number, check the Nexperia website [www.nexperia.com/logic](http://www.nexperia.com/logic) to confirm that the particular configuration is released.

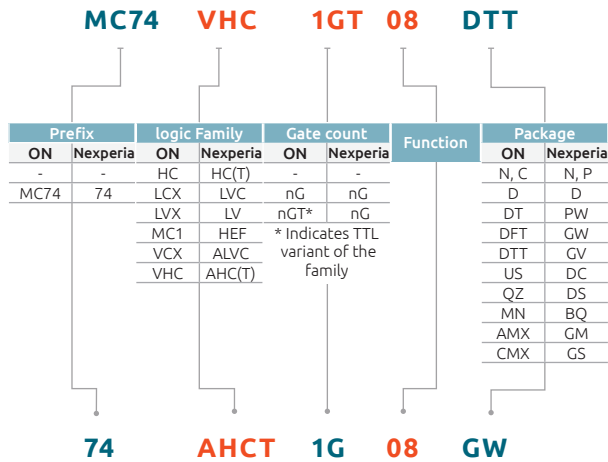
### On semiconductor low pin count logic



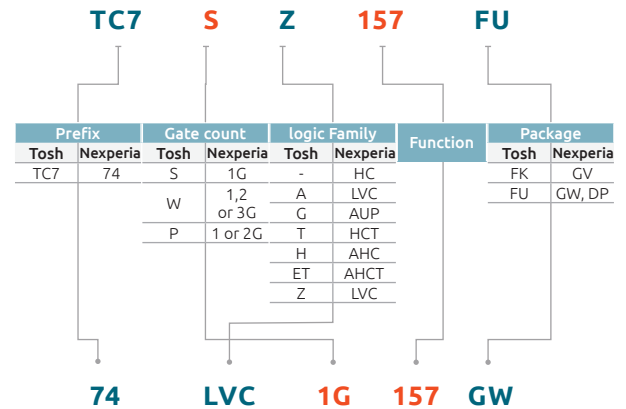
### ON semiconductor tiny logic



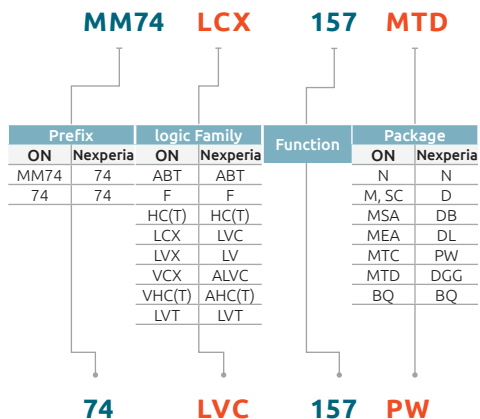
### On semiconductors logic



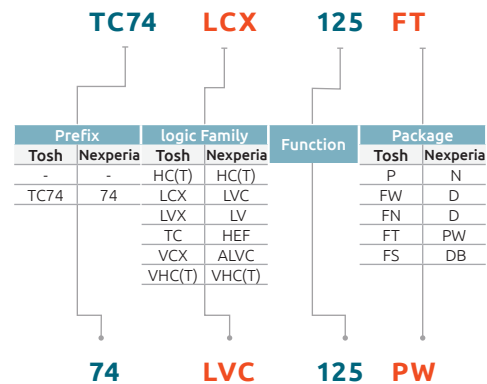
### Toshiba one gate



### ON semiconductor standard logic

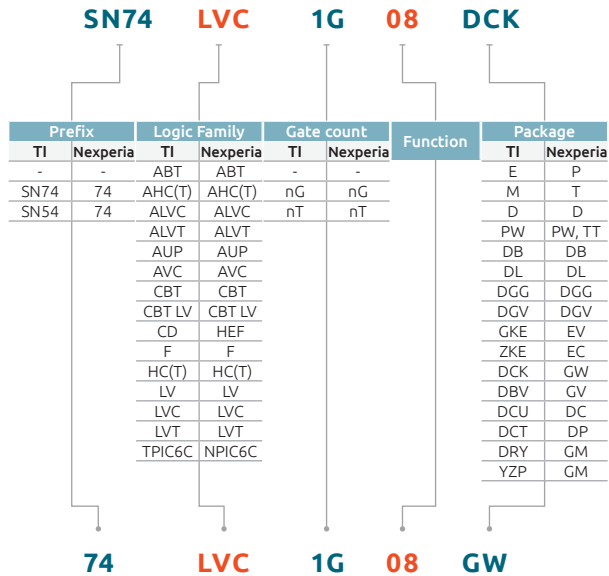


### Toshiba standard logic

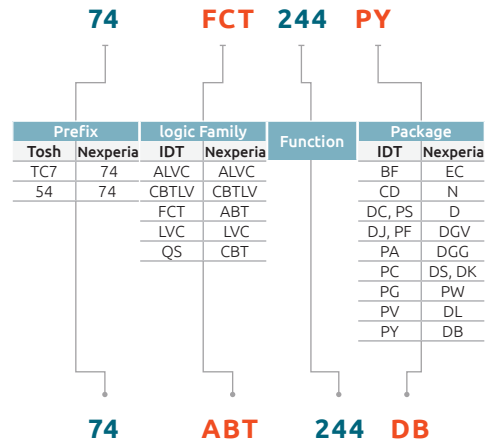




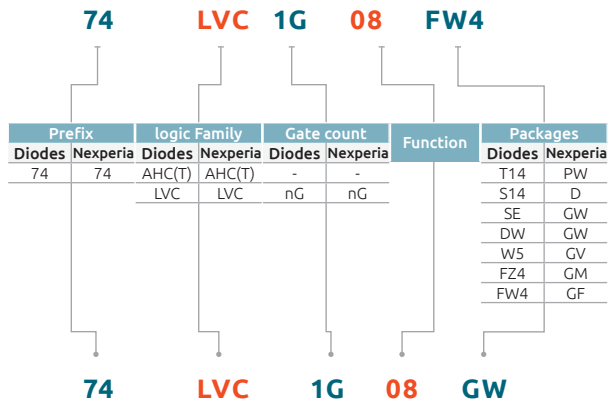
Texas instruments logic



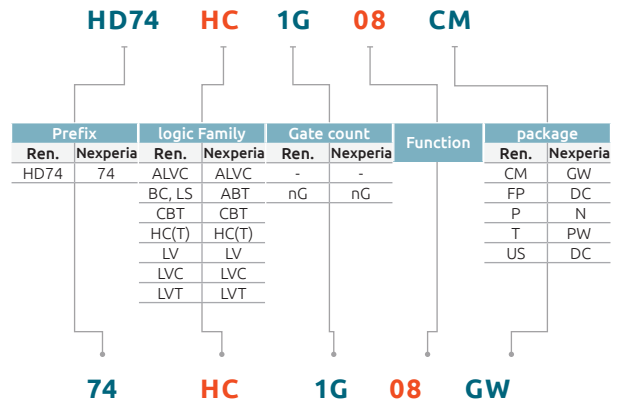
IDT logic



Diodes Inc. logic



Renesas logic



## Product orientation (tape and reel pack)

2 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			DFN1006-2 (SOD882)	315		DPAK (SOT8017)
		DFN1006D-2 (SOD882D)	315	D <sup>2</sup> PAK (SOT8018)		118
		DFN1608D-2 (SOD1608)	315			
		DFN1006BD-2 (SOD882BD)	315			
		DSN0603-2 (SOD962)	315			
		DFN0603-2 (SOD972E)	317			
		DFN0603-3 (SOT8013)	317			
		DSN0402-2 (SOD992)	315			
		DSN0402B-2 (SOD992B)	315			
		DSN1006-2 (SOD993)	315			
		DSN1006-2 (SOD993B)	315			
		DSN1006U-2 (SOD995)	315			
		DSN1608-2 (SOD963&964)	315			
		SOD80	115, 135			
		SOD123F	115			
		CFP3 (SOD123W)	115			
		SOD123	115, 118			
		CFP5 (SOD128)	115			
		CFP2-HP (SOD323HP)	115			
		SOD323	115, 135			
	SOD323F	115				
	SOD523	115, 135, 315, 335				

3 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			SOT89	146		DFN1010D-3 (SOT1215)
				DFN2020-3 (SOT1061)		115, 135
				DFN2020D-3 (SOT1061D)		115, 135
				SOT89		115, 135
				D <sup>2</sup> PAK (SOT404)		118
				SOT89		147
				CFP15 (SOT1289)		139, 146
				CFP15B (SOT1289B)		139
				DSN1006 (SOT8007)		326
				DSN1010-3 (SOT8007)		315
		DFN1006-3 (SOT883)	315		DFN0606-3 (SOT8001)	125
		DFN1006B-3 (SOT883B)	315			
		SOT23	185, 215, 235			
		SOT323	115, 135			
		SOT416	115, 135			
		SOT663	115			

4 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			WLCSP4 (0808)	084		
		LFPAK56 (SOT669)	115			
		LFPAK56E (SOT1023)	115			
		LFPAK56-UL2595 (SOT1023A)	115			
		LFPAK88 (SOT1235)	118			
		SOT143B	215, 235			
		SOT223	115, 135			
		DFN1010-4 (SOT1194)	115			

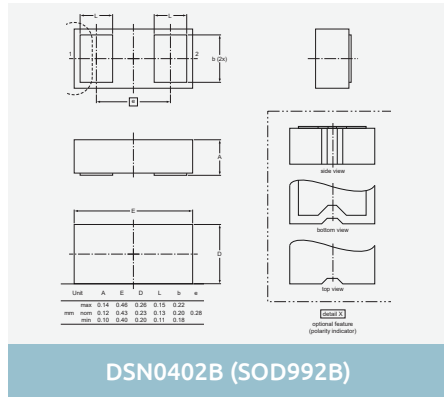
5 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			WLCSP5 (1208)	087		SOT353
				SOT665		115
		SOT753	125			
		X2SON5 (SOT1226)	125			
		UMTS (SOT353-1)	125			
		SO5 (SOT753)	125			

6 pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			DFN1410-6 (SOT886)	115		DFN1412-6 (SOT1268)
		DFN2020MD-6 (SOT1220)	184	DFN2020D-6 (SOT1118D)		115
		LFPK33 (SOT1210)	115	DFN2020MD-6 (SOT1220)		115
		LFPK56D (SOT1205)	115	SOT363		115, 135
		WLCSP6 (1510)	023	SOT457		115, 135
		XSON6 (SOT1202)	125	X2SON6 (SOT1255)		147
		XSON6 (SOT886)	125	DFN0606B-6		147
		DFN1308-6 (SOT8006)	315	SOT666		315
		DFN1308-6 (SOT8006B)	315			
		DFN2020M-6 (SOT1220-2)	115			
		DFN1010-6 (SOT891)	132	DFN0606 (SOT8001)		147
		DFN1010E-6 (SOT1202)	132			
		DFN1410-6 (SOT886)	132			
		DFN2020MD-6 (SOT1220)	125			
		SOT363	125, 165			
		SOT457	125, 165			
		SC-88 (SOT363)	125			
		SC-74 (SOT457)	125			

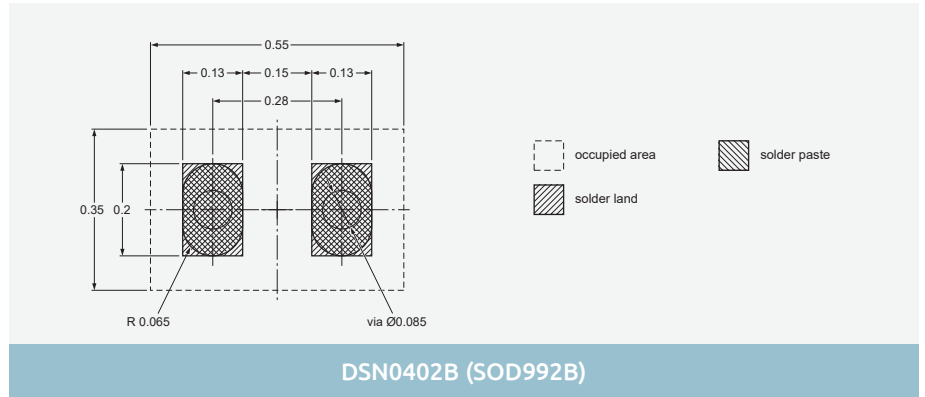
multi I/O pin packages	Orientation in tape	Package	Packing 12NC ending	Orientation in tape	Package	Packing 12NC ending
			DFN2110-9 (SOT1178)	115		DHXQFN14 (SOT8014-1)
		DFN2111-7 (SOT1358)	471			
		DFN2510A-10 (SOT1176)	115			
		DFN2520-9 (SOT1333)				
		DFN2520-9 (SOT1333)				
		DFN2520-9 (SOT1333)				
		DFN5050-32 (SOT617-3)				
		DHXQFN16 (SOT8016-1)	115			
		DHXQFN20 (SOT8020-1)	115			
		DHXQFN24 (SOT8024-1)	115			
		XSON8 (SOT1116)	115			
		X2SON8 (SOT1233-2)	115			
		XSON8 (SOT1203)	115			
		XSON8 (SOT833-1)	115			
		TSSOP8 (SOT530-1)	118			
		XQFN10 (SOT1337-1)	115			
		XQFN10 (SOT1049-3)	115			
		TSSOP10 (SOT552-1)	118			
		XQFN10 (SOT1160-1)	115			
		XQFN12 (SOT1174-1)	115			
		DHVQFN14 (SOT762-1)	115			
		TSSOP14 (SOT402-1)	118			
		TSSOP16 (SOT403-1)	118			
		SO16 (SOT109-1)	118			
		TSSOP20 (SOT360-1)	118			
		SO20 (SOT163-1)	118			
		DHXQFN20 (SOT1045-2)	115			
		DHVQFN20 (SOT764-1)	115			
		DHVQFN24 (SOT815-1)	118			
		TSSOP24 (SOT355-1)	118			
		TSSOP48 (SOT362-1)	118			
		TSSOP48 (SOT480-1)	118			
		TSSOP56 (SOT364-1)	118			
		XQFN8 (SOT902-2)	125			
		VSSOP8 (SOT765-1)	125			
		TSSOP8 (SOT505-2)	125			

# Minimized outline drawings and reflow soldering footprint

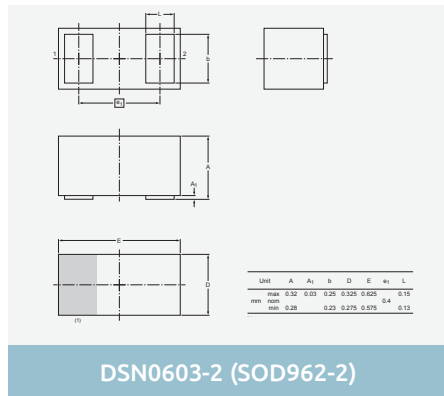
## 2-pin SMD packages



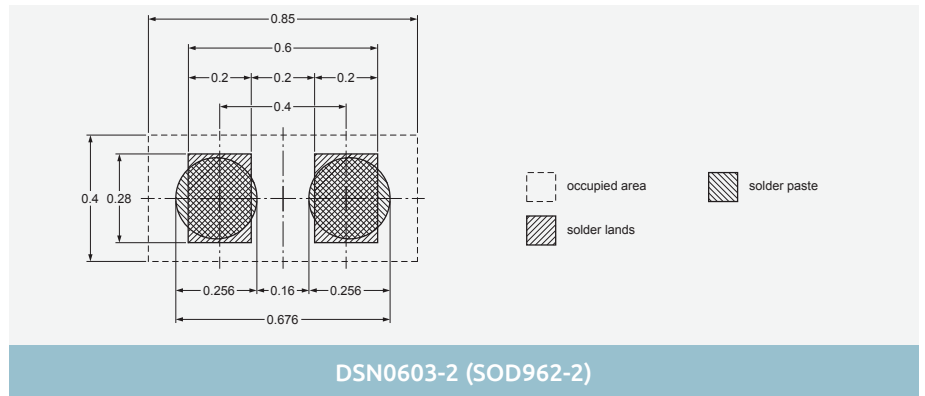
DSN0402B (SOD992B)



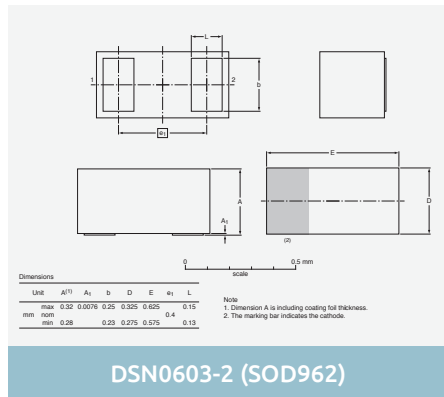
DSN0402B (SOD992B)



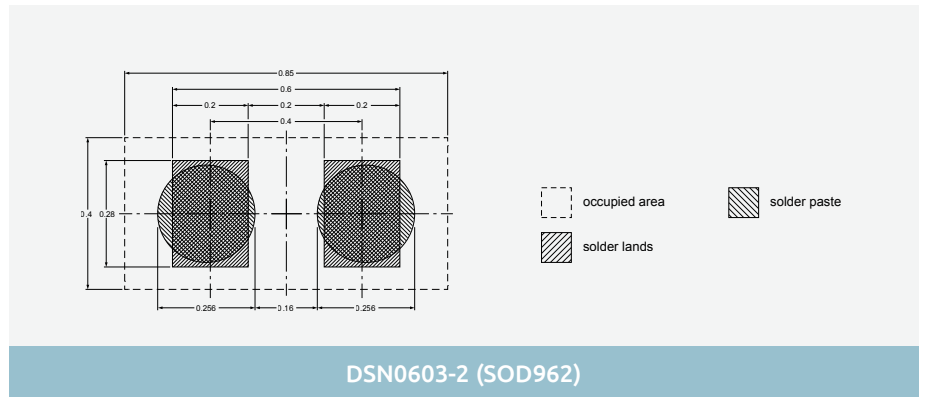
DSN0603-2 (SOD962-2)



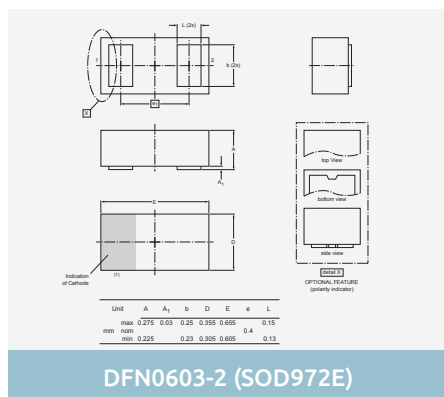
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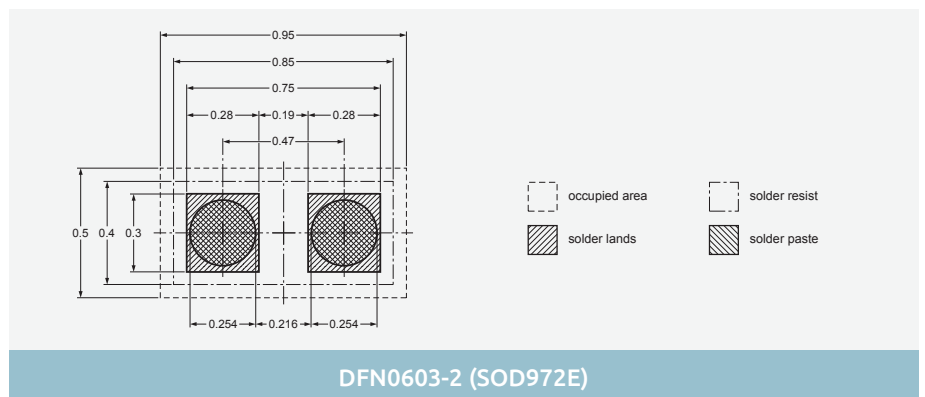
DSN0603-2 (SOD962)



DSN0603-2 (SOD962)



DFN0603-2 (SOD972E)

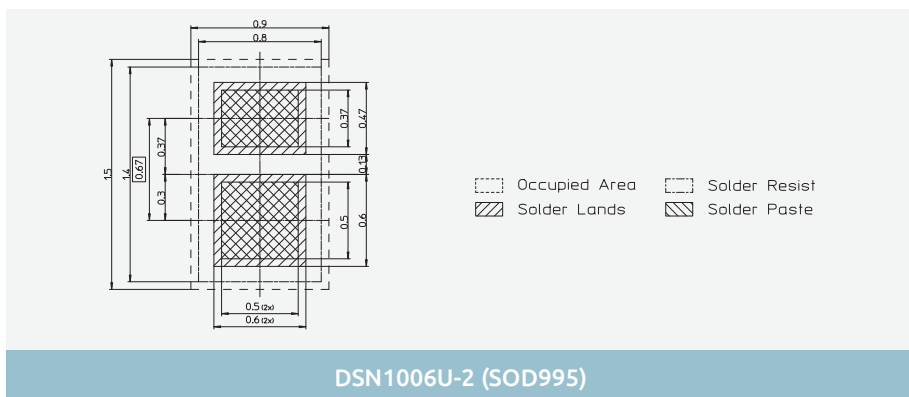
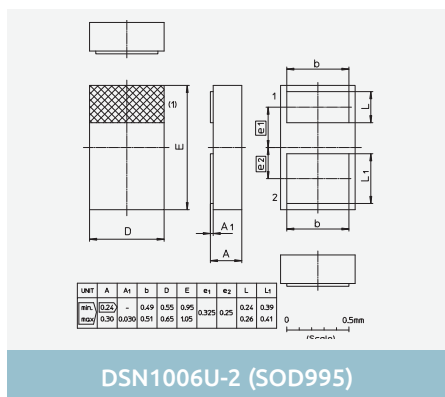
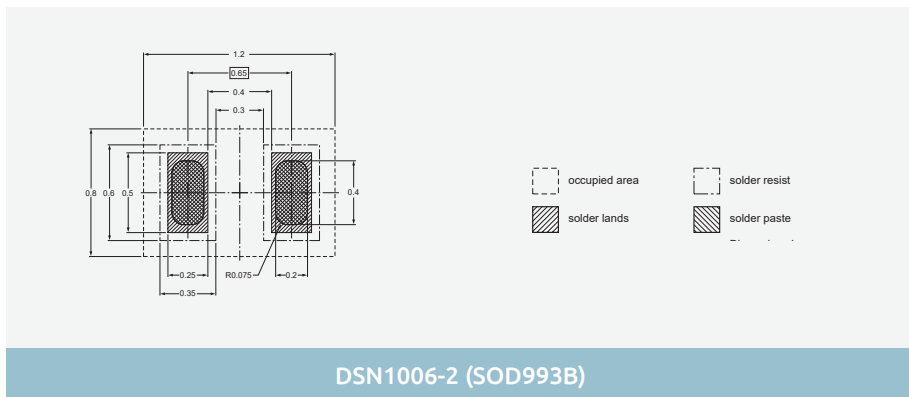
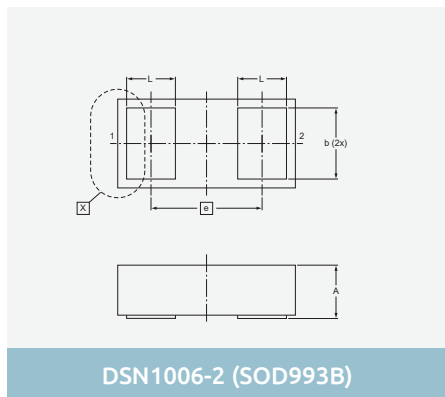
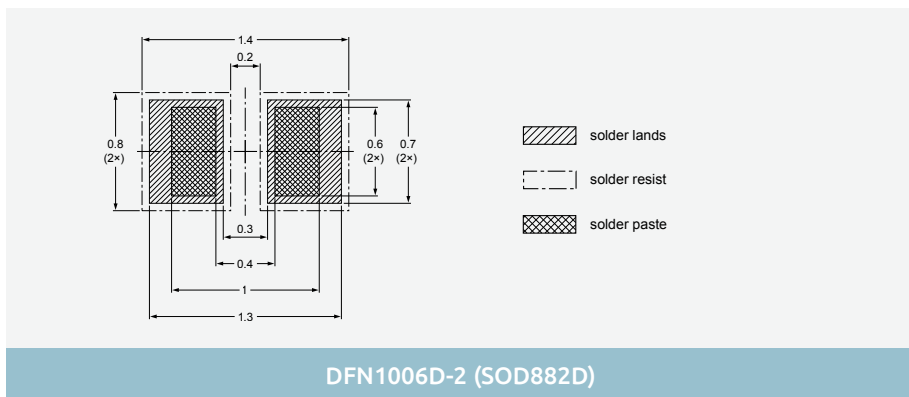
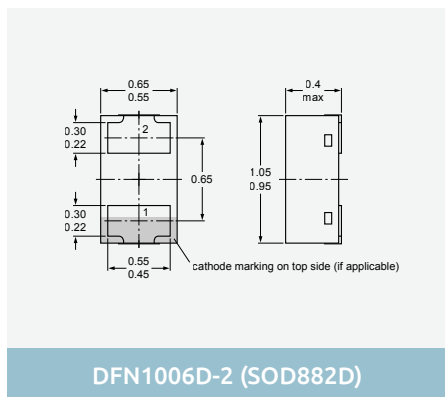
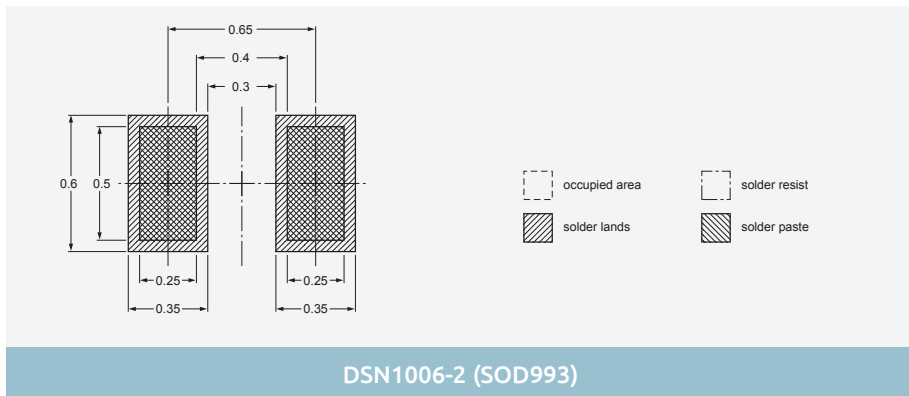
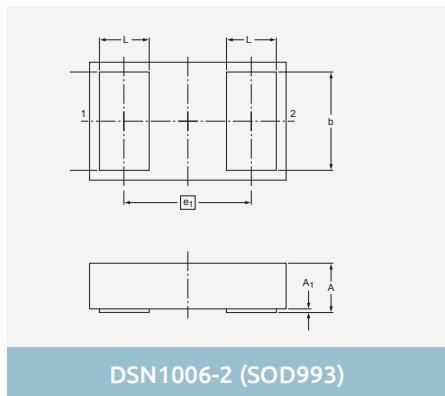


DFN0603-2 (SOD972E)

Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

2-pin SMD packages

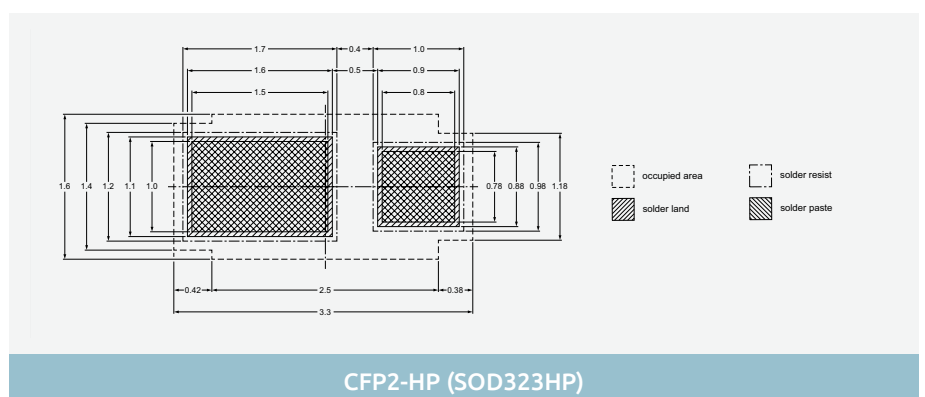
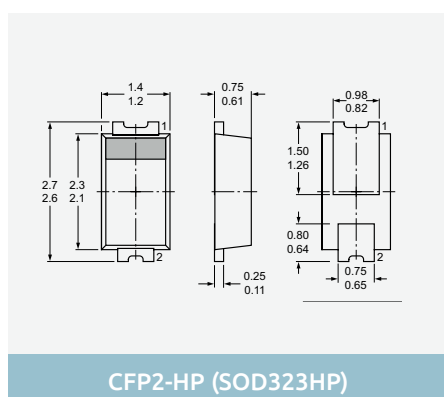
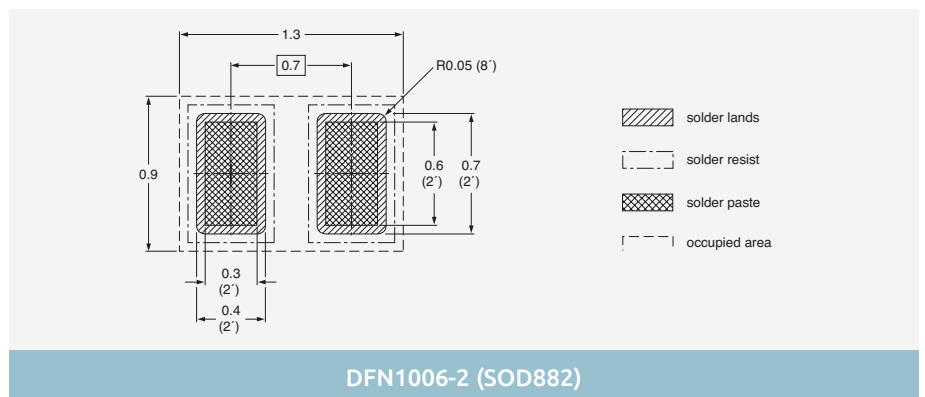
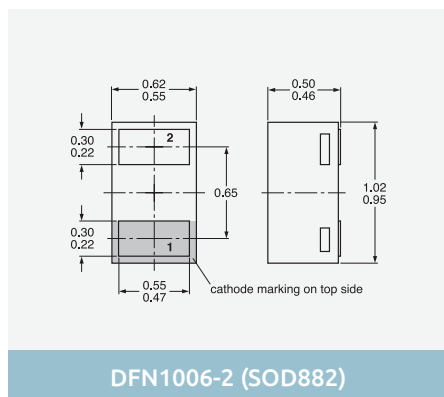
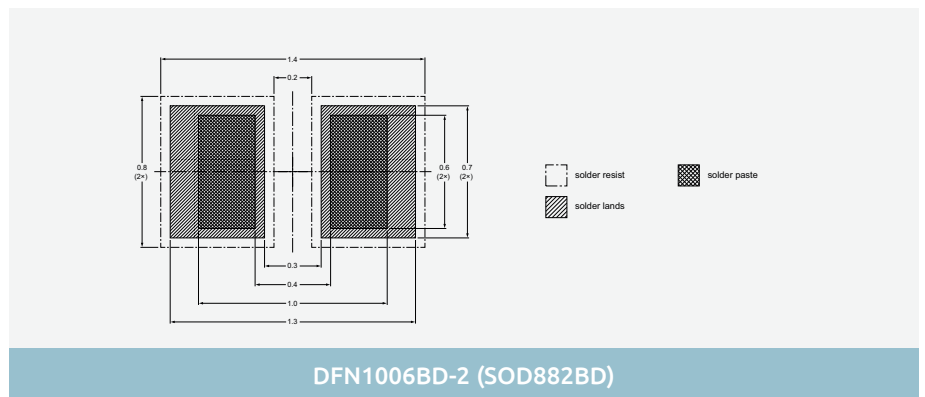
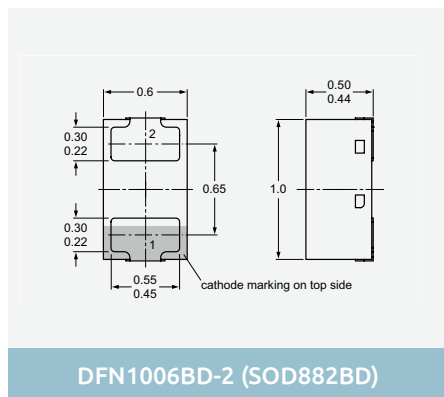
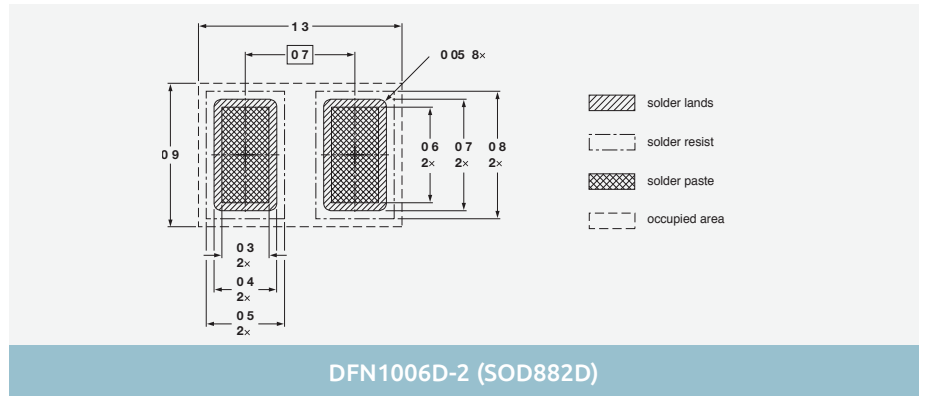
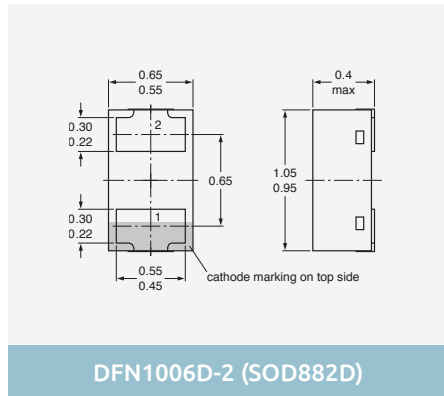


Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

# Minimized outline drawings and reflow soldering footprint

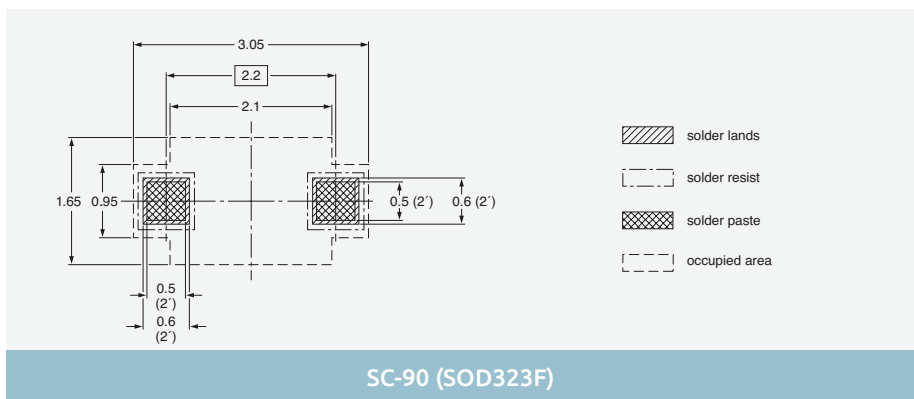
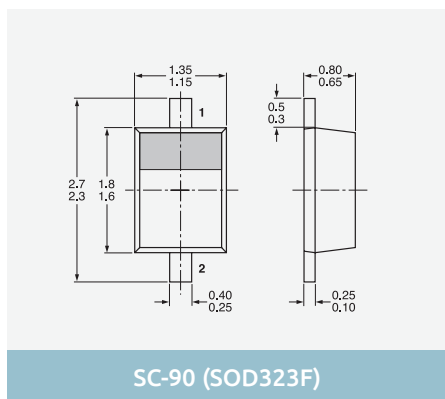
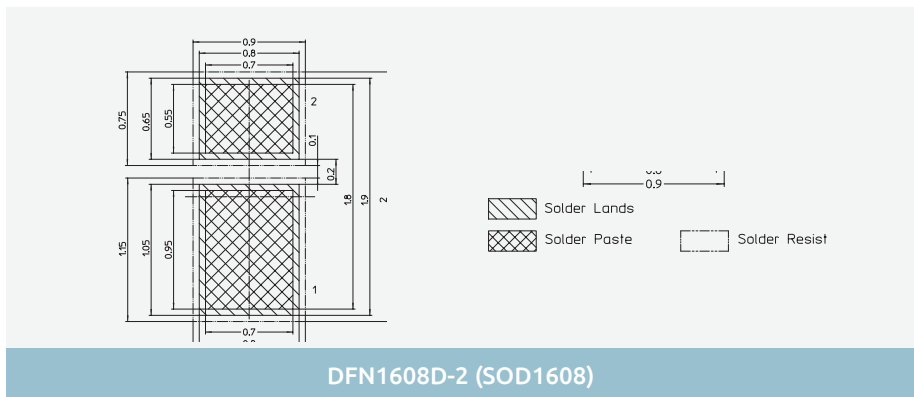
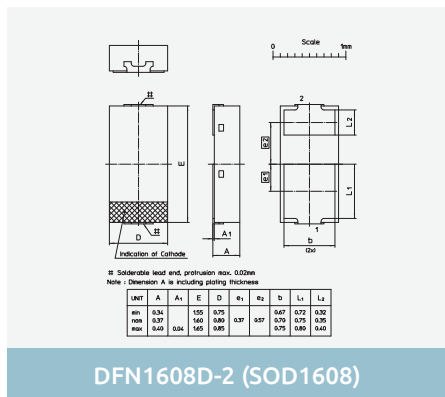
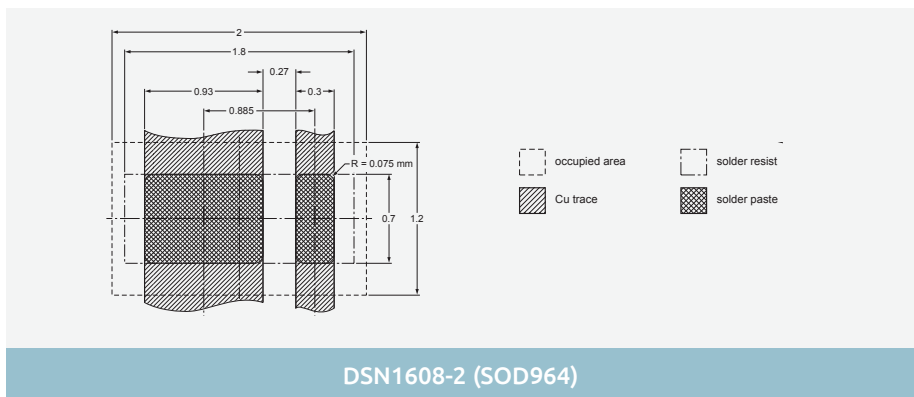
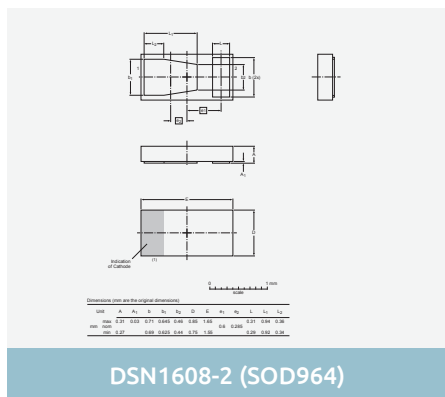
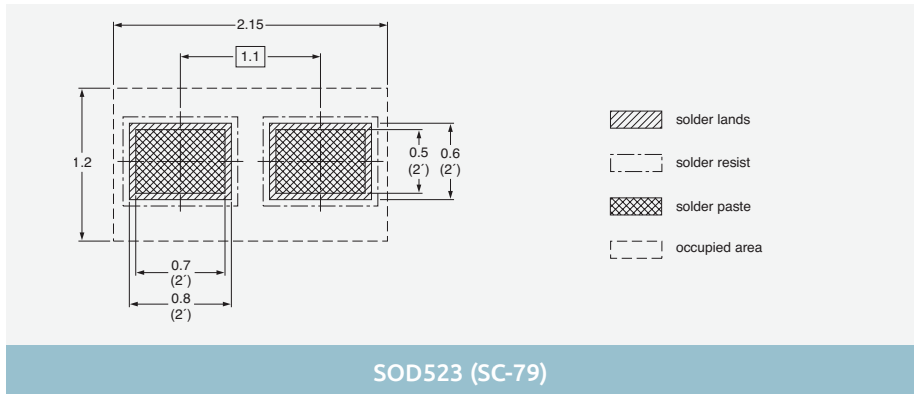
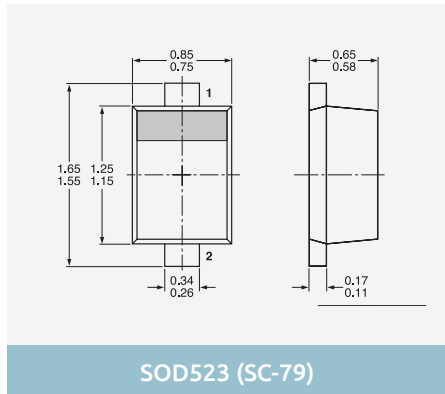
## 2-pin SMD packages



Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

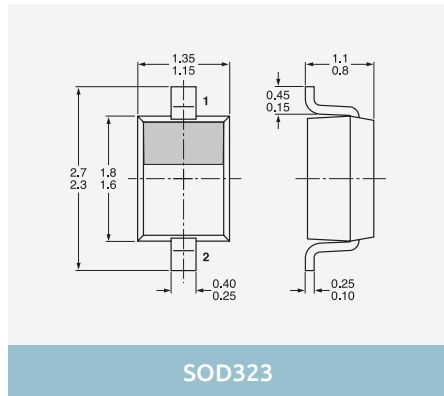
2-pin SMD packages



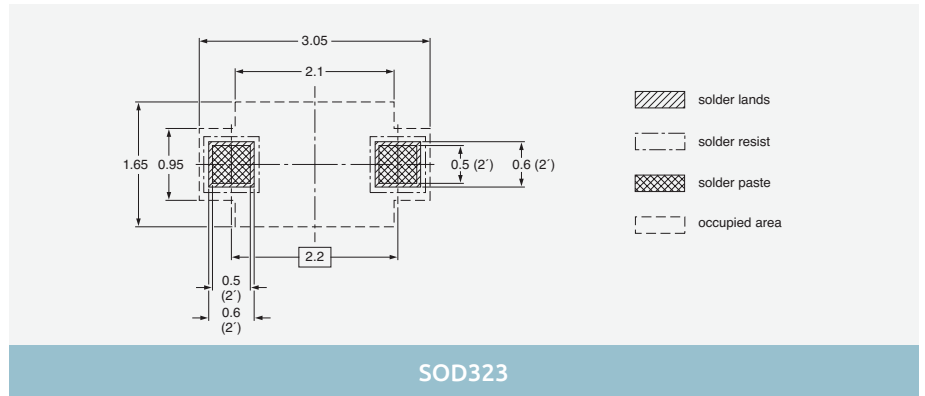
Dimensions in mm  
Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

# Minimized outline drawings and reflow soldering footprint

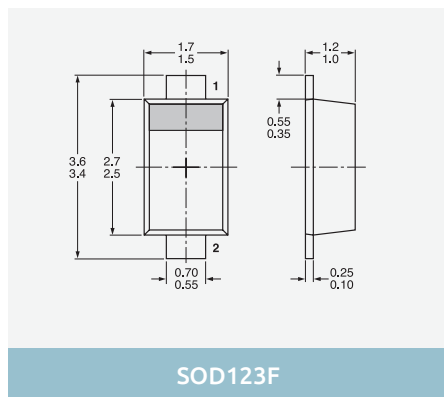
## 2-pin SMD packages



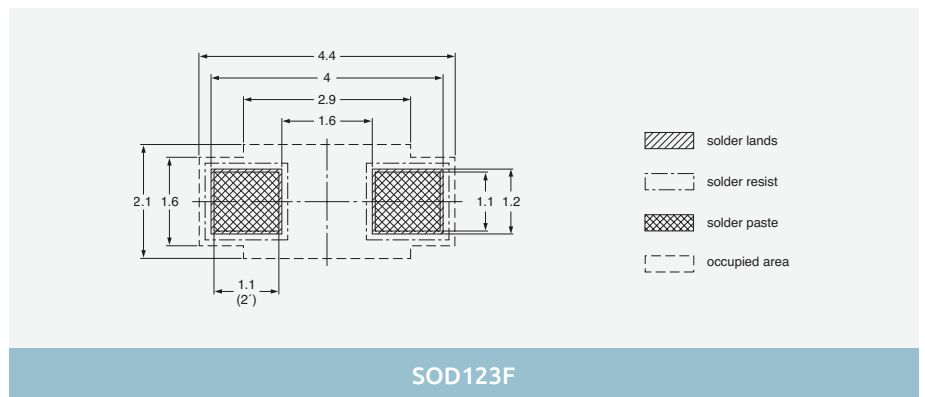
SOD323



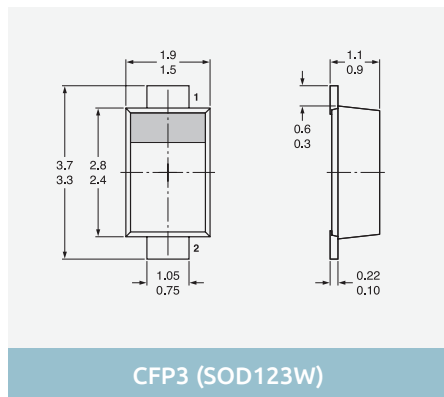
SOD323



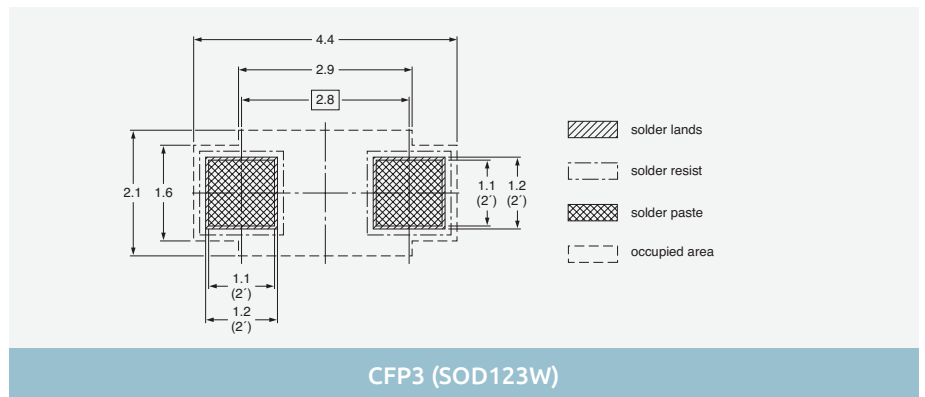
SOD123F



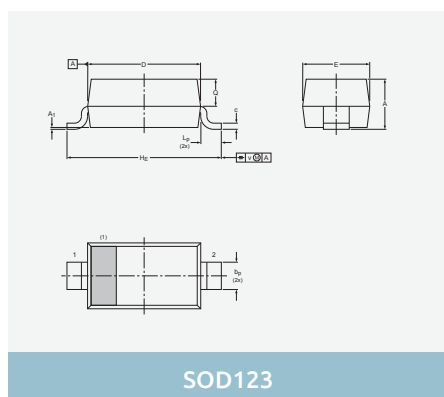
SOD123F



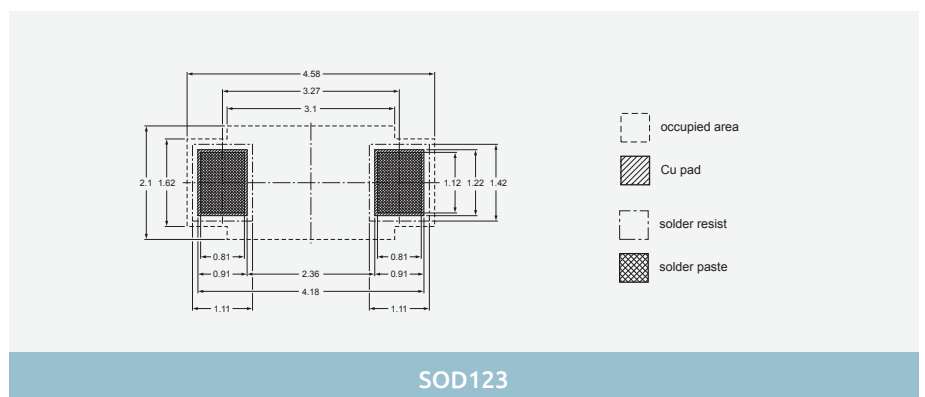
CFP3 (SOD123W)



CFP3 (SOD123W)



SOD123



SOD123

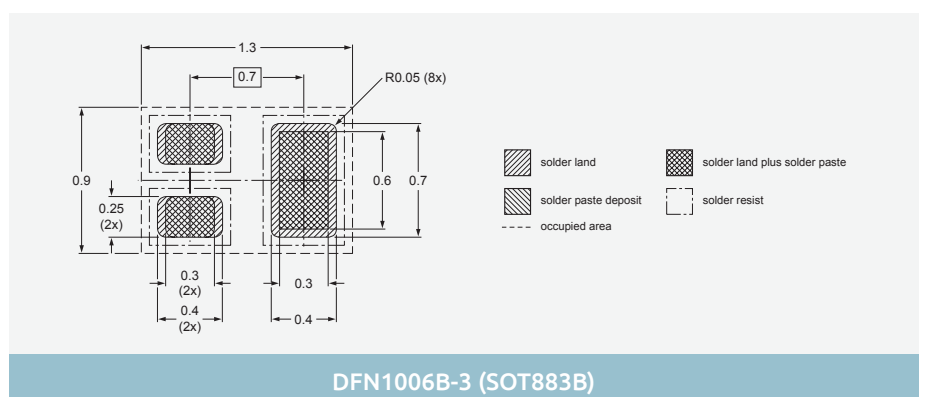
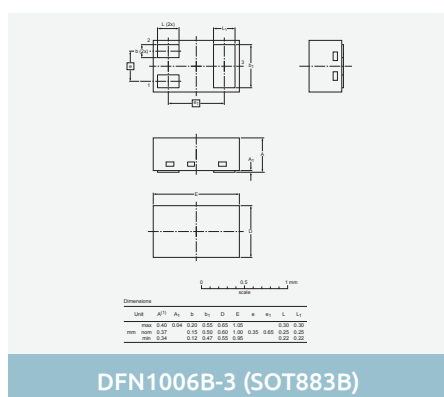
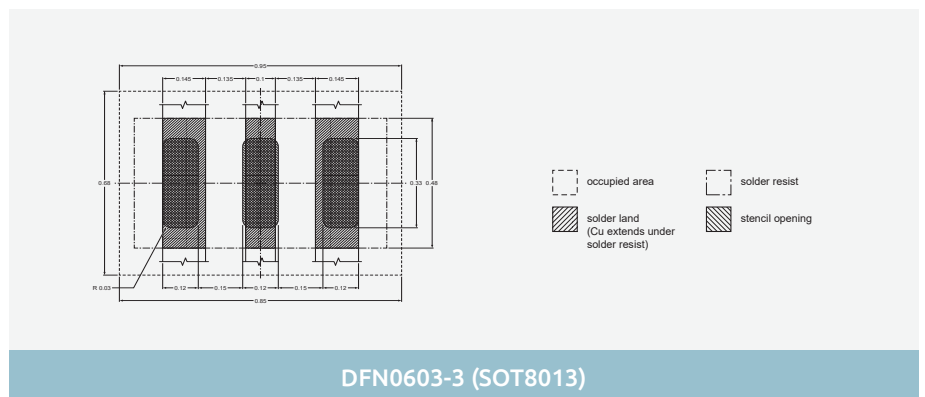
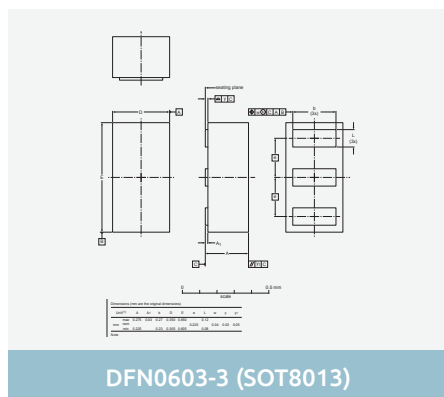
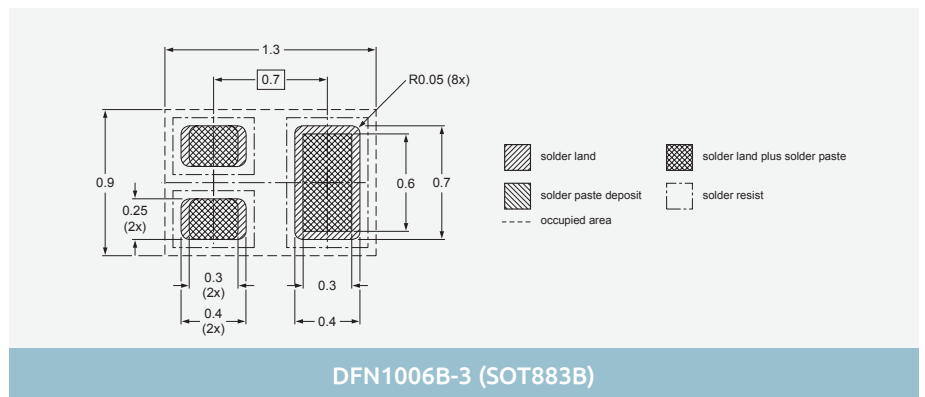
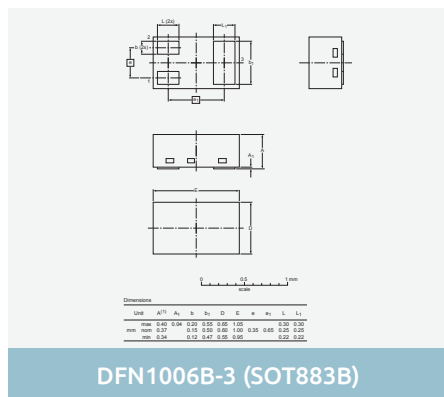
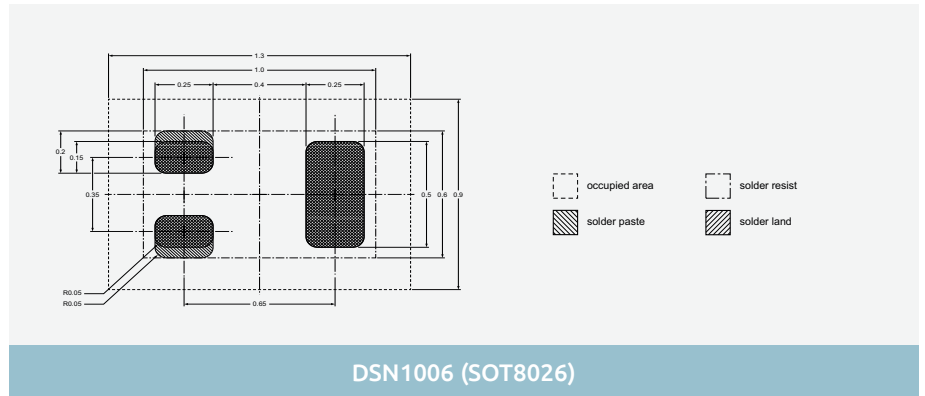
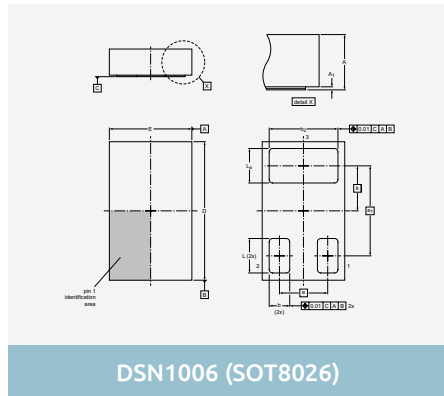
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)





### 3-pin SMD packages



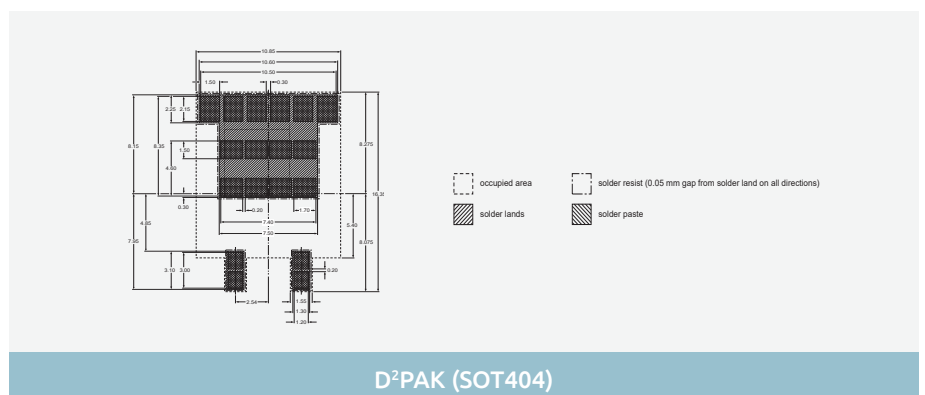
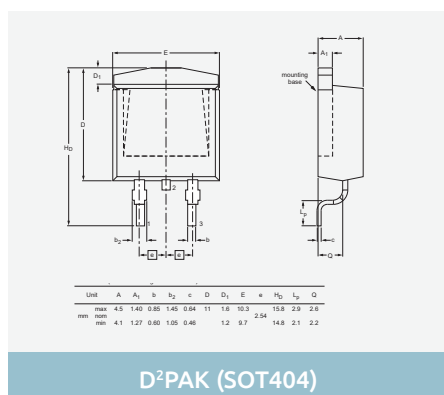
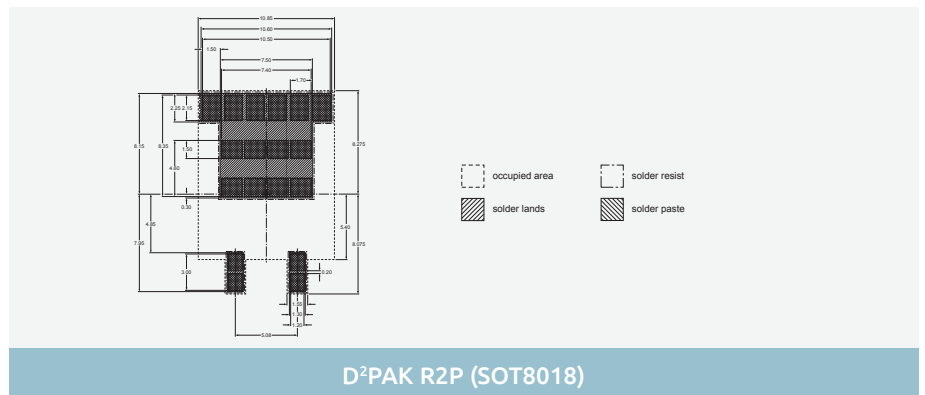
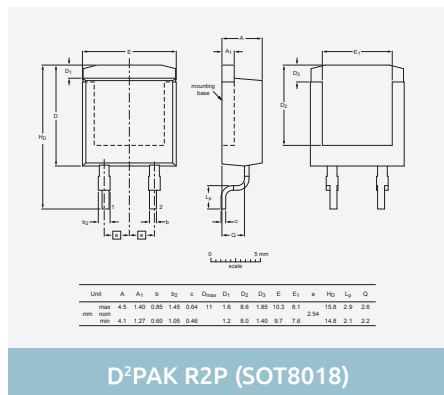
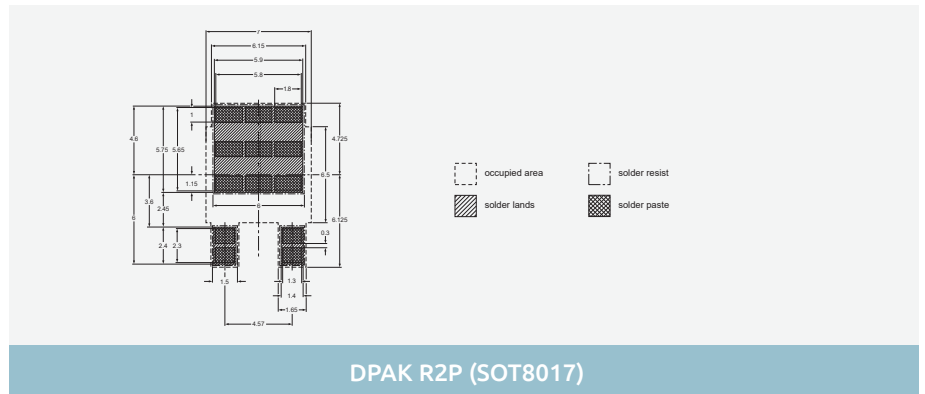
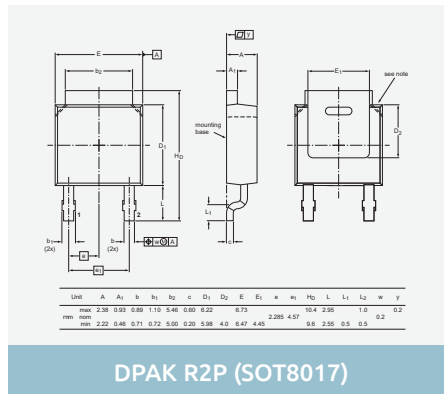
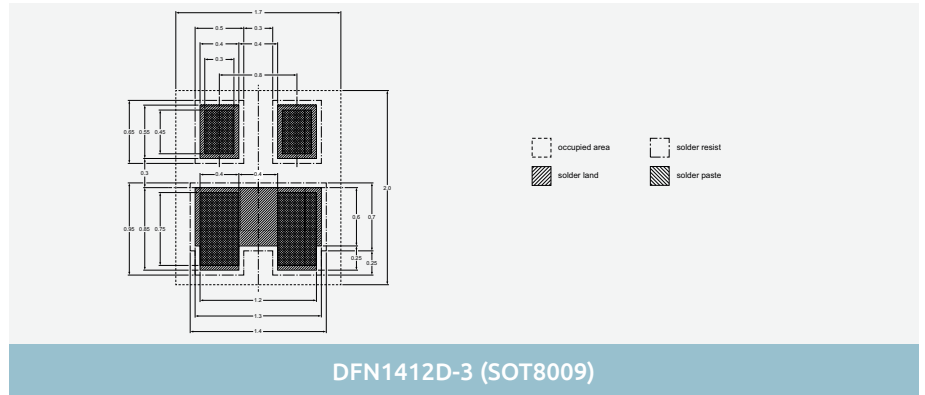
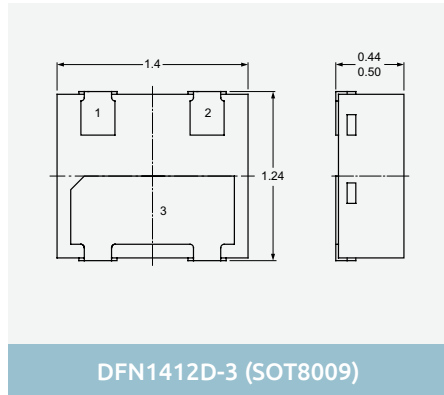
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)



# Minimized outline drawings and reflow soldering footprint

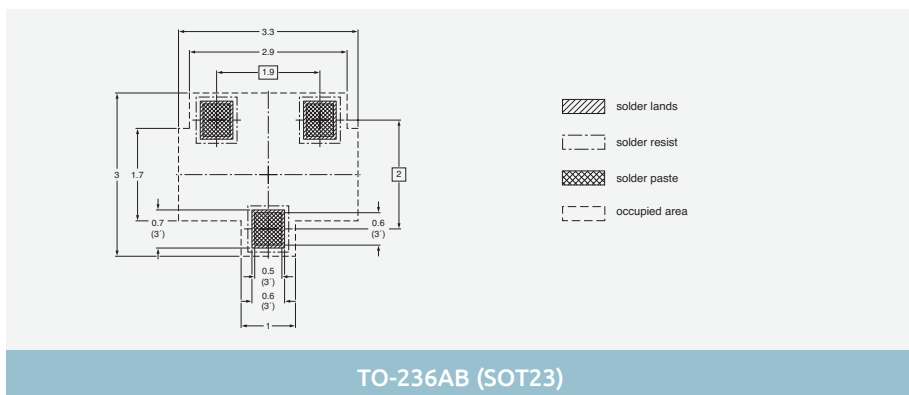
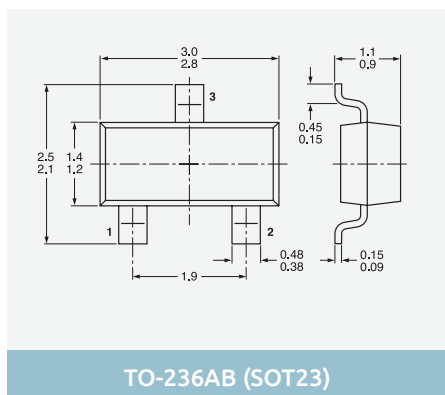
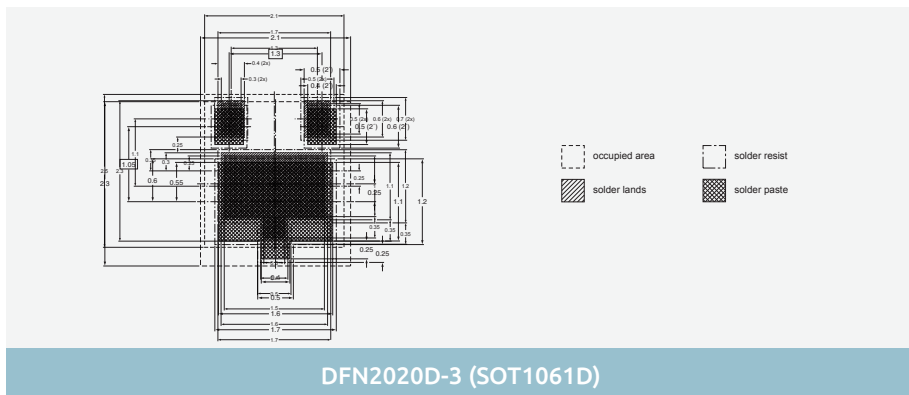
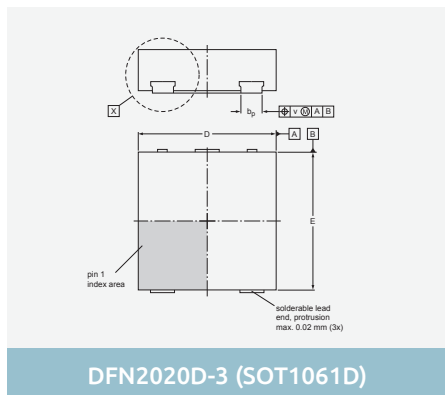
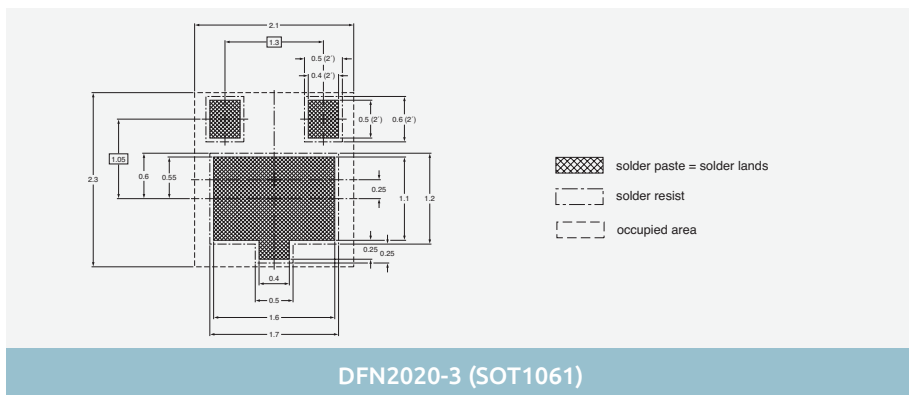
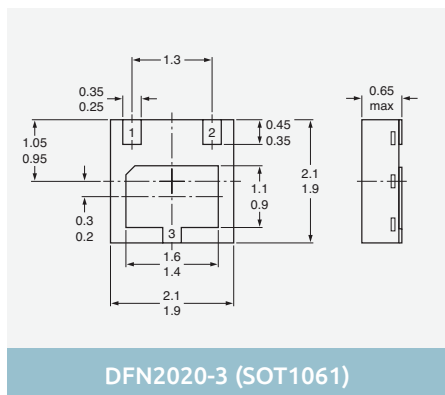
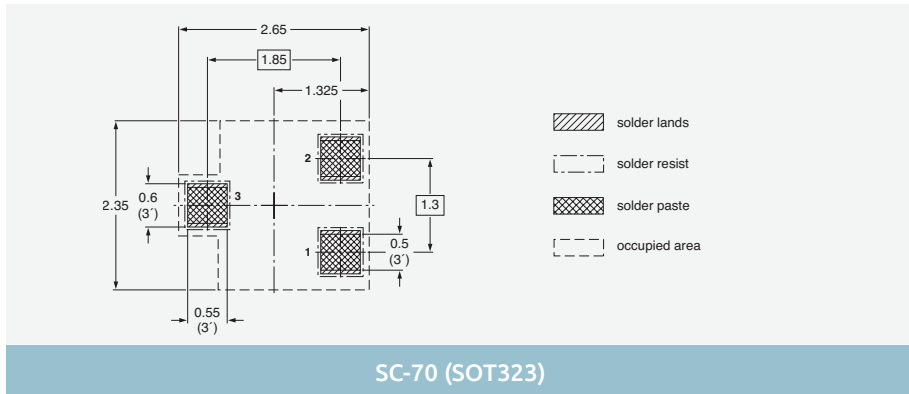
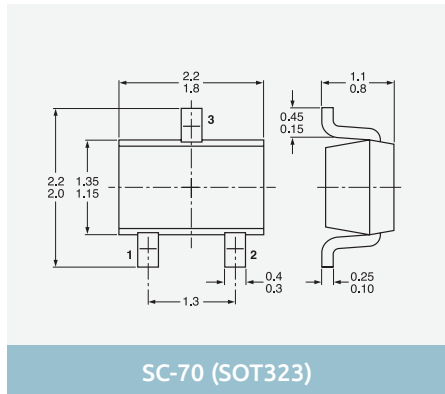
## 3-pin SMD packages



Dimensions in mm

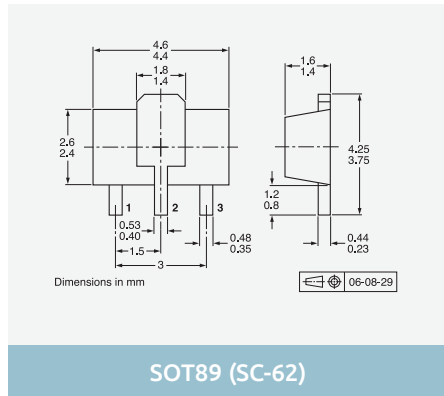
Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

### 3-pin SMD packages

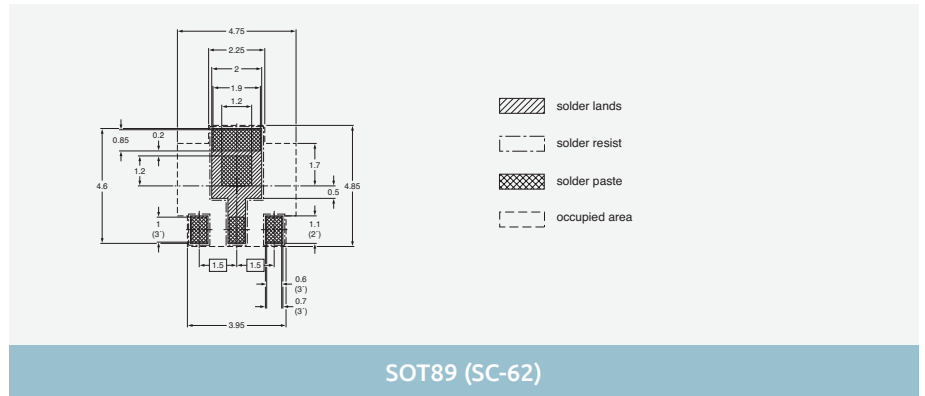


Dimensions in mm  
 Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

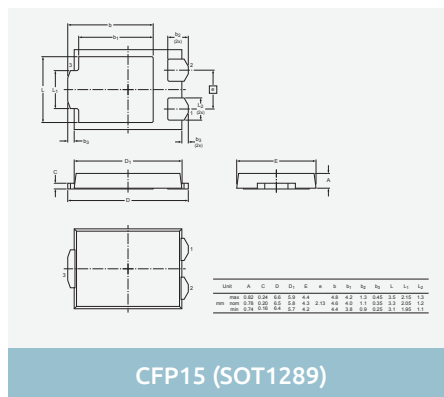
### 3-pin SMD packages



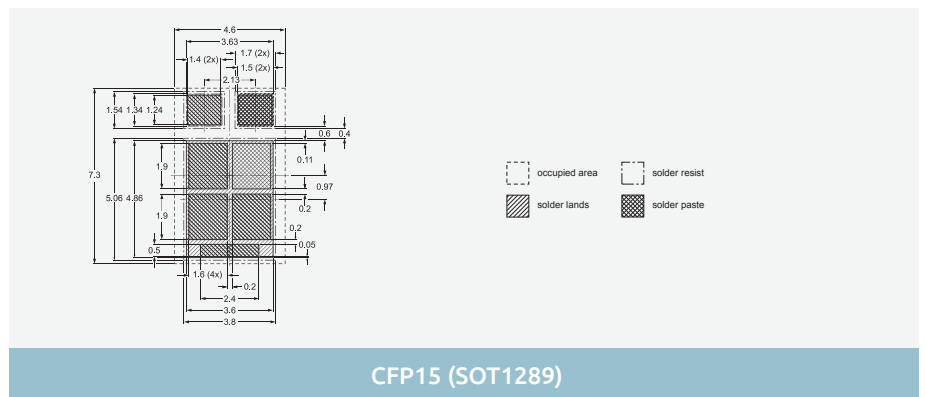
SOT89 (SC-62)



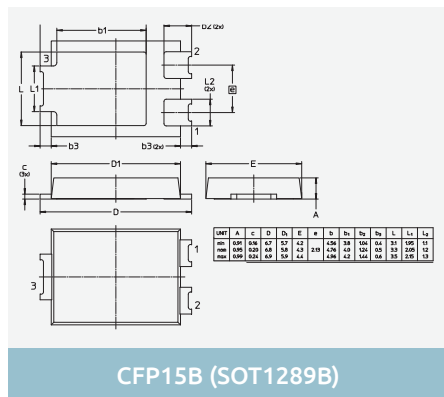
SOT89 (SC-62)



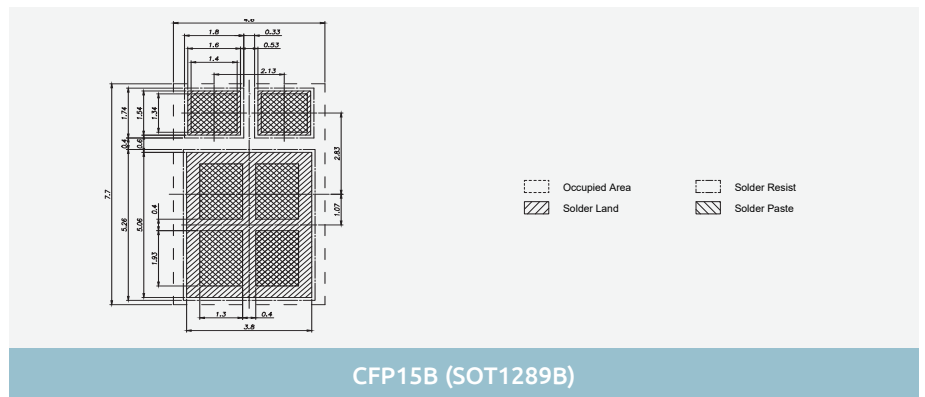
CFP15 (SOT1289)



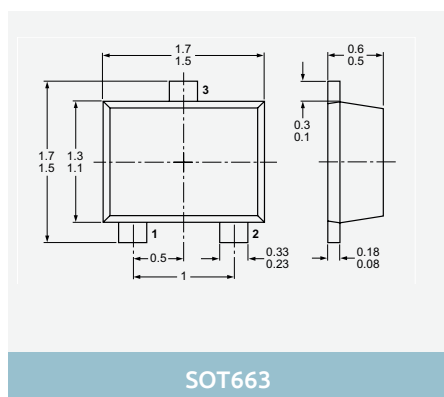
CFP15 (SOT1289)



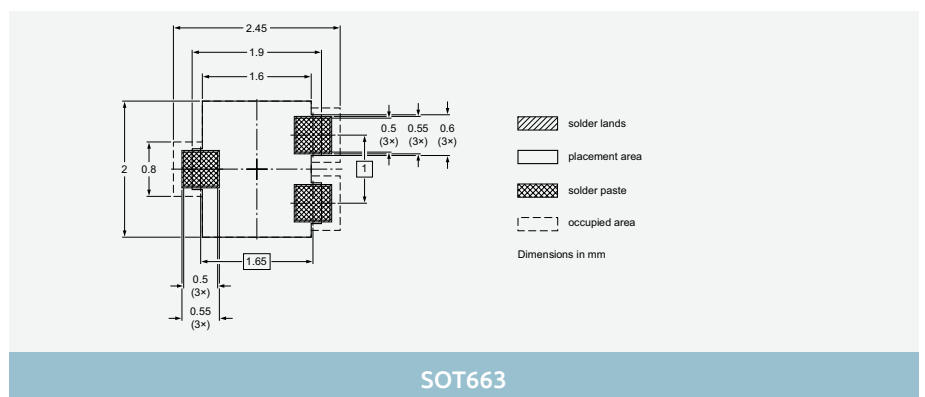
CFP15B (SOT1289B)



CFP15B (SOT1289B)

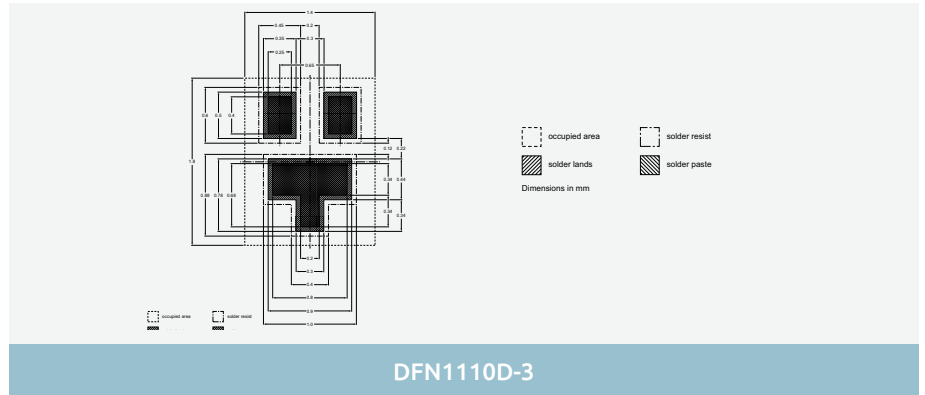
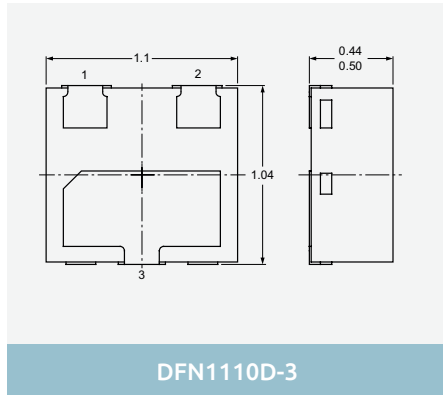


SOT663

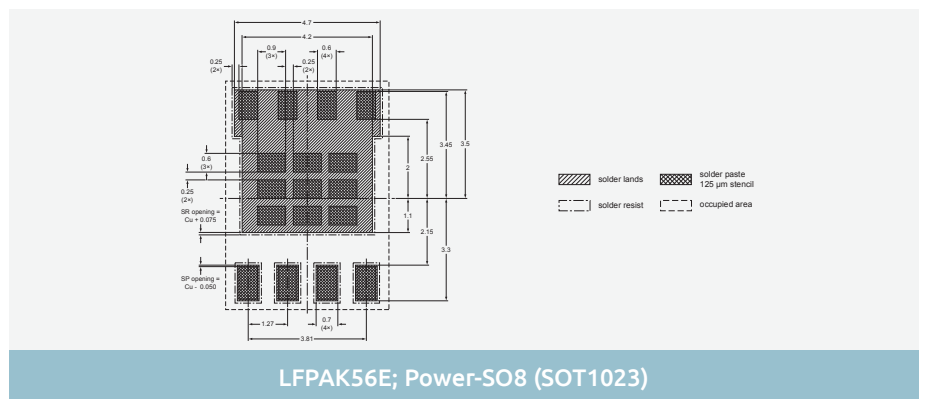
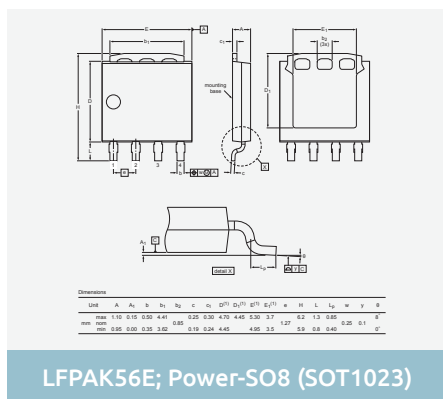
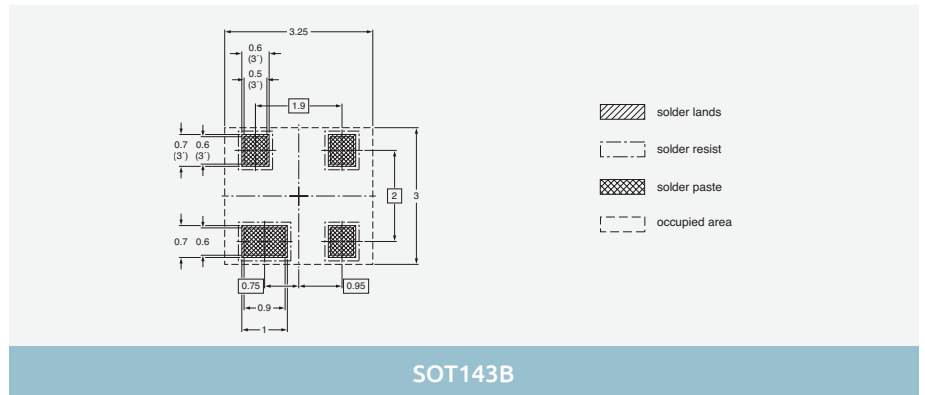
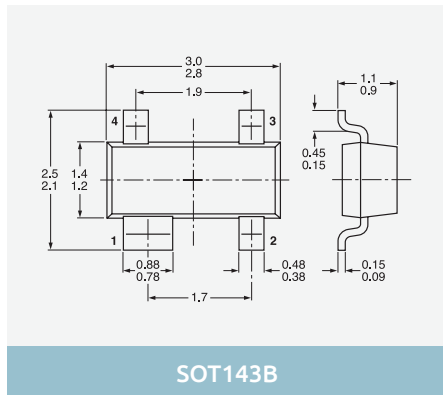
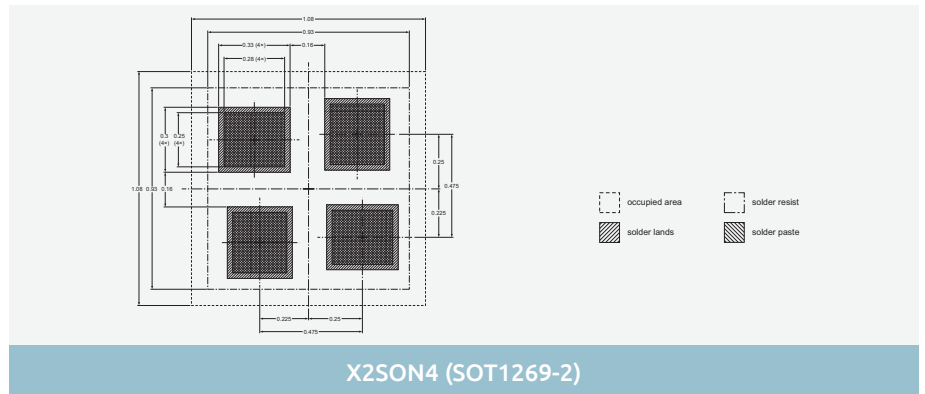
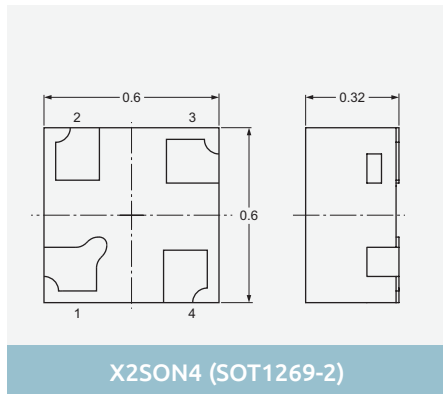


SOT663

### 3-pin SMD packages



### 4-pin SMD packages



Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

# Minimized outline drawings and reflow soldering footprint

## 4-pin SMD packages

**Dimensions**

UNIT	A	A <sub>1</sub>	A <sub>2</sub>	B	b <sub>1</sub>	b <sub>2</sub>	c	c <sub>1</sub>	D <sup>(1)</sup>	D <sup>(1)</sup>	e	H	L	L <sub>1</sub>	L <sub>2</sub>	w	y	ø
mm	1.10	0.10	0.20	4.41	0.25	0.30	4.70	3.8	5.30	3.7	0.2	1.3	0.85	0.25	0.1	0.1	0.1	0.1
mm	0.50	0.10	0.20	3.80	0.10	0.20	4.41	3.8	4.95	3.5	0.2	0.8	0.80	0.25	0.1	0.1	0.1	0.1

**LPAK56-UL2595 (SOT1023A)**

**LPAK56-UL2595 (SOT1023A)**

**LPAK56; Power-SO8 (SOT669)**

**LPAK56; Power-SO8 (SOT669)**

**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	b	b <sub>2</sub>	b <sub>3</sub>	b <sub>4</sub>	c	c <sub>2</sub>	D <sup>(1)</sup>	D <sup>(1)</sup>	e <sup>(1)</sup>	E <sup>(1)</sup>	e	H	L	L <sub>1</sub>	L <sub>2</sub>	w	y	ø
mm	1.20	0.15	1.10	0.25	0.50	4.41	2.2	0.9	0.25	0.30	4.10	4.20	5.0	3.3	1.27	6.2	0.85	1.3	1.3	0.25	0.1	0.1
mm	1.01	0.00	0.85	0.25	0.25	3.82	2.0	0.7	0.15	0.24	3.80	4.20	4.8	3.1	1.27	5.8	0.40	0.8	0.8	0.25	0.1	0.1

**SC-73 (SOT223)**

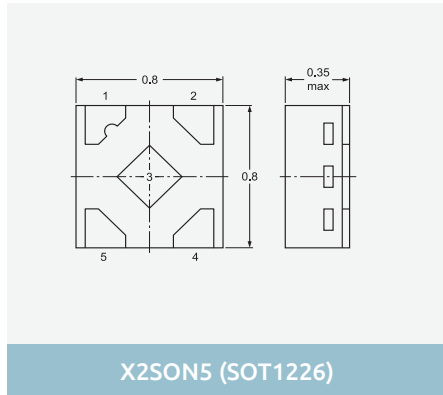
**SC-73 (SOT223)**

**LPAK88 (SOT1235)**

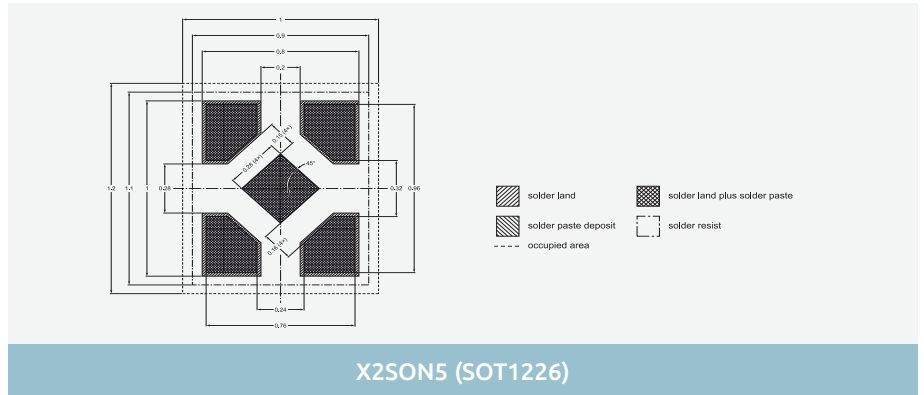
**LPAK88 (SOT1235)**



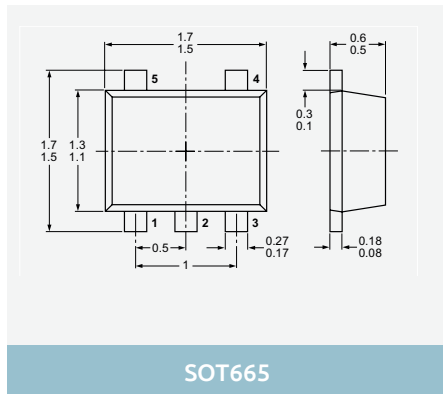
5-pin SMD packages



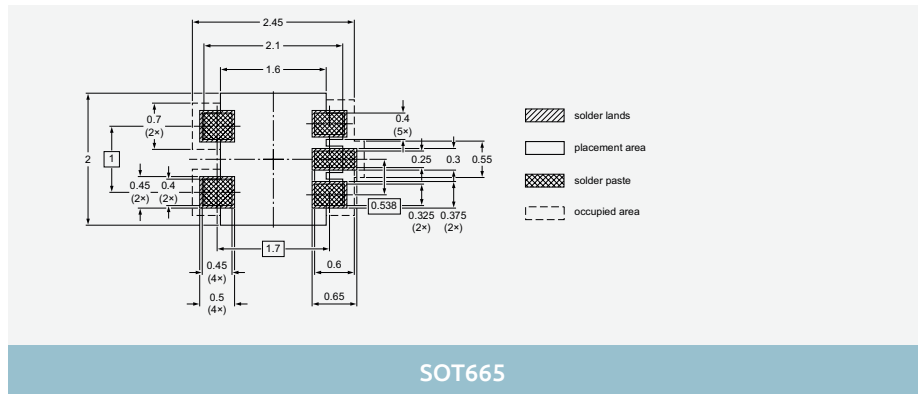
X2SON5 (SOT1226)



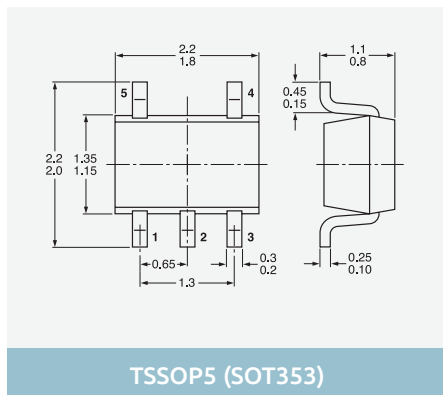
X2SON5 (SOT1226)



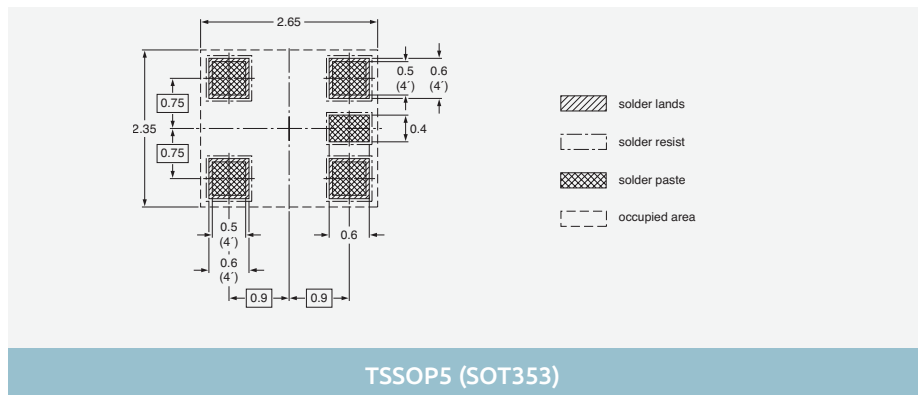
SOT665



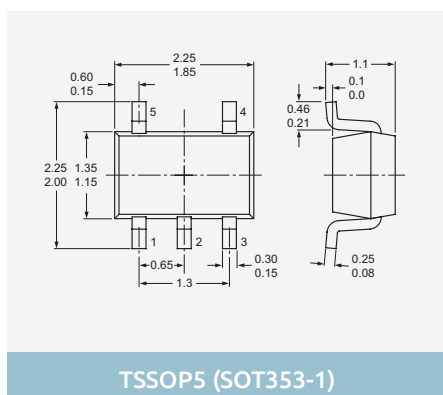
SOT665



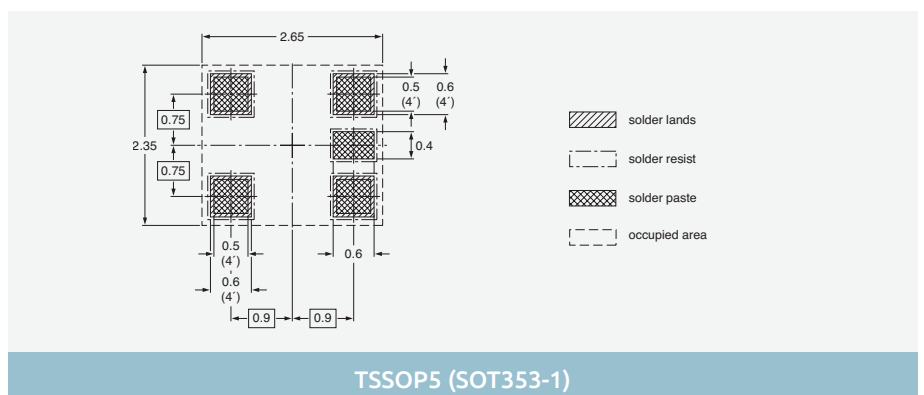
TSSOP5 (SOT353)



TSSOP5 (SOT353)



TSSOP5 (SOT353-1)



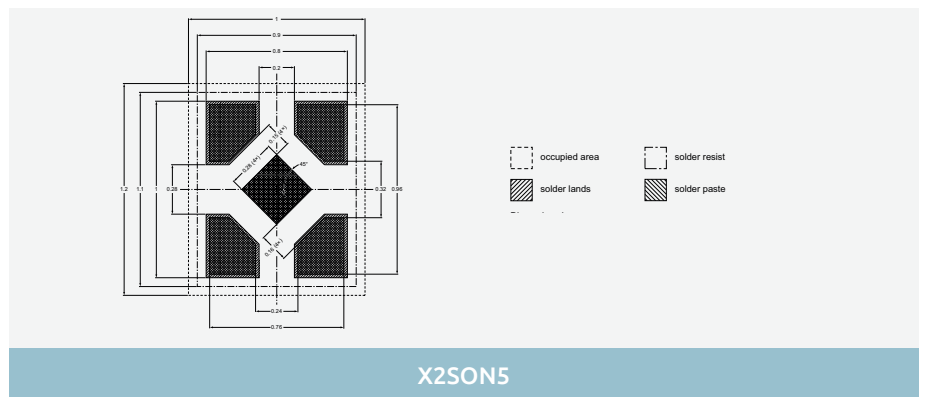
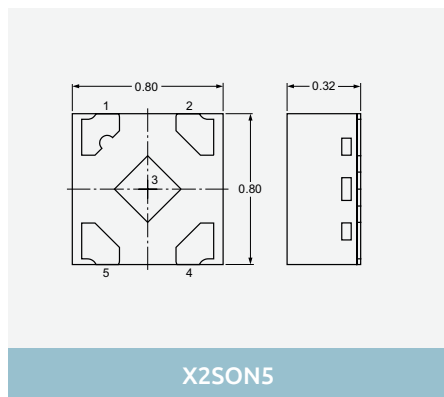
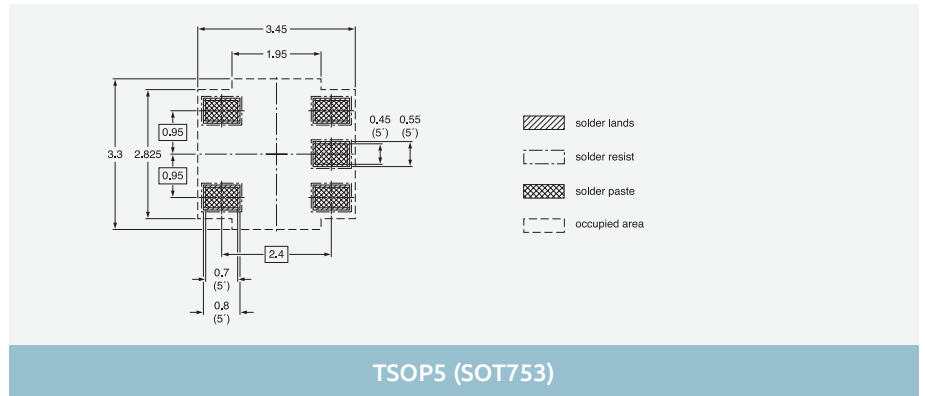
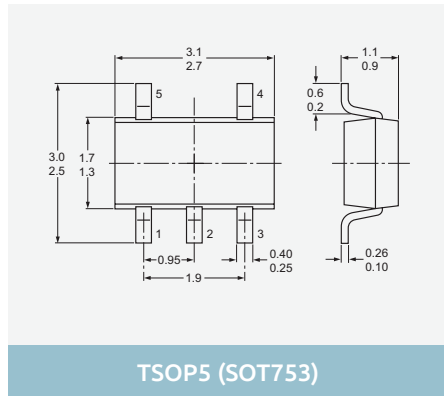
TSSOP5 (SOT353-1)

Dimensions in mm

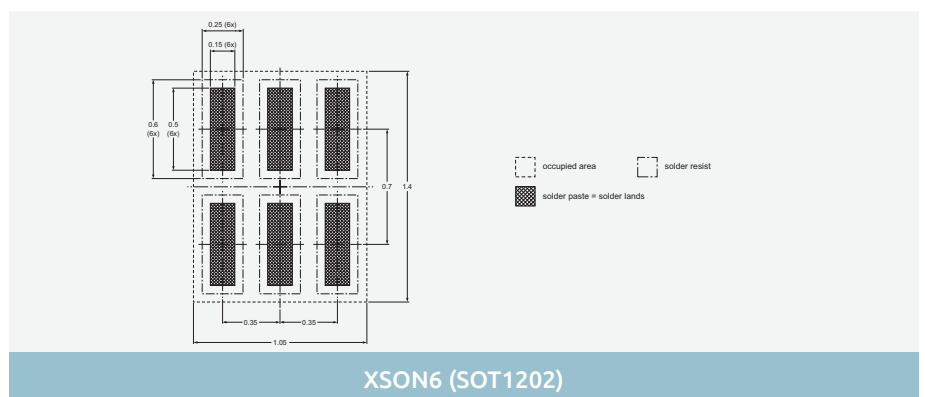
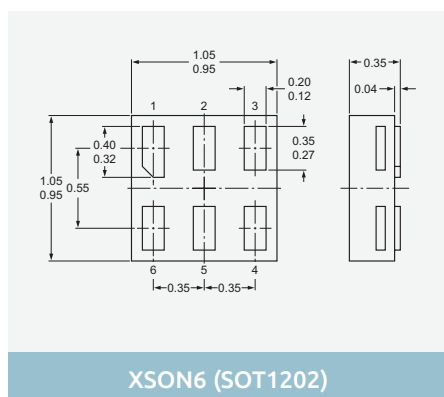
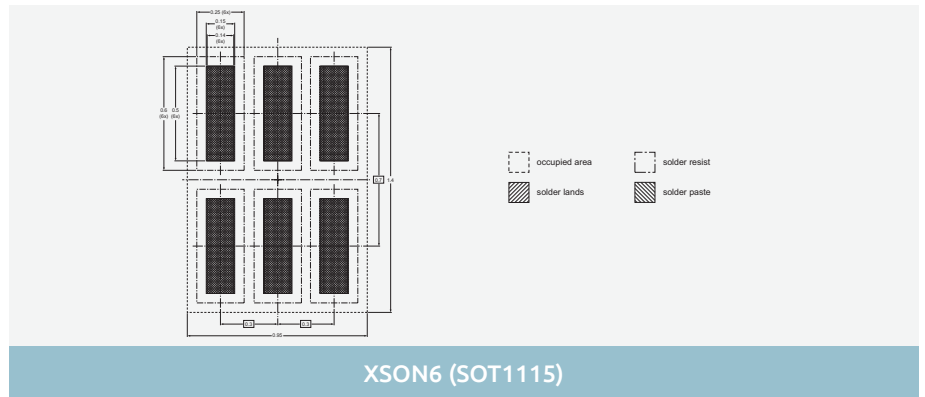
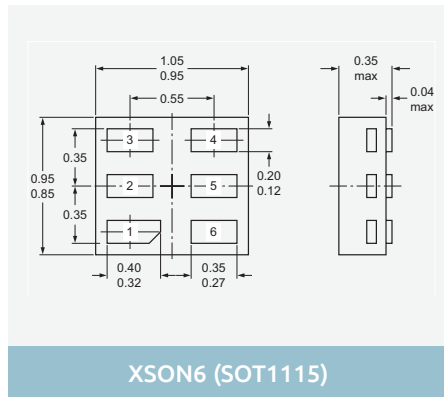
Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

# Minimized outline drawings and reflow soldering footprint

## 5-pin SMD packages



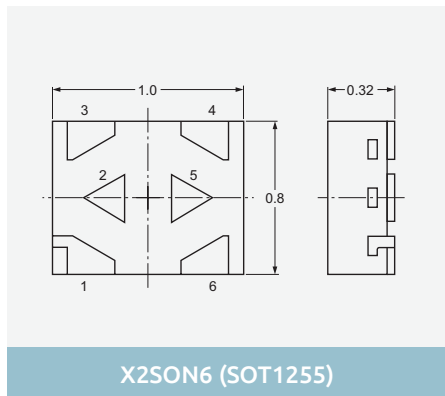
## 6-pin SMD packages



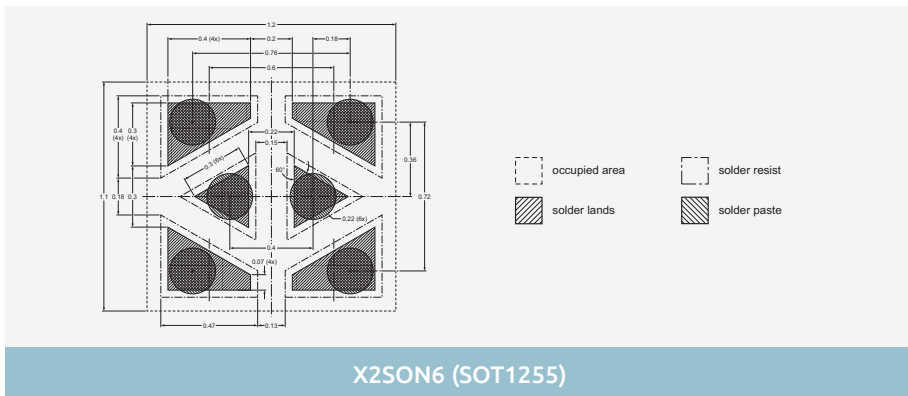
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

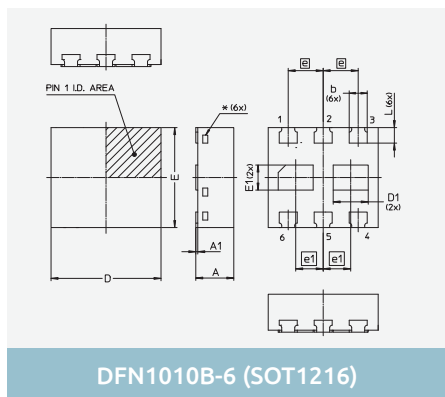
## 6-pin SMD packages



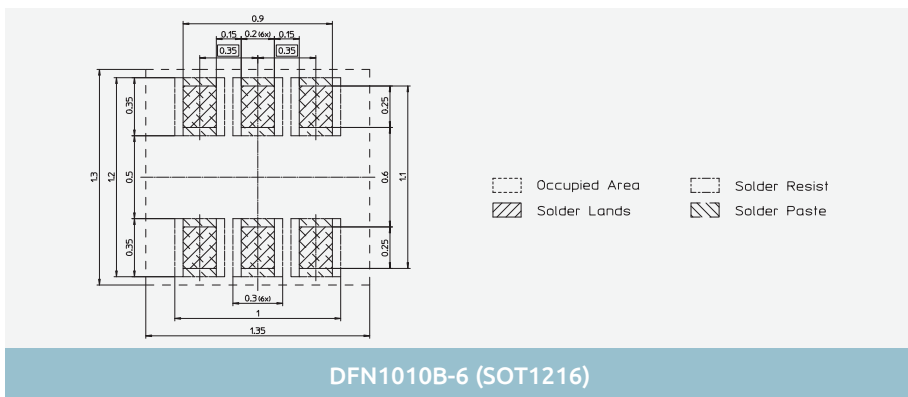
X2SON6 (SOT1255)



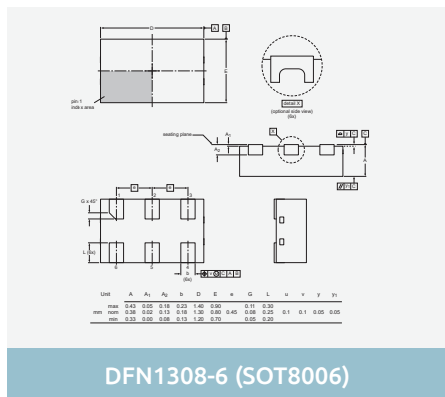
X2SON6 (SOT1255)



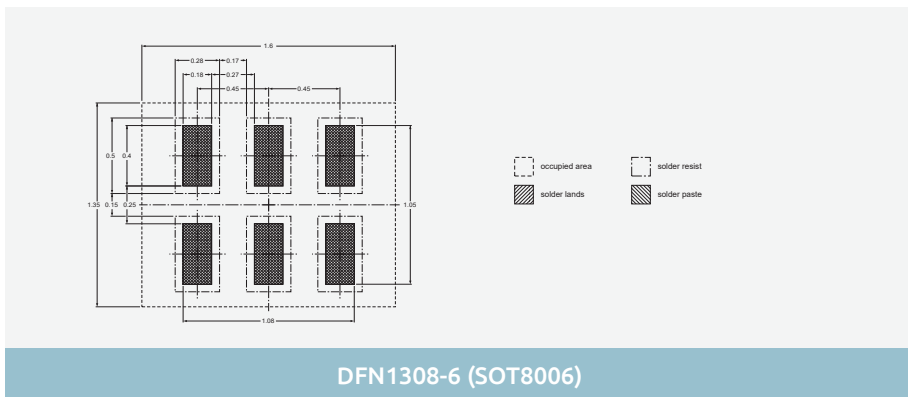
DFN1010B-6 (SOT1216)



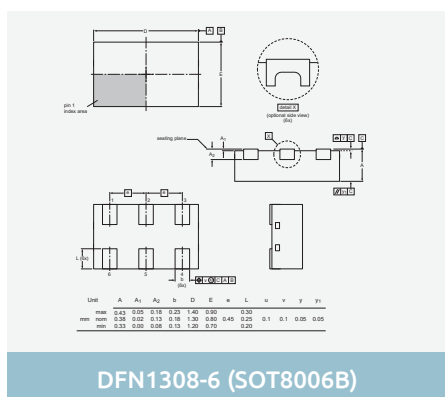
DFN1010B-6 (SOT1216)



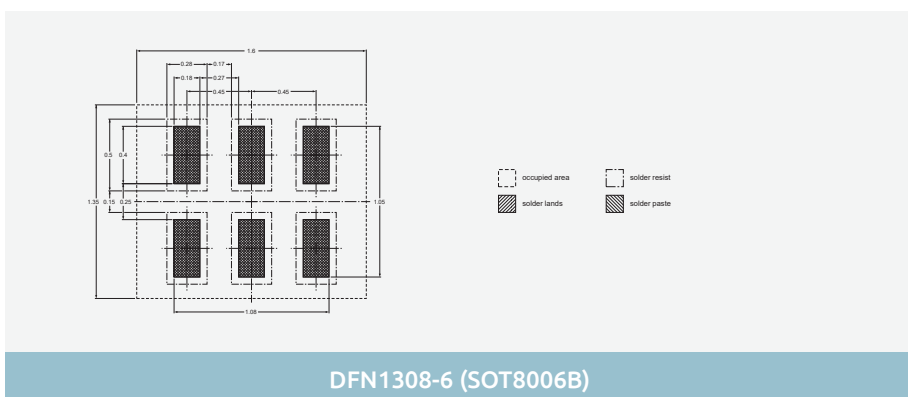
DFN1308-6 (SOT8006)



DFN1308-6 (SOT8006)



DFN1308-6 (SOT8006B)

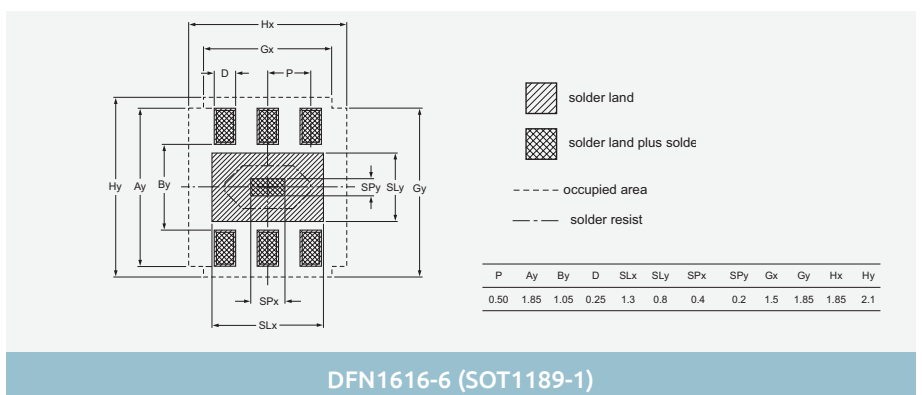
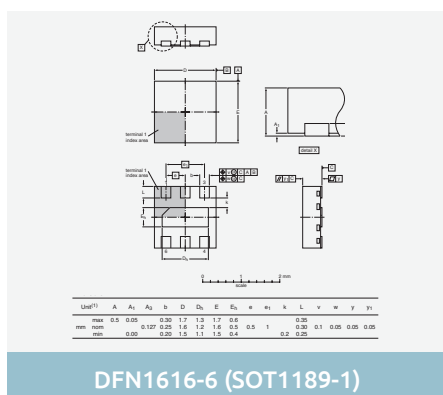
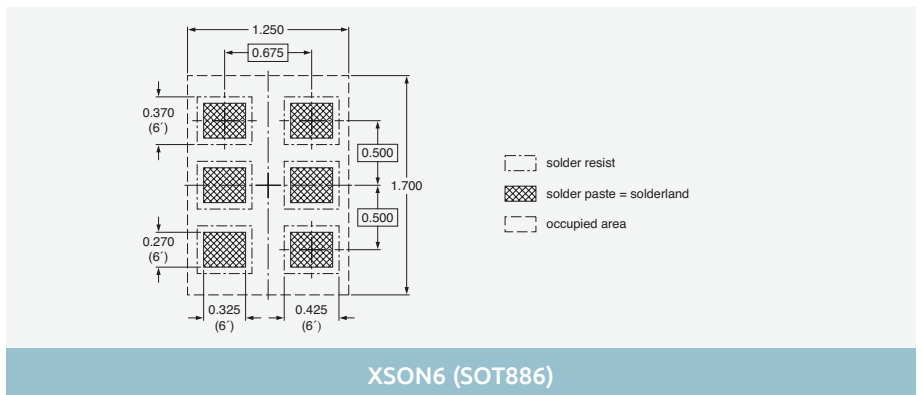
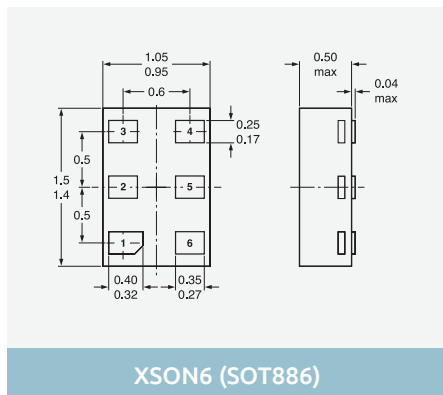
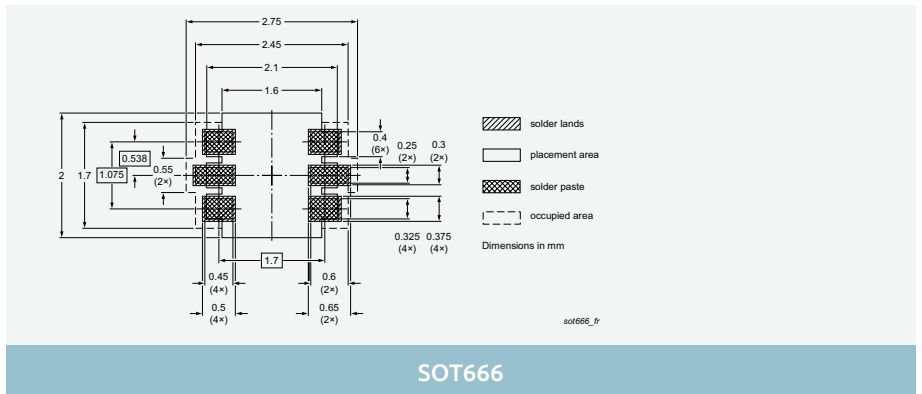
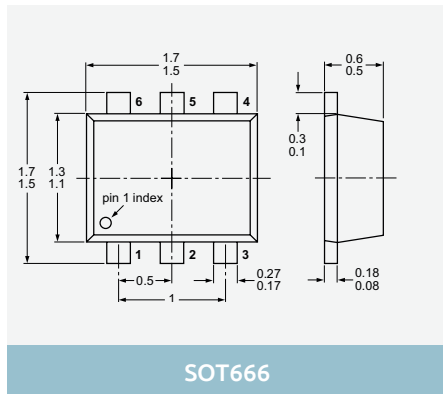
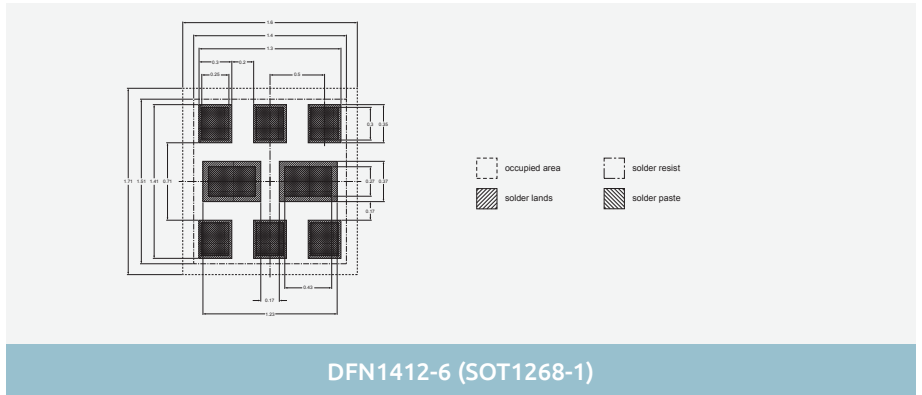
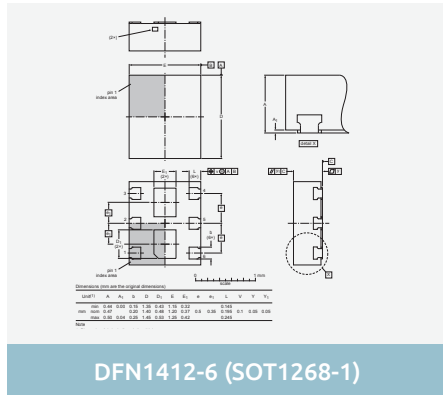


DFN1308-6 (SOT8006B)

Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

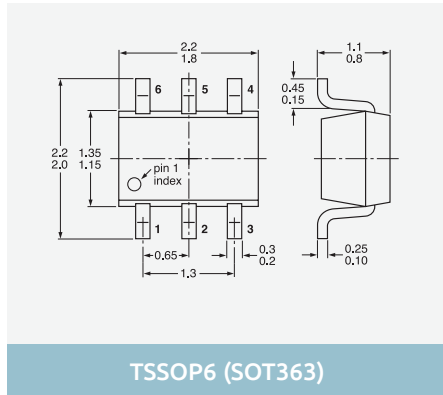
6-pin SMD packages



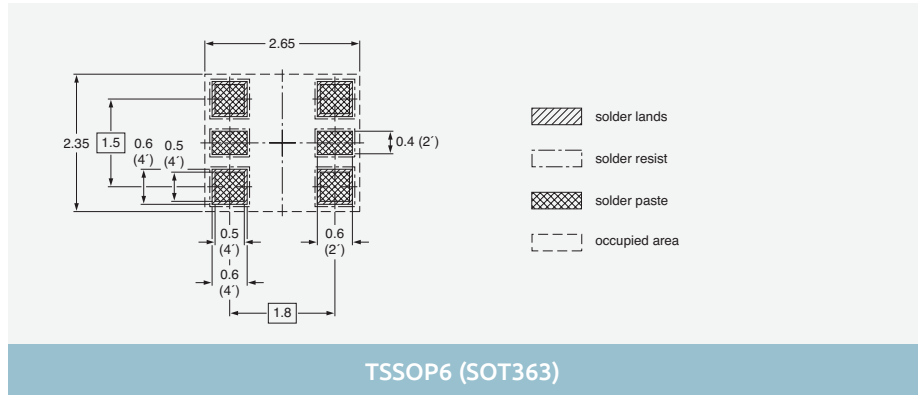
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

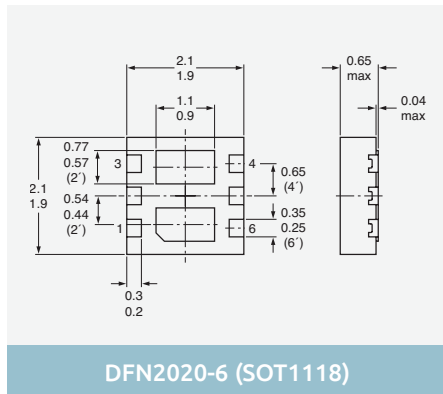
6-pin SMD packages



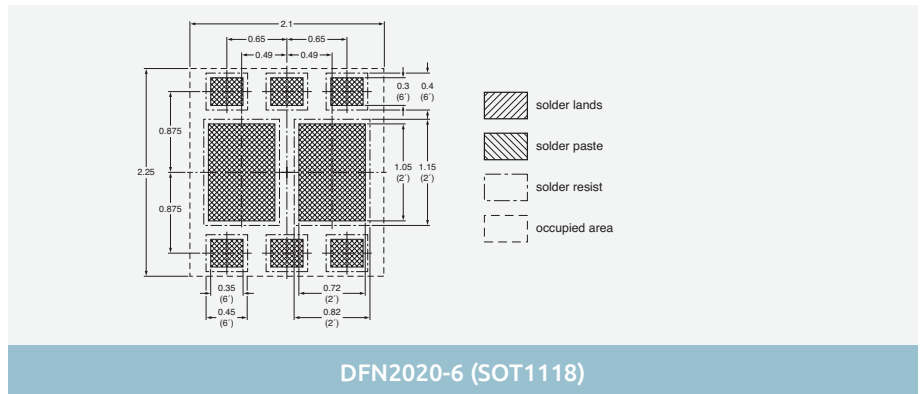
TSSOP6 (SOT363)



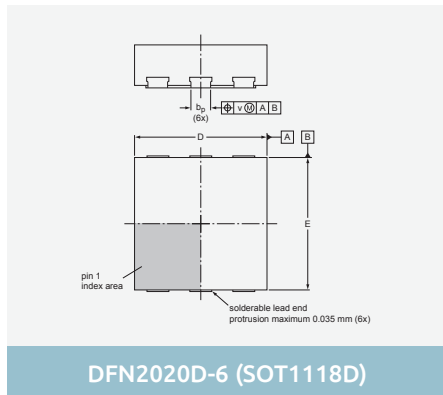
TSSOP6 (SOT363)



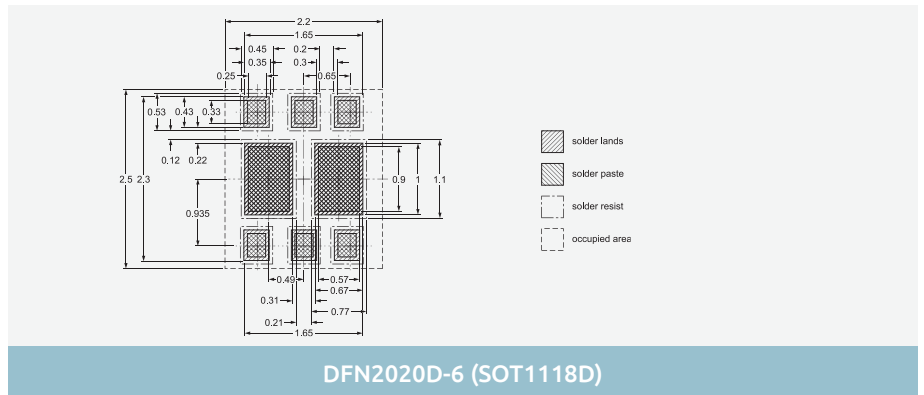
DFN2020-6 (SOT1118)



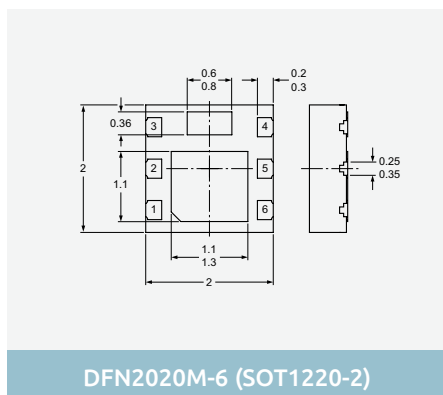
DFN2020-6 (SOT1118)



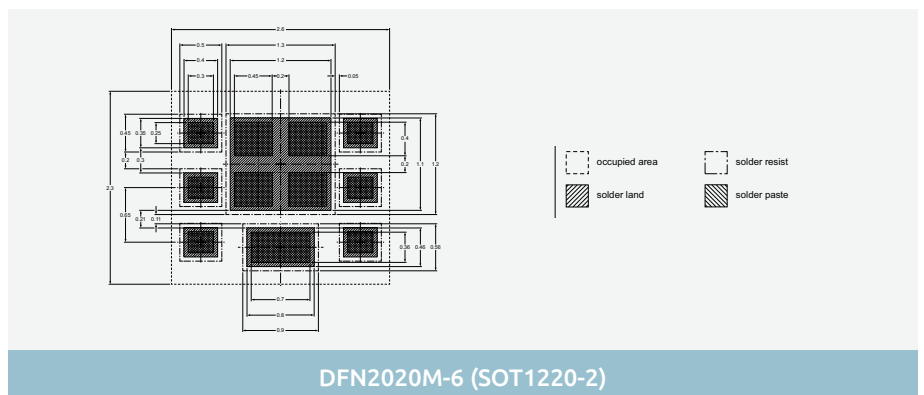
DFN2020D-6 (SOT1118D)



DFN2020D-6 (SOT1118D)



DFN2020M-6 (SOT1220-2)

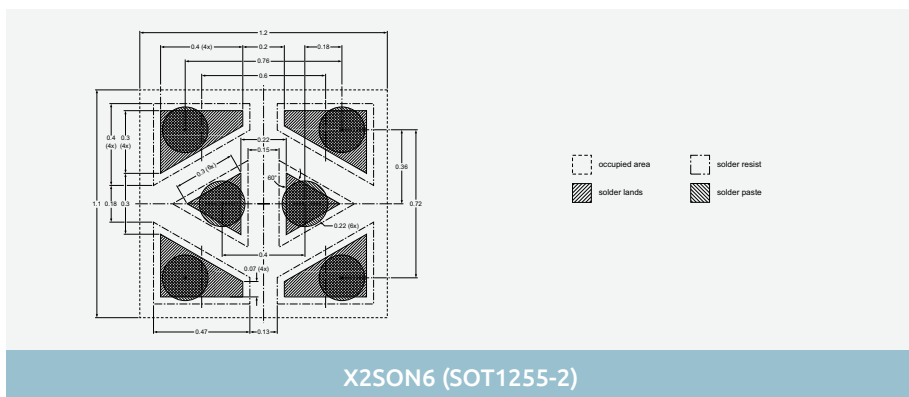
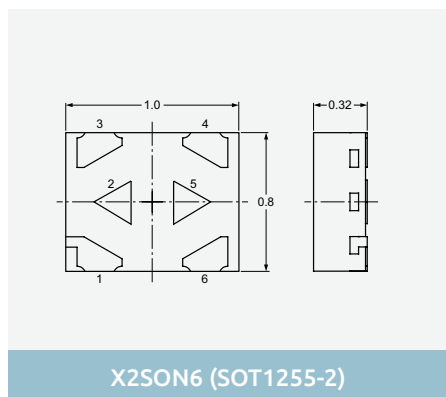
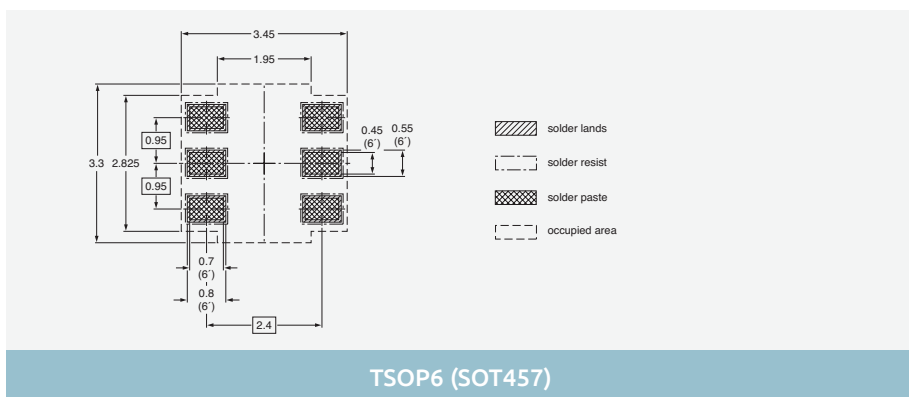
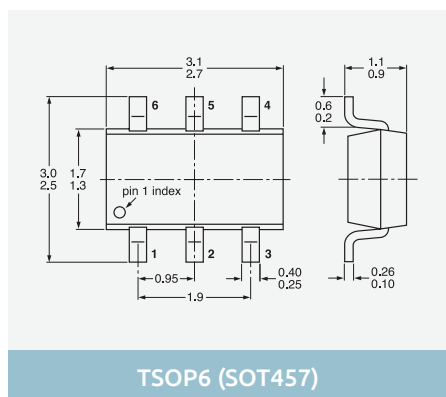
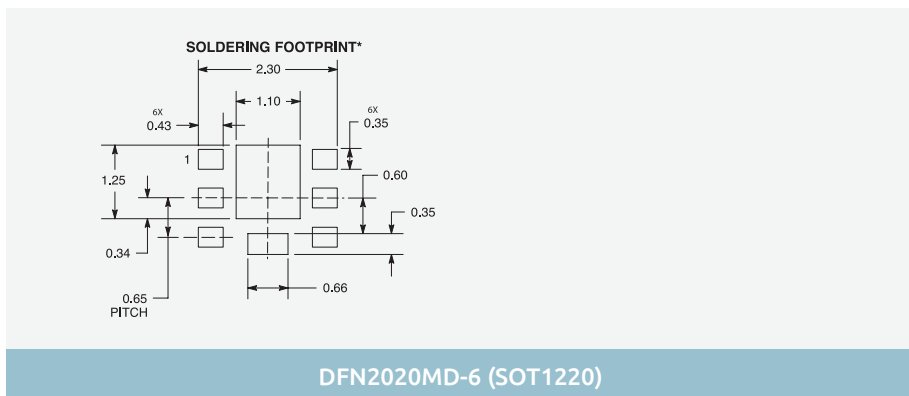
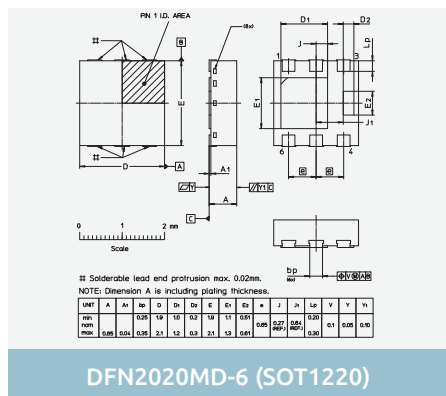


DFN2020M-6 (SOT1220-2)

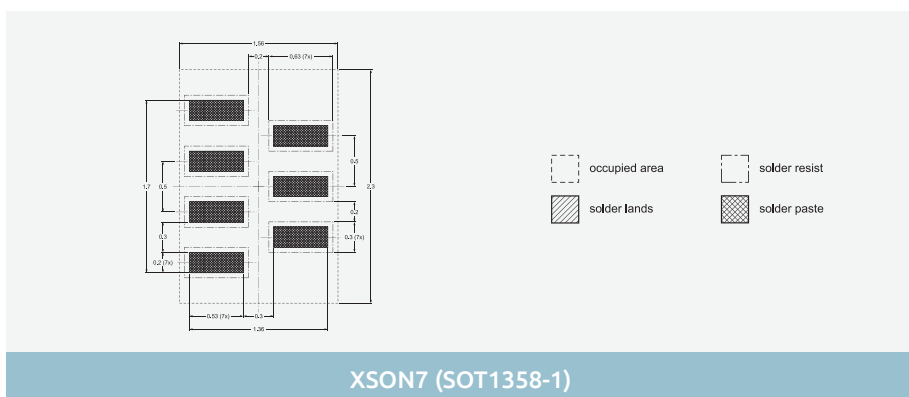
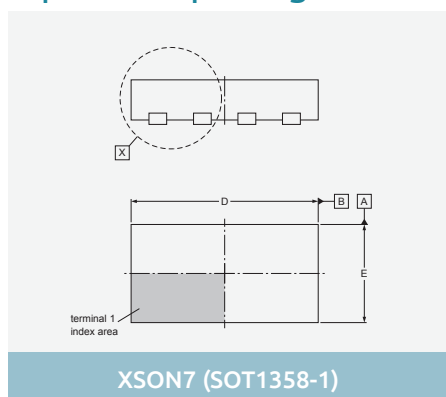
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

## 6-pin SMD packages



## 7-pin SMD packages

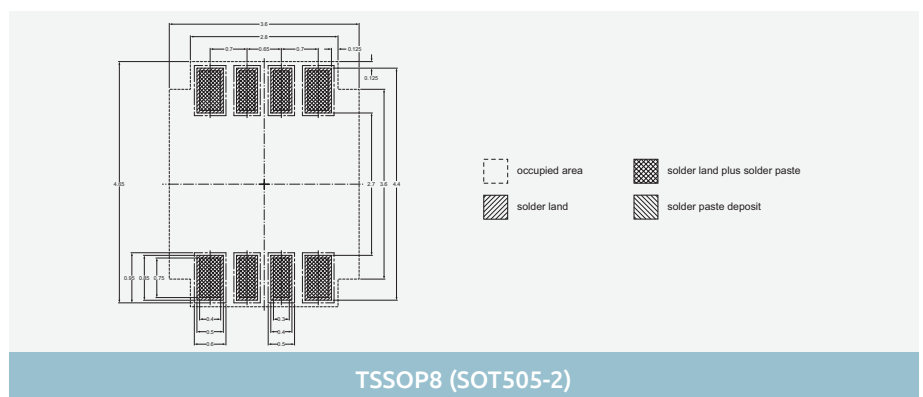
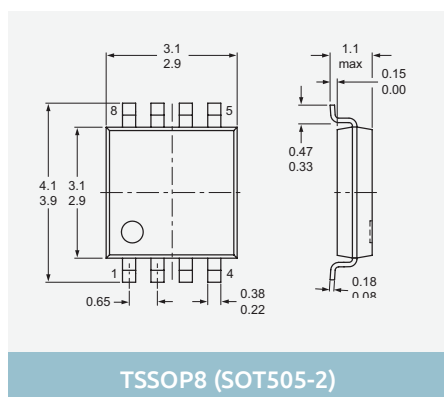
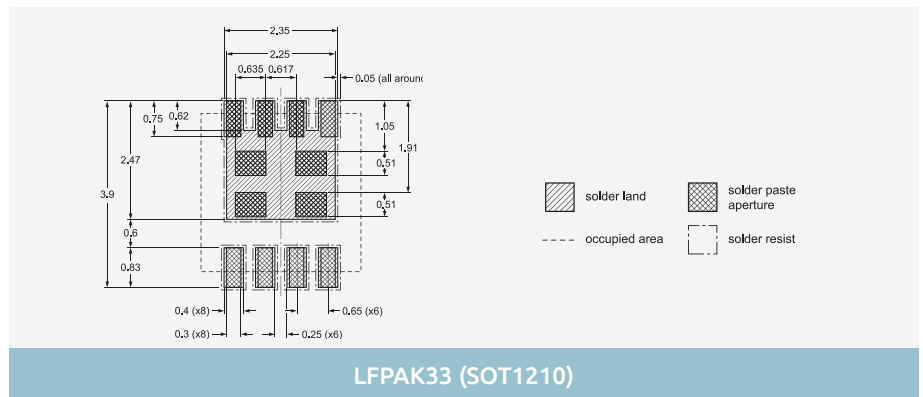
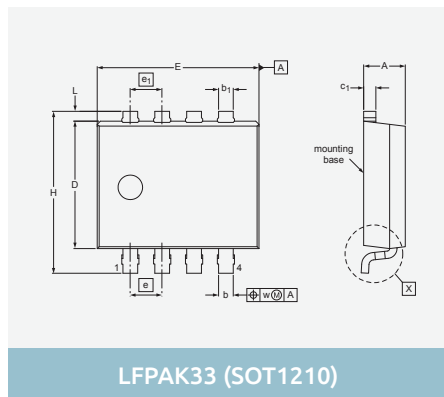
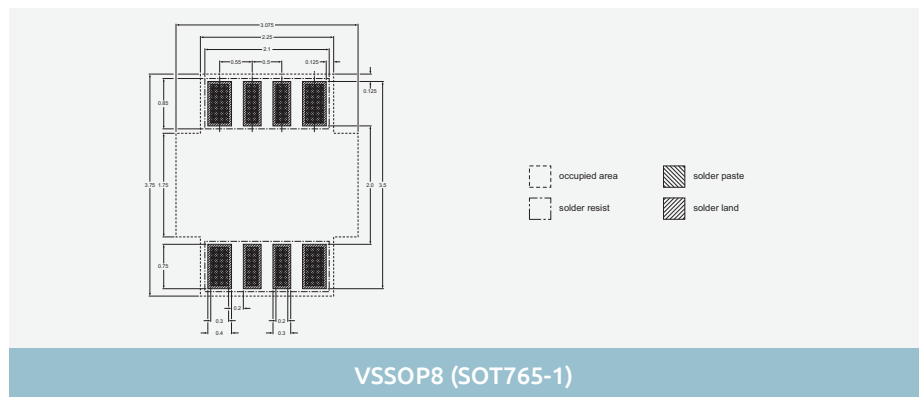
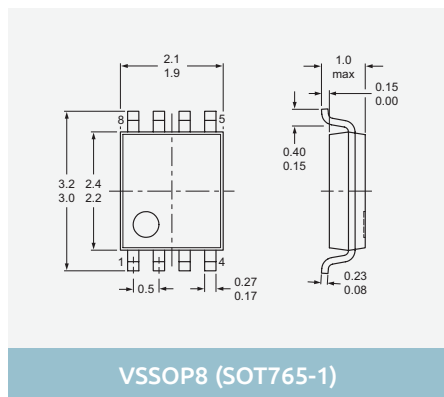
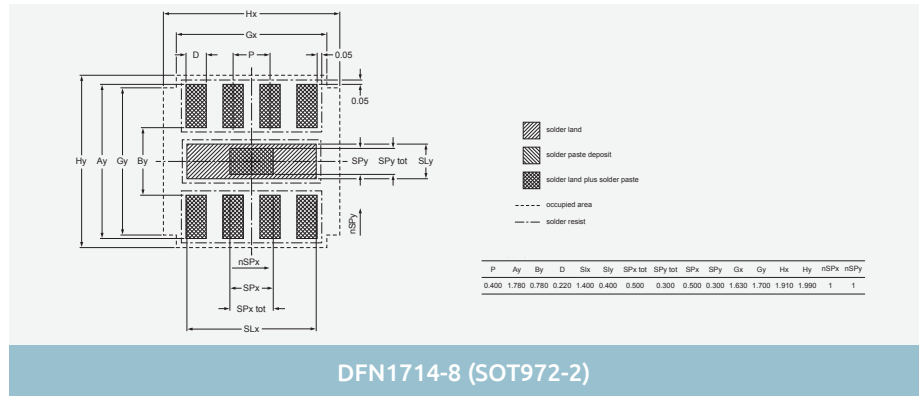
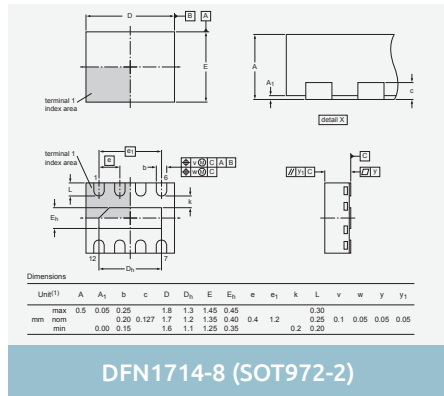


Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)



## 8-pin SMD packages

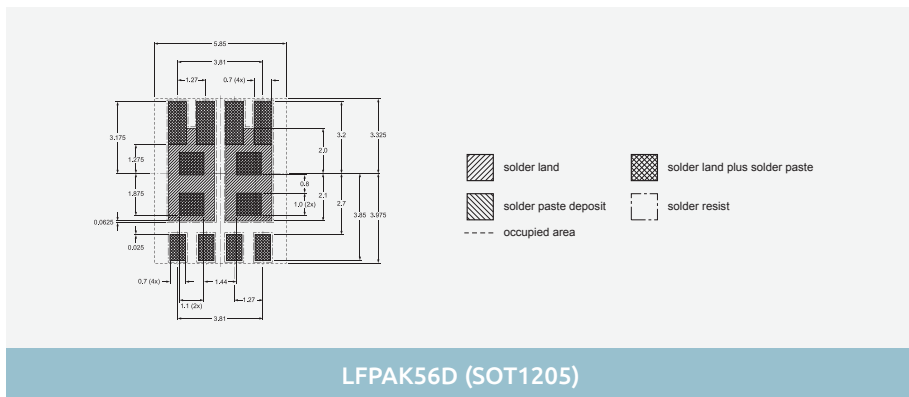
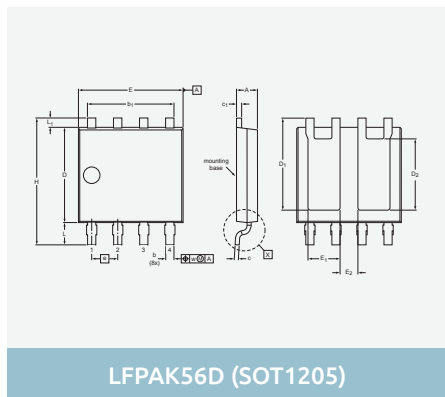
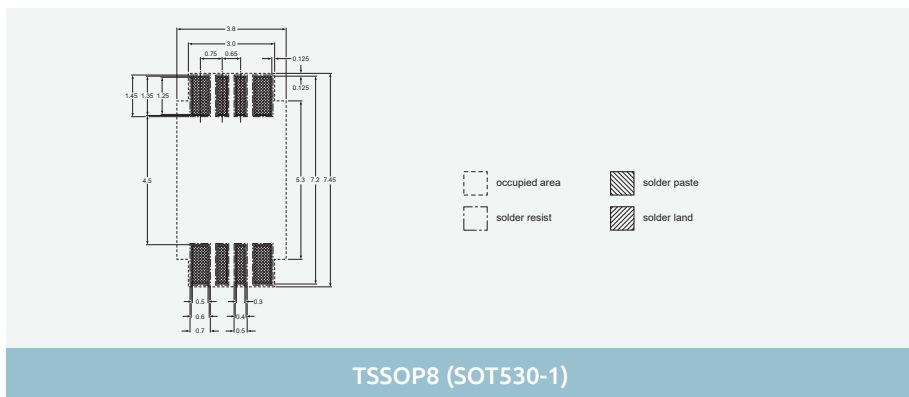
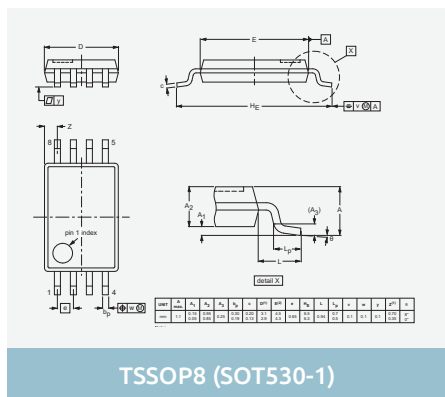
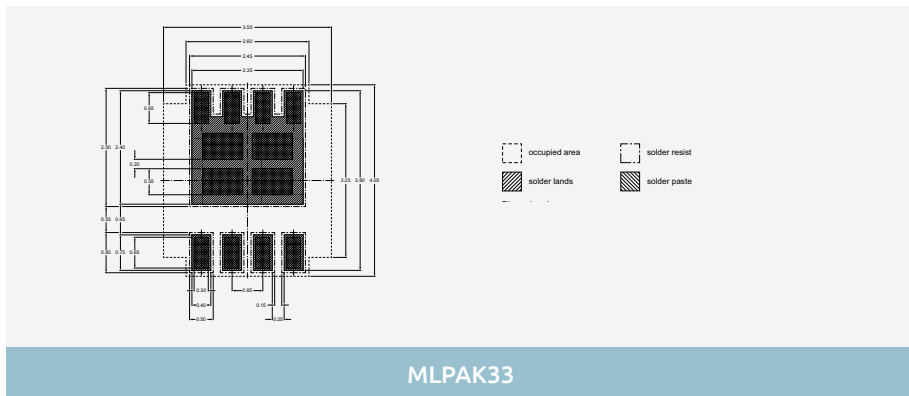
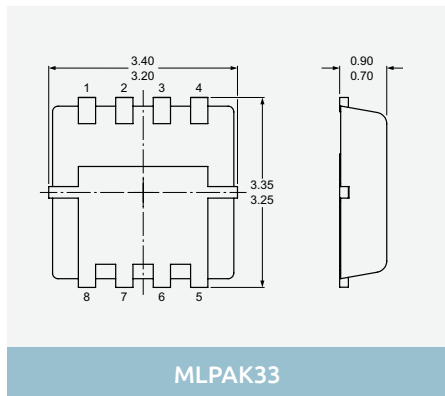


Dimensions in mm

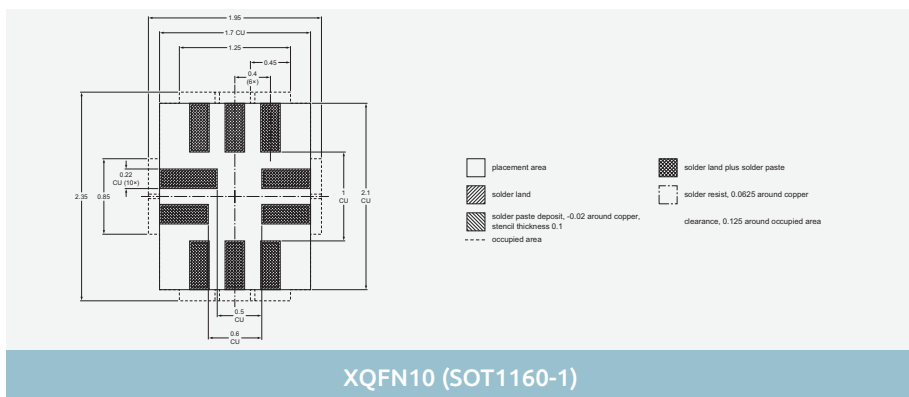
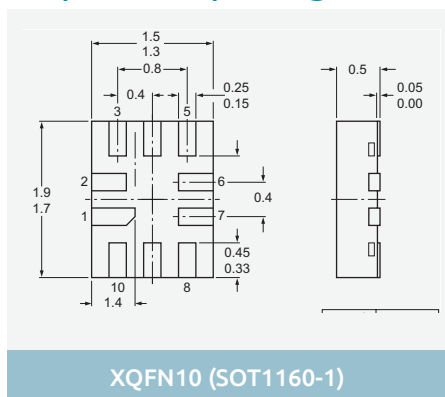
Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)



## 8-pin SMD packages



## 10-pin SMD packages

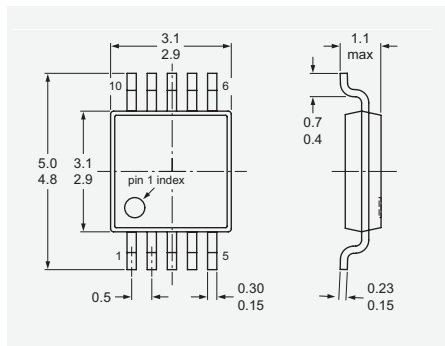


Dimensions in mm

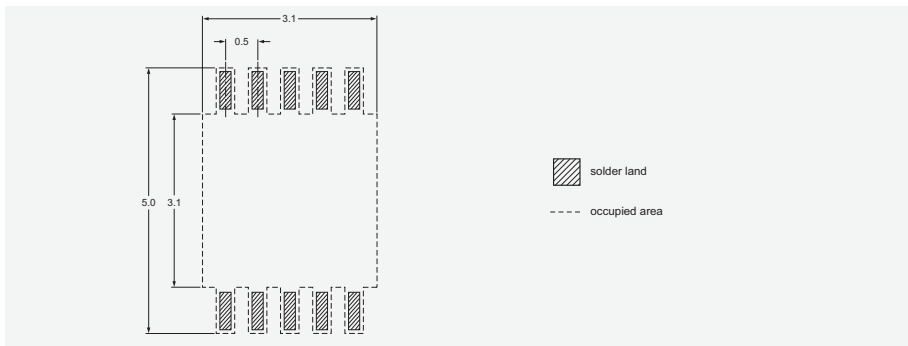
Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)



## 10-pin SMD packages

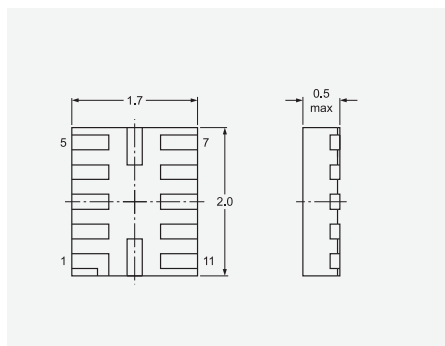


TSSOP10 (SOT552-1)

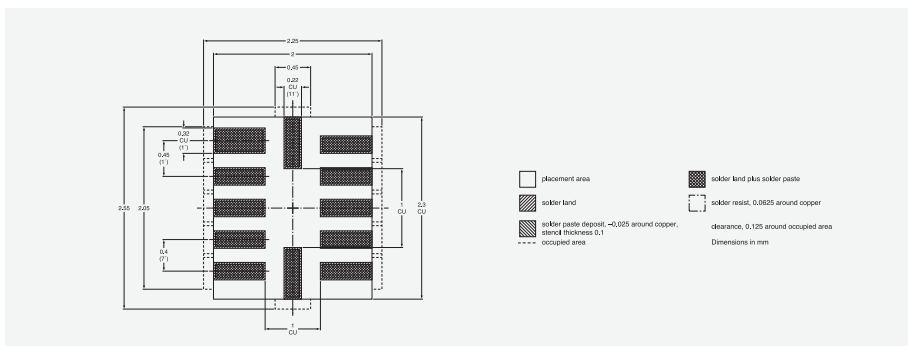


TSSOP10 (SOT552-1)

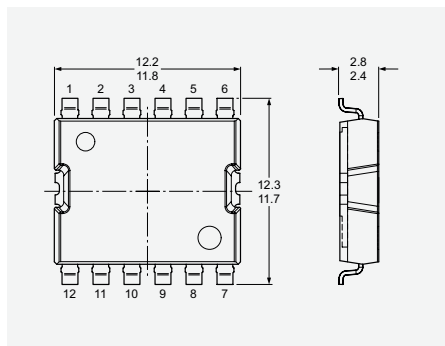
## 12-pin SMD packages



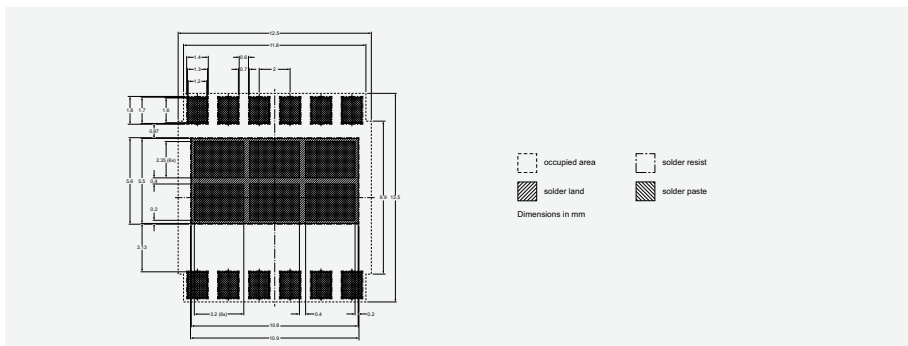
XQFN12 (SOT1174-1)



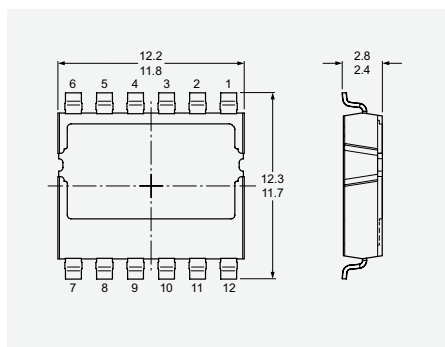
XQFN12 (SOT1174-1)



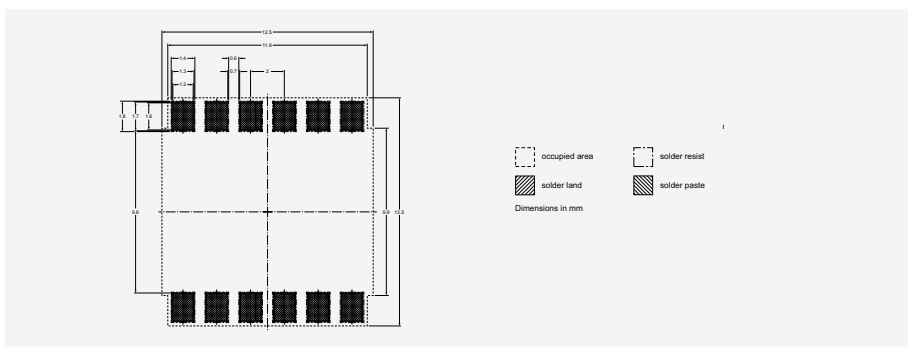
CCPAK1212i (SOT8005)



CCPAK1212i (SOT8005)



CCPAK1212 (SOT8000)

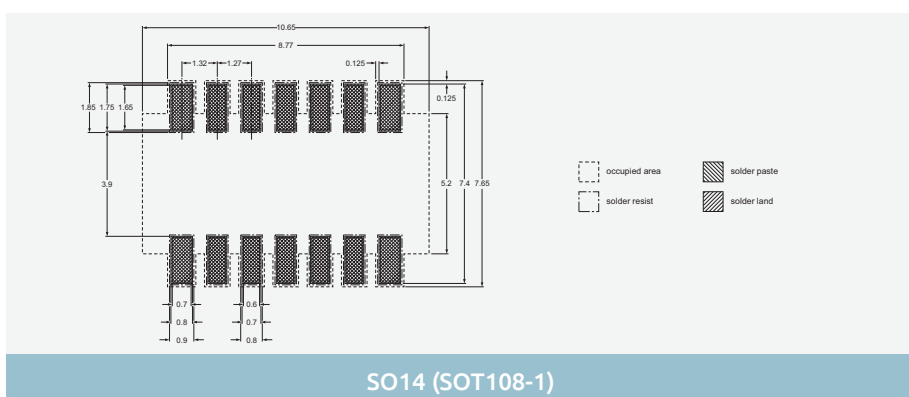
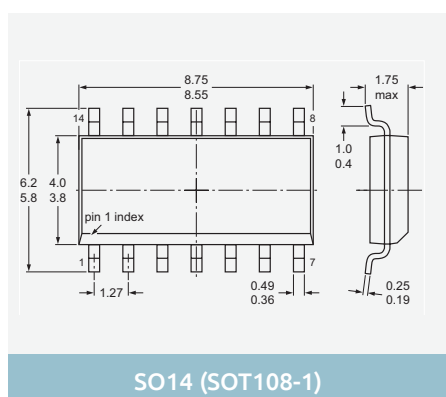
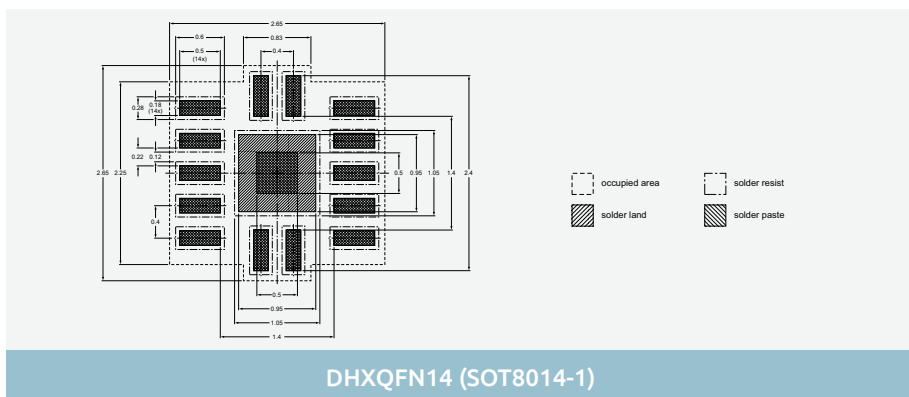
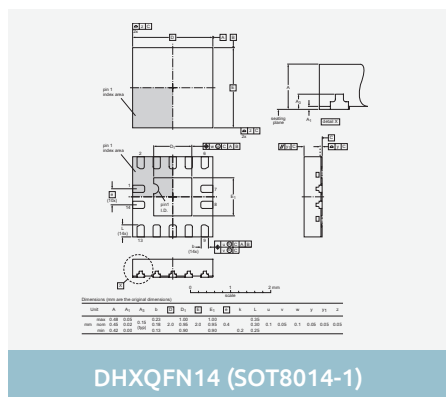
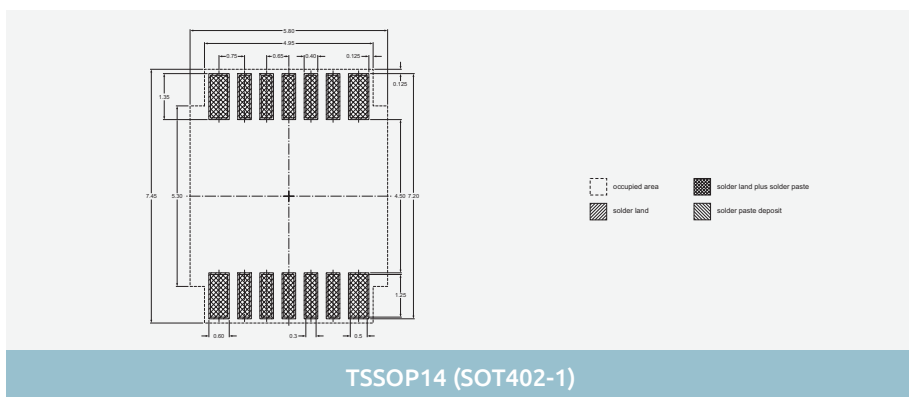
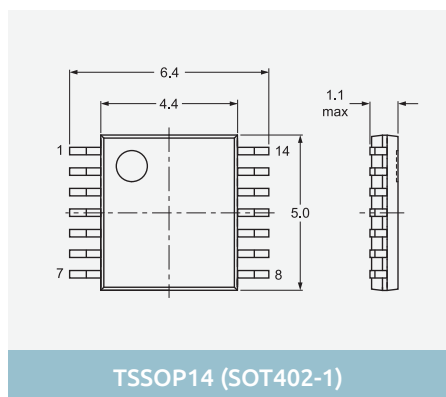
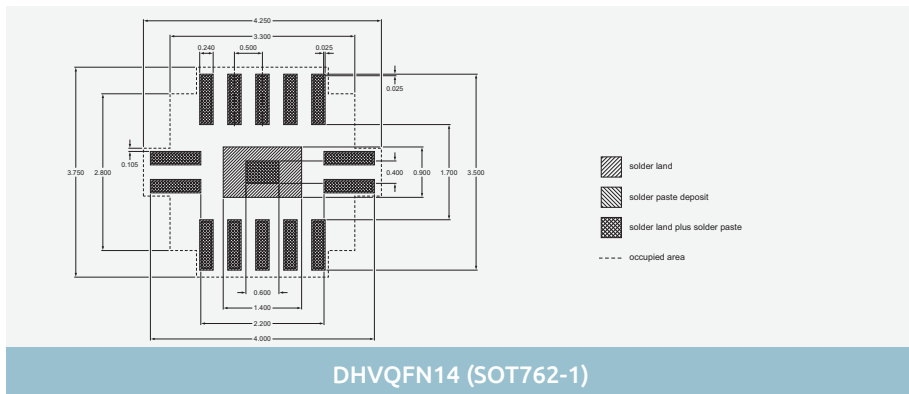
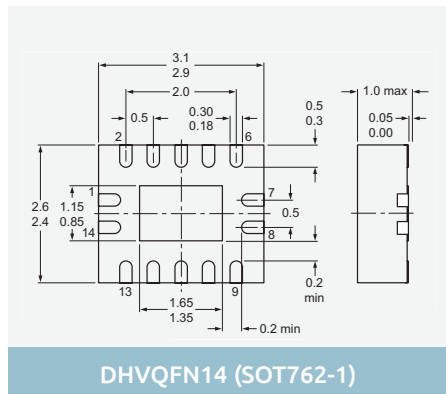


CCPAK1212 (SOT8000)

Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

## 14-pin SMD packages



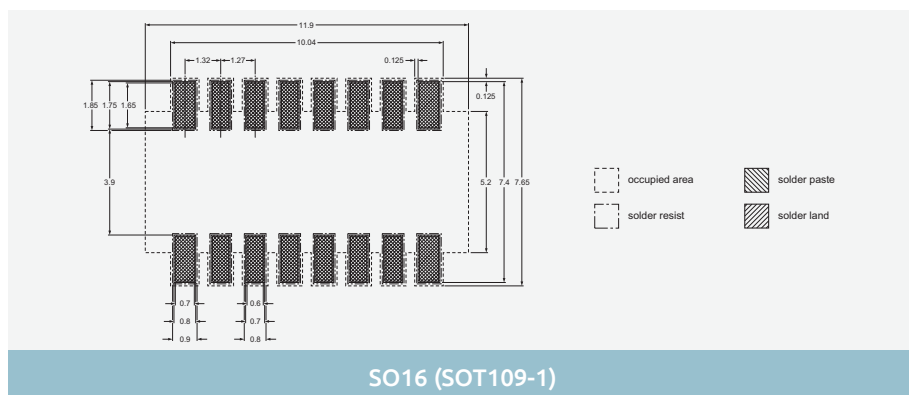
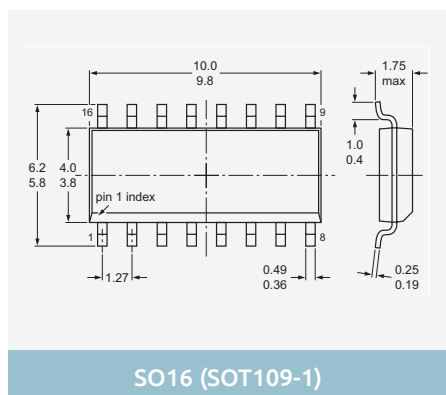
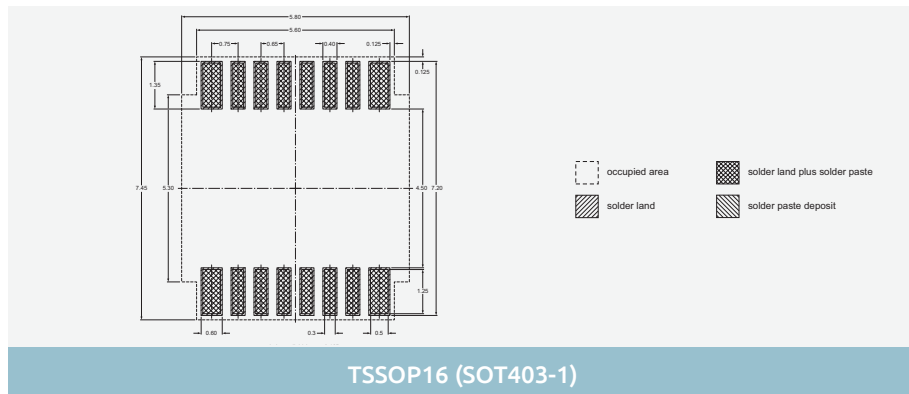
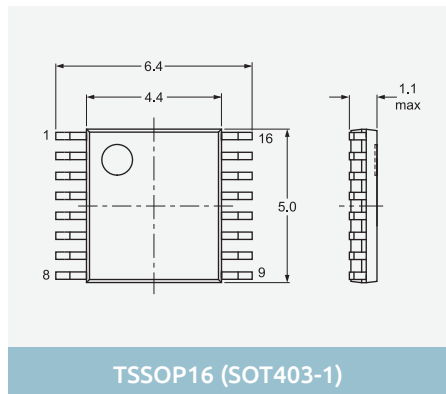
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

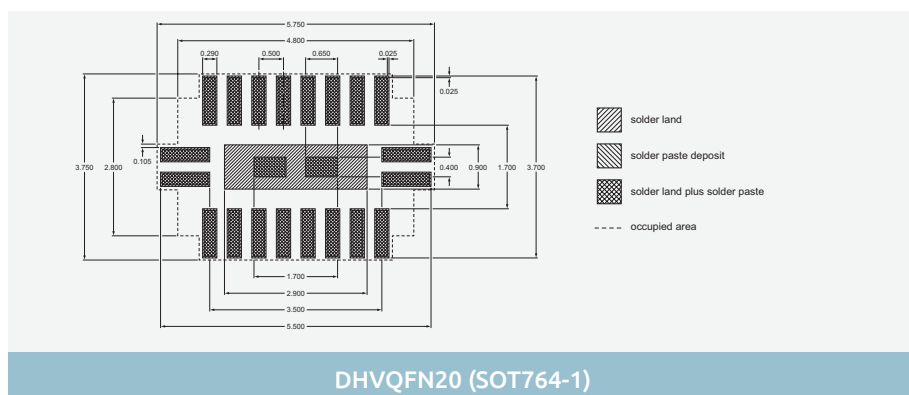
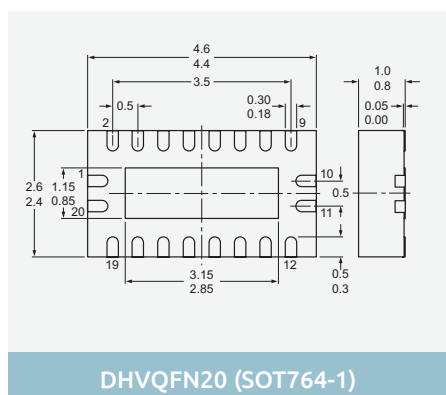
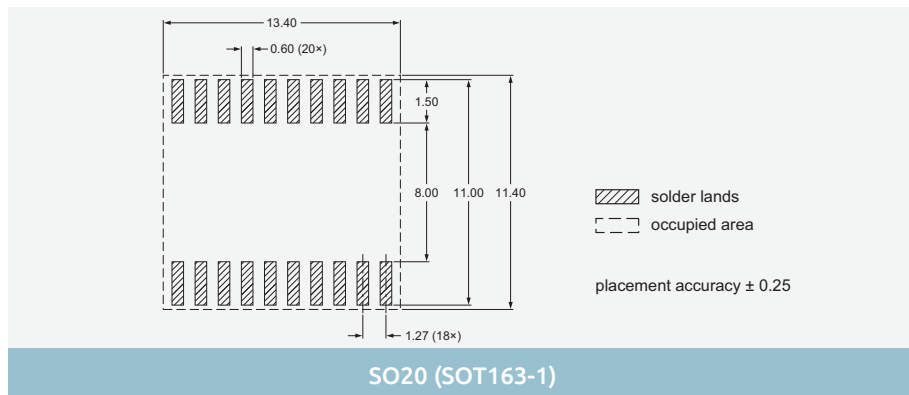
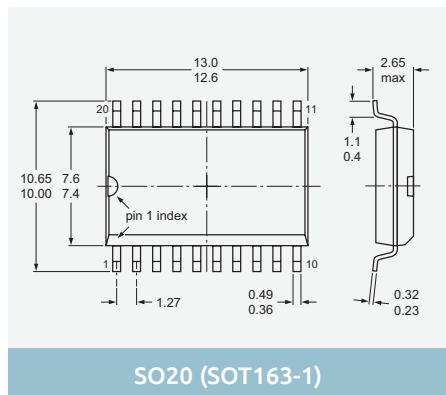


# Minimized outline drawings and reflow soldering footprint

## 16-pin SMD packages



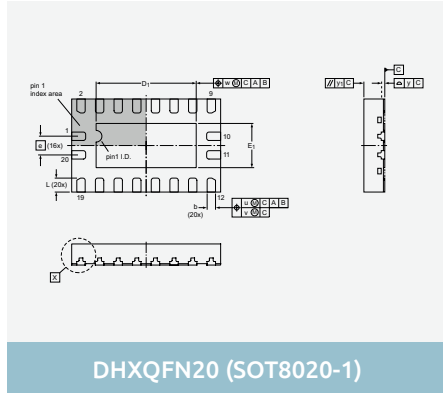
## 20-pin SMD packages



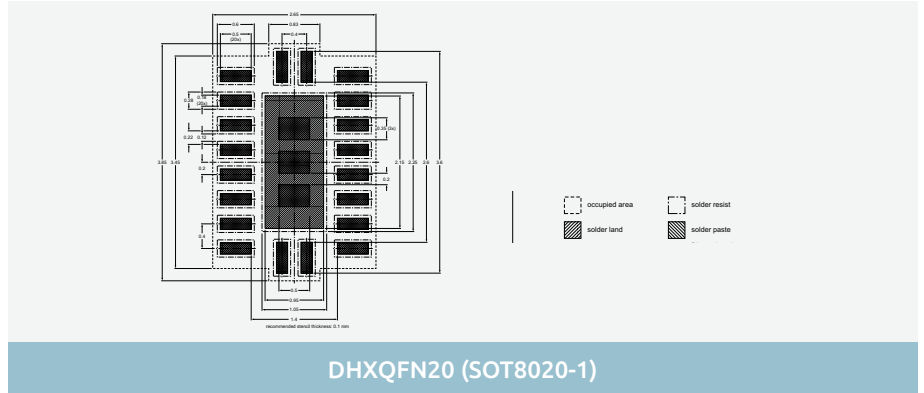
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

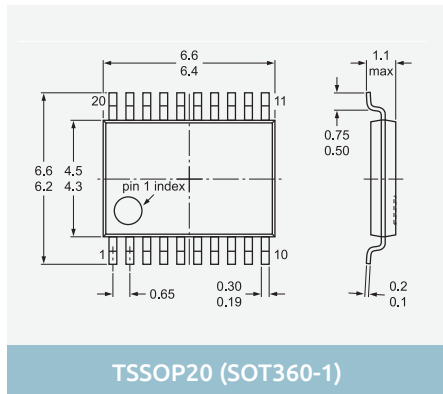
## 20-pin SMD packages



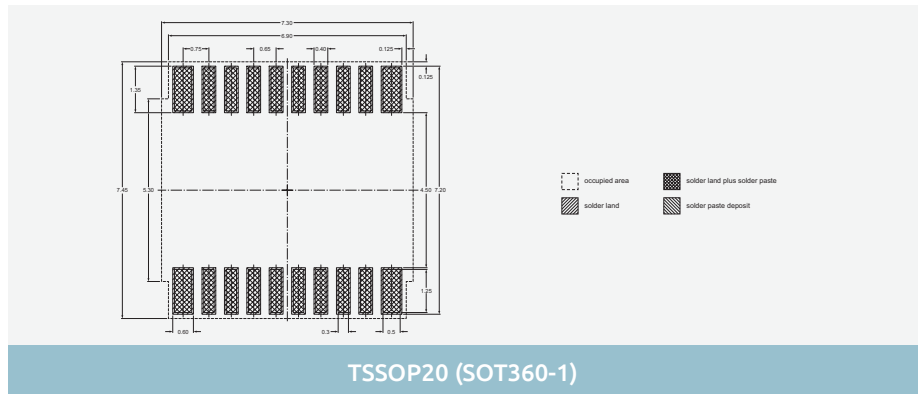
DHXQFN20 (SOT8020-1)



DHXQFN20 (SOT8020-1)

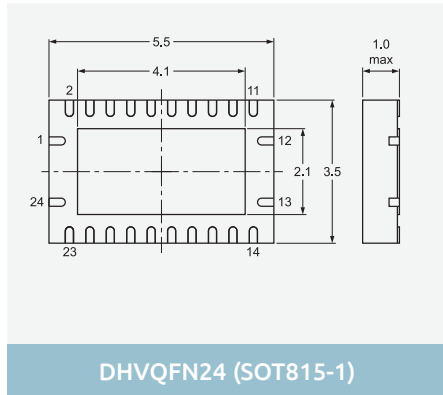


TSSOP20 (SOT360-1)

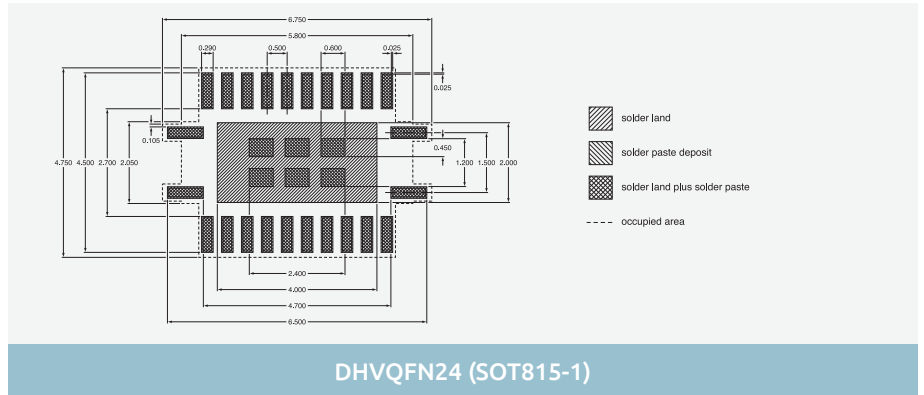


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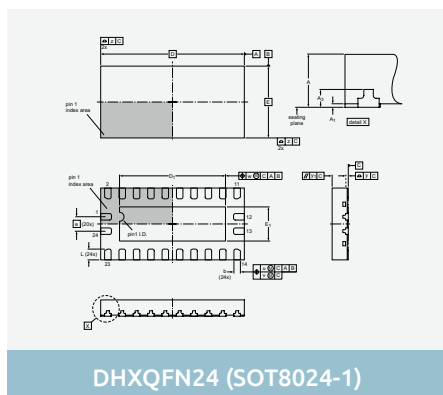
## 24-pin SMD packages



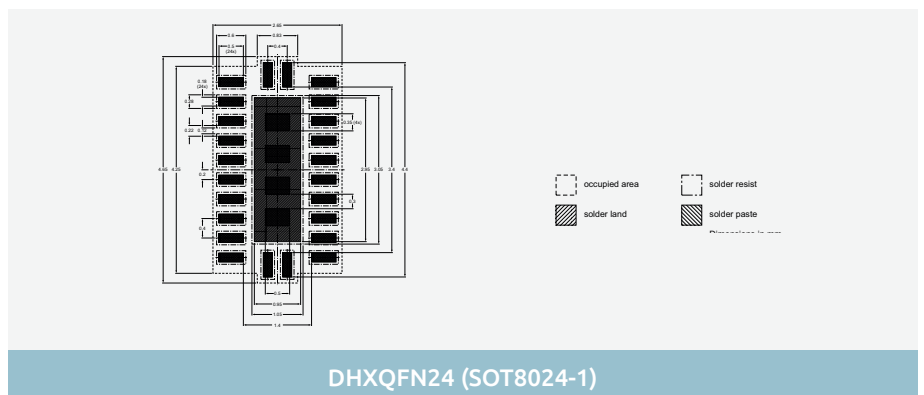
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DHVQFN24 (SOT815-1)



DHXQFN24 (SOT8024-1)

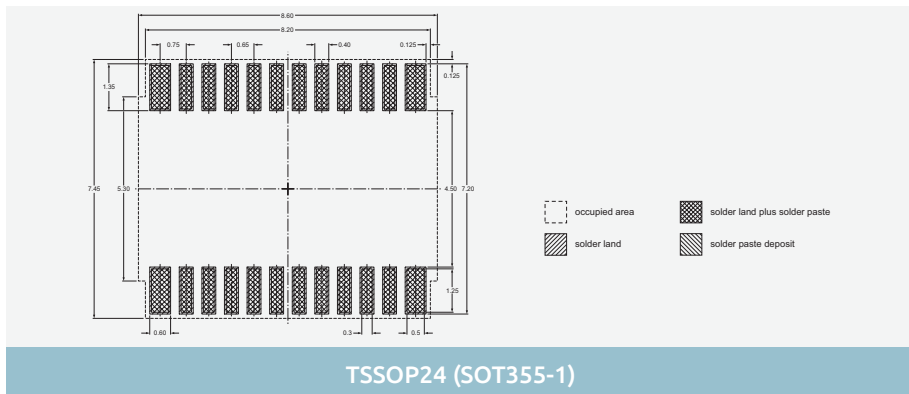
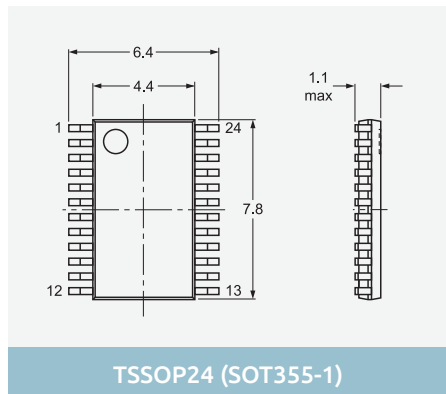


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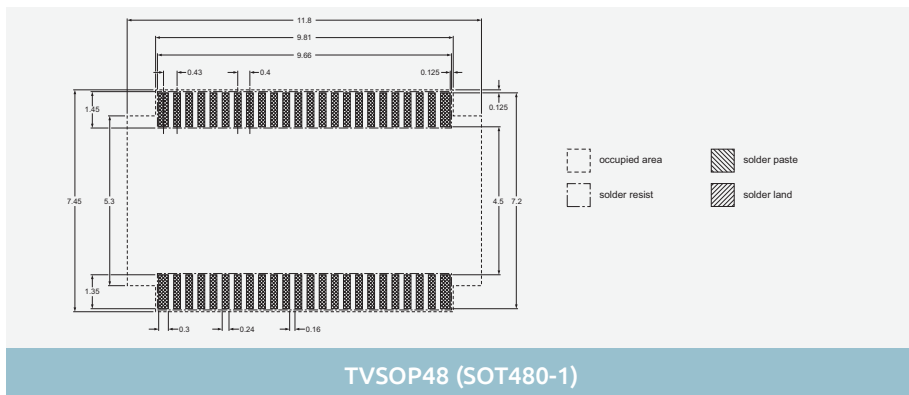
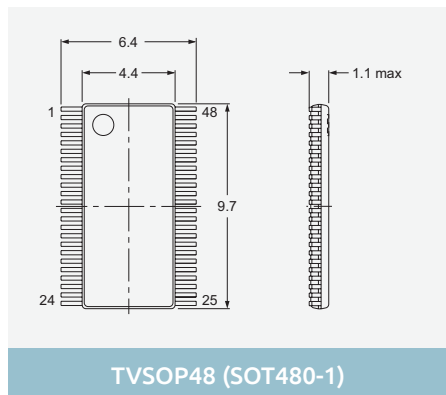
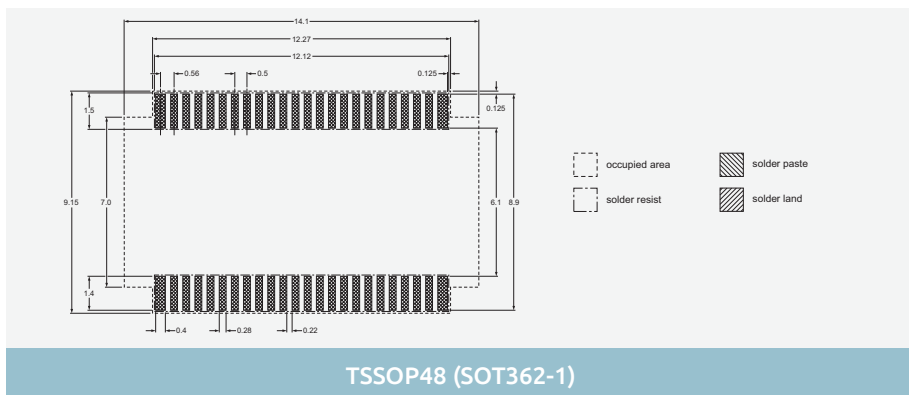
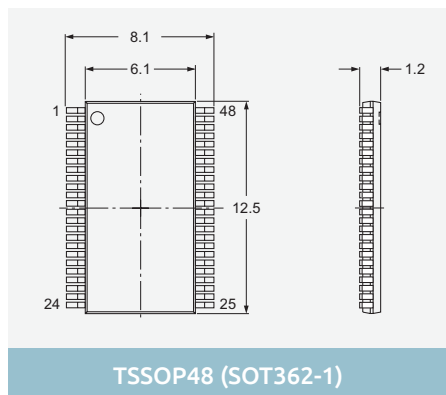
Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

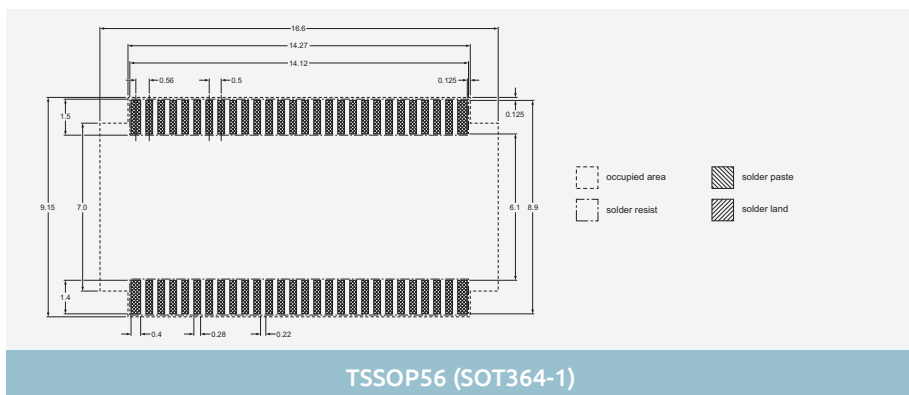
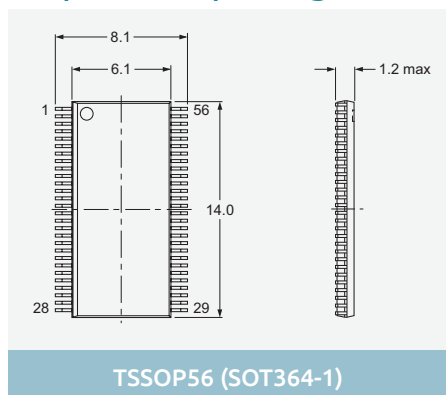
## 24-pin SMD packages



## 48-pin SMD packages



## 56-pin SMD packages



Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)



Dimensions in mm

Images are for reference only, for detailed drawings please visit [nexperia.com/packages](http://nexperia.com/packages)

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74AUP1T58	162	74AVC20T245-Q100	138	74CBTLV16211	166	74HC14	159	74HC259-Q100	137
74AUP1T58	177	74AVC9112	153	74CBTLVD3244	166	74HC14-Q100	139	74HC273	172
74AUP1T86	162	74AVC16244	153	74CBTLVD3245	166	74HC20	179	74HC273-Q100	134
74AUP1T86	178	74AVC16245	161	74CBTLVD3245-Q100	132	74HC20-Q100	136	74HC280	182
74AUP1T87	162	74AVC16245-Q100	142	74CBTLVD3384	166	74HC21	176	74HC299	168
74AUP1T87	178	74AVC16334A	170	74CBTLVD3861	166	74HC27	180	74HC299-Q100	140
74AUP1T97	162	74AVC16373	170	74HC00	179	74HC27-Q100	136	74HC365	154
74AUP1T97	177	74AVC16374	172	74HC00-Q100	136	74HC30	179	74HC365-Q100	129
<b>74AUP1T97-Q100</b>	<b>150</b>	74AVC16374-Q100	133	74HC1G00	179	74HC30-Q100	136	74HC366	154
74AUP1T98	162	74AVC16834A	170	74HC1G00-Q100	147	74HC32	181	74HC366-Q100	129
74AUP1T98	177	74AVC16835A	170	74HC1G02	180	74HC32-Q100	136	74HC367	154
74AUP1T98-Q100	147	74AVC16836A	170	74HC1G02-Q100	147	74HC42	167	74HC368	154
74AUP1Z04	177	74AVCH1T45	163	74HC1G04	153	74HC73	173	74HC373	170
74AUP1Z125	177	74AVCH2T45	163	74HC1G04-Q100	144	<b>74HC73D-Q100</b>	<b>134</b>	74HC373-Q100	137
74AUP2G00	179	74AVCH4T245	163	74HC1G08	176	74HC74	173	74HC374	173
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74AUP2G02	180	74AVCH8T245	163	74HC1G14	153	74HC75	170	74HC377-Q100	134
74AUP2G04	152	74AVCH16T245	163	74HC1G14	159	74HC85	182	74HC390	174
74AUP2G04-Q100	144	74AVCH20T245	163	74HC1G14-Q100	149	74HC86	178	74HC393	174
74AUP2G06	152	74AVCH16244	153	74HC1G32	181	74HC86-Q100	136	74HC393-Q100	131
74AUP2G07	153	74AVCH16245	161	74HC1G32-Q100	147	74HC107	172	74HC423	175
74AUP2G08	176	74AXP1G00	179	74HC1G66	165	74HC107-Q100	134	74HC540	154
74AUP2G14	153	74AXP1G02	180	74HC1G66-Q100	143	74HC109	172	74HC540-Q100	129
74AUP2G14	158	74AXP1G04	153	74HC1G86	178	74HC109-Q100	134	74HC541	129
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BC55PA / BC55-10PA /		BC849B	28	BCP68 / -25	25	BSR43(-Q)	<b>25</b>	BUK7M8R0-40E	92
BC55-16PA	25	BC849BW	28	BCP69 / -16 / -25	25	BSS63	22	BUK7M8R5-40H	92
BC55PAS / BC55-10PAS		BC849C	28	BCV26	28	BSS66	26	BUK7M9R5-40H	92
/ BC55-16PAS	25	BC849CW	28	BCV27	28	BSS84AK	100	BUK7M9R9-60E	94
BC56PA / BC56-10PA /		BC850B	28	BCV28	28	BSS84AK	117	BUK7M10-40E	92
BC56-16PA	25	BC850BW	28	BCV29	28	BSS84AKM	110	BUK7M11-40H	92
BC56PAS / BC56-10PAS		BC850C	28	BCV46	28	BSS84AKM	117	BUK7M12-40E	92
/ BC56-16PAS	25	BC850CW	28	BCV47(-Q)	<b>28</b>	BSS84AKMB	110	BUK7M12-60E	94
BC68PA / BC68-25PA	25	BC856 / A / B	22	BCV48	28	BSS84AKMB	117	BUK7M15-40H	92
BC68PAS / BC68-25PAS	25	BC856AQB / BQB / CQB	22	BCV49	28	<b>BSS84AKQB</b>	<b>100</b>	BUK7M15-60E	94
BC69PA / BC69-16PA /		BC856AQB / BQB / CQB (-Q)	22	BCV61A/B/C	29	BSS84AKS	100	BUK7M17-80E	95
BC69-25PA	25	BC856BM	22	BCV62A/B/C	29	BSS84AKS	118	BUK7M19-60E	94
BC69PAS / BC69-16PAS /		BC856BMB	22	BCV63 / B	28	BSS84AKW	100	BUK7M20-40H	92
BC69-25PAS	25	BC856BS	23	BCV64B	28	BSS84AKW	117	BUK7M21-40E	92
BC806-16 / -25	23	<b>BC856BSH-Q</b>	<b>10</b>	BCV65	30	BSS138AKA	100	BUK7M22-80E	95
BC806-16H	25	<b>BC856BSH-Q</b>	<b>25</b>	BCV71 / 72	22	BSS138BK	100	BUK7M27-80E	95
BC806-16W / -25W	23	BC856S	23	BCW29 / 30	22	BSS138BKS	100	BUK7M33-60E	94
BC806-25H	25	<b>BC856SH-Q</b>	<b>10</b>	BCW31 / 32 / 33	22	BSS138BKW	100	BUK7M42-60E	94
BC807 / -16 /	22	<b>BC856SH-Q</b>	<b>25</b>	BCW60B / C / D	22	BSS138P	100	BUK7M45-40E	92
BC807-16H	25	BC856W / AW / BW	22	BCW61B / C / D	22	BSS138PS	100	BUK7M67-60E	94
BC807-16QB /	22	BC857 / A / B / C	22	BCW66F/G/H	22	BSS138PW	100	<b>BUK7SOR5-40H</b>	<b>91</b>
BC807-16QC /	22	BC857AMB / BMB / CMB	22	BCW68F/G/H	23	BST39	26	BUK7SOR7-40H	91
BC807-25H	25	BC857AM / BM / CM	22	BCW69 / 70	22	BST50	28	BUK7SOR9-40H	91
BC807-25QA / -40QA	22	BC857AQA / BQA / CQA	22	BCW71 / 72	22	BST51	28	BUK7S1R0-40H	91
BC807-40H	25	BC857AQB / BQB / CQB (-Q)	22	BCW89	22	BST52	28	BUK7S1R2-40H	91
BC807DS	23	BC857AQC / BQC / CQC (-Q)	22	BCX17	22	BST60	28	BUK7S1R5-40H	91
BC807K-16	23	<b>BC857BSH-Q</b>	<b>10</b>	BCX18	22	BST61	28	<b>BUK7S1R8-80L</b>	<b>95</b>
BC807K-25	23	<b>BC857BSH-Q</b>	<b>25</b>	BCX19	22	BST62	28	<b>BUK7S2R0-40H</b>	<b>91</b>
BC807K-40	23	BC857BS (-Q)	23	BCX51 / -10 / -16	25	BUK4D16-20	99	<b>BUK7S2R5-40H</b>	<b>91</b>
BC807RA	23	BC857QAS	23	BCX51T / -10T / -16T	25	BUK4D38-20P	99	<b>BUK7S4R5-80L</b>	<b>95</b>
BC807W / -16W /	22	BC857RA	23	BCX52 / -10 / -16	25	BUK4D60-30	99	<b>BUK7V4R2-40H</b>	<b>92</b>
BC816-16 / -25	22	BC857W / AW / BW / CW	22	BCX52T / -10T / -16T	25	BUK4D110-20P	99	BUK7Y1R4-40H	91
BC816-16H	25	BC858B	23	BCX53 / -10 / -16	25	BUK6D22-30E	99	BUK7Y1R7-40H	91
BC816-16W / -25W	22	BC858W	22	BCX53T / -10T / -16T	25	BUK6D23-40E	99	BUK7Y2R0-40H	91
BC816-25H	25	BC859B	28	BCX54 / -10 / -16	25	BUK6D30-40E	99	BUK7Y2R5-40H	91
BC817 / -16 / -25 / -40 (-Q)	22	BC859BW	28	BCX54T / -10T / -16T	25	BUK6D38-30E	99	BUK7Y3R0-40H	91
BC817-16QB /	22	BC859C	28	BCX55 / -10 / -16	25	BUK6D43-40P	99	BUK7Y3R5-40E	91
BC817-16QC /	22	BC859CW	28	BCX55T / -10T / -16T	25	BUK6D43-60E	99	BUK7Y3R5-40H	91
BC817-25QA / -40QA	22	BC860B	28	BCX56 / -10 / -16	25	BUK6D56-60E	99	BUK7Y4R4-40E	91
BC817DPN	23	BC860BW	28	BCX56T / -10T / -16T	25	BUK6D72-30E	99	BUK7Y4R8-60E	93
BC817DS	23	BC860C	28	BCX70G / H / J / K	22	BUK6D77-60E	99	BUK7Y6R0-60E	93
BC817K-16	23	BC860CW	28	BCX71H / J / K	22	BUK6D81-80E	99	BUK7Y7R0-40H	91
BC817K-16H	25	BC868 / -25	25	BF550	30	BUK6D120-40E	99	BUK7Y7R2-60E	93
BC817K-25	23	BC869 / -16 / -25	25	BF570	30	BUK6D120-60P	99	BUK7Y7R8-80E	95

Types in **bold red** are in development, types in **bold** represent new products

Type number	Page Number	Type number	Page Number	Type number	Page Number	Type number	Page Number	Type number	Page Number
BUK7Y8R7-60E	93	BUK9M120-100E	97	BUK9615-100E	96	HEF4053B-Q100	128	MMBT3904	24
BUK7Y9R9-80E	95	BUK9M156-100E	97	BUK9616-75B	95	HEF4060B	175	MMBT3906	24
BUK7Y12-40E	91	<b>BUK9V13-40H</b>	<b>92</b>	BUK9637-100E	96	HEF4060B-Q100	131	MMBZ5V6AL	75
BUK7Y12-100E	96	BUK9Y1R3-40H	91	BUK9675-55A	93	HEF4066B	165	MMBZ5V6AL	85
BUK7Y14-80E	95	BUK9Y1R6-40H	91	BUK9675-100A	96	HEF4066B-Q100	128	MMBZ6V2AL	75
BUK7Y15-60E	93	BUK9Y1R9-40H	91	BUK9832-55A/CU	94	<b>HEF4067B</b>	<b>165</b>	MMBZ6V2AL	85
BUK7Y15-100E	96	BUK9Y2R4-40H	91	BUK9875-100A/CU	97	HEF4067B	165	MMBZ6V8AL	75
BUK7Y19-100E	96	BUK9Y2R8-40H	91	BUK9880-55A/CU	94	HEF4067B-Q100	128	MMBZ6V8AL	85
BUK7Y20-30B	90	BUK9Y3R0-40E	91	BUK78150-55A/CU	94	HEF4069UB	157	MMBZ9V1AL	75
BUK7Y21-40E	91	BUK9Y3R5-40E	91	BUK98150-55A/CU	94	HEF4069UB-Q100	130	MMBZ9V1AL	85
BUK7Y22-100E	96	BUK9Y4R4-40E	91	BUK98180-100A/CU	97	HEF4070B	178	MMBZ10VAL	75
BUK7Y25-60E	93	BUK9Y4R8-60E	93	BZA408B	82	HEF4070B-Q100	137	MMBZ10VAL	85
BUK7Y25-80E	95	BUK9Y6R0-60E	93	BZA420A	82	HEF4071B	181	MMBZ12VAL	75
BUK7Y29-40E	91	BUK9Y6R5-40H	91	BZA456A	82	HEF4073B	176	MMBZ12VAL	85
BUK7Y38-100E	96	BUK9Y07-30B	90	BZA856A	82	HEF4077	178	MMBZ12VDL	75
BUK7Y41-80E	95	<b>BUK9Y7R0-60EL</b>	<b>94</b>	BZT52H-A (-Q) series	51	HEF4081B	176	MMBZ12VDL	85
BUK7Y43-60E	93	BUK9Y7R2-60E	93	BZT84-A series	51	HEF4081B-Q100	137	MMBZ15VAL	75
BUK7Y59-60E	93	BUK9Y7R6-40E	91	BZX384-A (-Q) series	51	HEF4082B	176	MMBZ15VAL	85
BUK7Y65-100E	96	BUK9Y8R5-80E	95	<b>BZX384-Q series</b>	<b>50</b>	HEF4082B-Q100	137	MMBZ15VDL	75
BUK7Y72-80E	95	BUK9Y8R7-60E	93	<b>BZX8845-Q series</b>	<b>50</b>	HEF4093B	160	MMBZ15VDL	85
BUK7Y98-80E	95	<b>BUK9Y8R8-60EL</b>	<b>94</b>	<b>BZX8450-Q series</b>	<b>50</b>	HEF4093B	179	MMBZ16VAL	75
BUK7Y113-100E	96	BUK9Y11-80E	95	<b>BZX8850S-Q series</b>	<b>50</b>	HEF4094B	169	MMBZ16VAL	85
BUK7Y153-100E	96	BUK9Y12-40E	91	<b>BZX38450-Q series</b>	<b>50</b>	HEF4094B-Q100	141	MMBZ16VTAL	75
BUK9D23-40E	99	BUK9Y12-100E	96	<b>BZX58550-Q series</b>	<b>50</b>	HEF4104B	164	MMBZ16VTAL	85
BUK9J0R9-40H	91	<b>BUK9Y13-60EL</b>	<b>94</b>	CBT3125	166	HEF4104B-Q100	138	MMBZ18VAL	75
BUK9K5R1-30E	90	BUK9Y14-80E	95	CBT3244A	166	HEF4518B	175	MMBZ18VAL	85
BUK9K5R6-30E	90	BUK9Y15-100E	96	CBT3245A	166	HEF4520B	175	MMBZ18VCL	75
BUK9K6R2-40E	92	BUK9Y19-100E	96	CBT3245A-Q100	132	HEF4520B-Q100	131	MMBZ18VCL	85
BUK9K6R8-40E	92	BUK9Y21-40E	91	CBT3251	166	HEF4521B	175	MMBZ20VAL	75
BUK9K8R7-40E	92	BUK9Y22-30B	90	CBT3253	166	HEF4528B	175	MMBZ20VAL	85
BUK9K12-60E	94	<b>BUK9Y22-60EL</b>	<b>94</b>	CBT3253A	166	HEF4528B-Q100	138	MMBZ20VCL	75
<b>BUK9K13-40H</b>	<b>92</b>	BUK9Y22-100E	96	CBT3257A	166	HEF4538B	175	MMBZ20VCL	85
BUK9K13-60E	94	BUK9Y25-60E	93	CBT3257A-Q100	132	HEF4538B-Q100	138	MMBZ27VAL	75
<b>BUK9K13-60RA</b>	<b>94</b>	BUK9Y25-80E	95	CBT3306	166	HEF4541B	175	MMBZ27VAL	85
BUK9K18-40E	92	BUK9Y29-40E	91	CBT3306-Q100	143	HEF4541B-Q100	131	MMBZ27VCL	75
BUK9K20-80E	95	BUK9Y38-100E	96	CBT3861	166	HEF4543B	167	MMBZ27VCL	85
BUK9K22-80E	95	BUK9Y41-80E	95	CBT16210	166	HEF4555B	167	MMBZ33VAL	75
BUK9K25-40E	92	BUK9Y43-60E	93	CBTD03306	166	HEF4555B-Q100	132	MMBZ33VAL	85
<b>BUK9K25-40RA</b>	<b>92</b>	BUK9Y59-60E	93	CBTD03384	166	HEF4557B	169	MMBZ33VCL	75
BUK9K29-100E	97	BUK9Y65-100E	96	CBTD3861	166	HEF4794B	169	MMBZ33VCL	85
BUK9K30-80E	95	BUK9Y72-80E	95	CBTD16210	166	HEF4794B-Q100	141	NCA9306	164
BUK9K32-100E	97	BUK9Y107-80E	95	<b>GAN039-650NBB</b>	<b>125</b>	HEF4894B	169	<b>NCR320PAS</b>	<b>10</b>
BUK9K35-60E	94	BUK9Y113-100E	96	<b>GAN039-650NBBA</b>	<b>125</b>	HEF4894B-Q100	141	<b>NCR320PAS</b>	<b>27</b>
<b>BUK9K35-60RA</b>	<b>94</b>	BUK9Y153-100E	96	<b>GAN039-650NTB</b>	<b>125</b>	HEF40098B	157	NCR320U	27
BUK9K45-100E	97	BUK753R1-40E	91	<b>GAN039-650NTBA</b>	<b>125</b>	HEF40106B	160	NCR320Z	27
BUK9K52-60E	94	BUK755R4-100E	96	HEF4001B	180	HEF40106B-Q100	139	<b>NCR321PAS</b>	<b>10</b>
<b>BUK9K52-60RA</b>	<b>94</b>	BUK758R3-40E	91	HEF4001B-Q100	137	HEF40175B	173	<b>NCR321PAS</b>	<b>27</b>
BUK9K89-100E	97	BUK761R6-40E	93	HEF4002B	180	HEF40244B	157	NCR321U	27
BUK9K134-100E	97	BUK762R4-60E	91	HEF4007UB	177	HEF40373B	171	NCR321Z	27
BUK9M3R3-40H	92	BUK762R6-60E	93	HEF4011B	179	IP3319CX6	83	NCR401T	27
BUK9M4R3-40H	92	BUK763R1-60E	93	HEF4011B-Q100	137	IP4220C26	78	NCR401U	27
BUK9M5R0-40H	92	BUK763R8-80E	95	HEF4013B	173	IP4252CZ8-4-TTL	83	NCR402T	27
BUK9M5R2-30E	90	BUK764R0-40E	91	HEF4013B-Q100	135	IP4252CZ16-8-TTL	83	NCR402U	27
BUK9M6R0-40H	92	BUK764R2-80E	95	HEF4014B	169	IP4254CZ8-4-TTL	83	NCR405U	27
BUK9M6R6-30E	90	BUK764R4-60E	93	HEF4014B-Q100	141	IP4254CZ16-8-TTL	83	<b>NCR420PAS</b>	<b>10</b>
BUK9M6R7-40H	92	BUK765R0-100E	96	HEF4015B	169	IP4283CZ10-TBR	78	<b>NCR420PAS</b>	<b>27</b>
BUK9M7R2-40E	92	BUK766R0-60E	93	HEF4016B	165	LSF0101	164	NCR420U	27
BUK9M8R5-40H	92	BUK768R1-40E	91	HEF4017B	175	LSF0102	164	NCR420Z	27
BUK9M9R1-40E	92	BUK768R1-100E	96	HEF4017B-Q100	131	LSF0102-Q100	150	<b>NCR421PAS</b>	<b>10</b>
BUK9M9R5-40H	92	BUK768R3-60E	93	HEF4020B	175	LSF0108	164	<b>NCR421PAS</b>	<b>27</b>
BUK9M10-30E	90	BUK769R6-80E	95	HEF4020B-Q100	131	LSF0108-Q100	138	NCR421U	27
BUK9M11-40E	92	BUK954R8-60E	93	HEF4021B	169	LSF0204	164	NCR421Z	27
BUK9M11-40H	92	BUK961R6-40E	91	HEF4021B-Q100	141	LSF0204-Q100	138	NHDTA114ET	41
BUK9M12-60E	94	BUK962R5-60E	93	HEF4024B	175	MJD31C	26	NHDTA114EU	41
BUK9M14-40E	92	BUK962R6-40E	91	HEF4027B	173	MJD31CA	26	NHDTA114YT	41
BUK9M15-40H	92	BUK962R8-60E	93	HEF4027B-Q100	135	<b>MJD31CH-Q*</b>	<b>10</b>	NHDTA114YU	41
BUK9M15-60E	94	BUK963R1-40E	91	HEF4028B	167	<b>MJD31CH-Q*</b>	<b>26</b>	NHDTA123JT	41
BUK9M17-30E	90	BUK963R3-60E	93	HEF4030B	178	MJD32C	26	NHDTA123JU	41
BUK9M19-60E	94	BUK964R1-40E	93	HEF4030B-Q100	137	MJD32CA	26	NHDTA124ET	41
BUK9M20-40H	92	BUK964R2-60E	91	HEF4040B	175	<b>MJD41C(-Q)</b>	<b>10</b>	NHDTA124EU	41
<b>BUK9M20-60EL</b>	<b>94</b>	BUK964R2-80E	95	HEF4040B-Q100	131	<b>MJD41C(-Q)</b>	<b>26</b>	NHDTA124EU	41
BUK9M23-80E	95	BUK964R7-80E	95	HEF4043B	171	<b>MJD42C(-Q)</b>	<b>10</b>	NHDTA143ZT	41
BUK9M24-40E	92	BUK964R8-60E	93	HEF4043B-Q100	137	<b>MJD42C(-Q)</b>	<b>26</b>	NHDTA143ZU	41
BUK9M24-60E	94	BUK965R8-100E	96	HEF4046B	175	MJD44H11	26	NHDTA144EU	41
BUK9M28-80E	95	BUK966R5-60E	93	HEF4047B	175	MJD44H11A	26	NHDTA144EU	41
<b>BUK9M31-60EL</b>	<b>94</b>	BUK969R0-60E	93	HEF4049B	157	MJD45H11	26	NHDTA144EU	41
BUK9M34-100E	97	BUK969R3-100E	96	HEF4049B-Q100	130	MJD45H11A	26	NHDTA144EU	41
BUK9M35-80E	95	BUK7610-55AL	93	HEF4050B	157	<b>MJD148(-Q)</b>	<b>10</b>	NHDTA144EU	41
BUK9M42-60E	94	BUK7613-60E	93	HEF4050B-Q100	130	<b>MJD148(-Q)</b>	<b>26</b>	NHDTA144EU	41
BUK9M43-100E	97	BUK7613-100E	96	HEF4051B	165	<b>MJD2873(-Q)</b>	<b>10</b>	NHDTA144EU	41
BUK9M52-40E	92	BUK7631-100E	96	HEF4051B-Q100	128	<b>MJD2873(-Q)</b>	<b>26</b>	NHDTA144EU	41
BUK9M53-60E	94	BUK7675-55A	93	HEF4052B	165	<b>MM3Z series</b>	<b>50</b>	NHDTA144EU	41
<b>BUK9M67-60EL</b>	<b>94</b>	BUK7880-55A/CU	94	HEF4052B-Q100	128	<b>MM5Z series</b>	<b>50</b>	NHDTA143ZT	41
BUK9M85-60E	94	BUK9611-80E	95	HEF4053B	165	MMBT2222A	24	NHDTA143ZU	41

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NHDTCT144ET	41	NXB0104	164	PBRP113ET <b>(-Q)</b>	42	PBSS4160PANS	35	PBSS5540X	33
NHDTCT144EU	41	NXB0104-Q100	138	PBRP113ZT <b>(-Q)</b>	42	PBSS4160QA	32	PBSS5540Z	33
NHUMB1	41	NXB0108	164	PBRP123ET <b>(-Q)</b>	42	PBSS4160T	32	PBSS5560PA	33
NHUMB2	41	NXB0108-Q100	138	PBRP123YT <b>(-Q)</b>	42	PBSS4160U	32	PBSS5580PA	33
NHUMB9	41	NXP3875Y / G	22	PBSM5240PF	37	<b>PBSS4160X</b>	31	PBSS5620PA	33
NHUMB10	41	NXS0101	164	PBSM5240PFH	37	PBSS4220PANS	35	PBSS5630PA	33
NHUMB11	41	NXS0102	164	PBSS301ND	31	PBSS4230PAN	35	PBSS8110D	31
NHUMB13	41	NXS0102-Q100	150	PBSS301NX	31	PBSS4230PANP	35	PBSS8110T <b>(-Q)</b>	32
NHUMD2	41	NXS0104	164	PBSS301NZ	31	PBSS4230QA	32	PBSS8110X	31
NHUMD3	41	NXS0104-Q100	138	PBSS301PD	33	PBSS4230T	32	PBSS8110Y	32
NHUMD9	41	NXS0108	164	PBSS301PX	33	PBSS4240DPN	35	PBSS8110Z	31
NHUMD10	41	NXS0108-Q100	138	PBSS301PZ	33	PBSS4240T <b>(-Q)</b>	32	PBSS8510PA	33
NHUMD12	41	NXV40UN	115	PBSS302ND	31	PBSS4240X	31	PBSS9110D	31
NHUMD13	41	NXV50UN	115	PBSS302NX	31	PBSS4240Y	32	PBSS9110T <b>(-Q)</b>	34
NHUMH1	41	<b>NXV55UN</b>	<b>115</b>	PBSS302NZ	31	PBSS4250X	31	PBSS9110X	33
NHUMH2	41	NXV65UP	117	PBSS302PD	33	PBSS4260PAN	35	PBSS9110Y	33
NHUMH9	41	NXV75UP	117	PBSS302PX	33	PBSS4260PANP	35	PBSS9110Z	34
NHUMH10	41	<b>NXV90EP</b>	<b>117</b>	PBSS302PZ	33	PBSS4260PANPS	35	PBSS9410PA	33
NHUMH11	41	<b>NXV100XP</b>	<b>117</b>	PBSS303ND	31	PBSS4260PANS	35	<b>PCMF1HDMI2BA-C</b>	83
NHUMH13	41	PBHV2160Z	37	PBSS303NX	31	PBSS4260QA	32	PCMF1HDMI2S	83
NMB2227A	24	PBHV3160Z	37	PBSS303NZ	31	<b>PBSS4310PAS-Q</b>	<b>10</b>	PCMF1USB3BA/C	83
NPIC6C595	169	PBHV8115T	37	PBSS303PD	33	<b>PBSS4310PAS-Q</b>	<b>31</b>	PCMF1USB3B/C	83
NPIC6C595-Q100	141	PBHV8115TLH	37	PBSS303PX	33	PBSS4320T	32	PCMF1USB3S	83
NPIC6C596	169	PBHV8115X	37	PBSS303PZ	33	PBSS4320X	31	<b>PCMF2HDMI2BA-C</b>	83
NPIC6C596A	169	PBHV8115Z	37	PBSS304ND	31	PBSS4330PA	31	PCMF2HDMI2S	83
NPIC6C596A-Q100	141	PBHV8118T	37	PBSS304NX	31	PBSS4330PAS <sup>2)</sup>	31	PCMF2USB3BA/C	83
NPIC6C596-Q100	141	PBHV8140Z	37	PBSS304NZ	31	PBSS4330X	31	PCMF2USB3B/C	83
NPIC6C4894	169	PBHV8215Z	37	PBSS304PD	33	PBSS4350D <b>(-Q)</b>	31	PCMF2USB3S	83
NPIC6C4894-Q100	141	PBHV8515QA	37	PBSS304PX	33	PBSS4350T <b>(-Q)</b>	32	<b>PCMF3HDMI2BA-C</b>	83
NPN / NPN	41	PBHV8540T	37	PBSS304PZ	33	PBSS4350X	31	PCMF3HDMI2S	83
NPN / PNP	41	PBHV8540X	37	PBSS305ND	31	PBSS4350Z	31	PCMF3USB3BA/C	83
NUP1301	77	PBHV8540Z	37	PBSS305NX	31	PBSS4360PAS <sup>2)</sup>	31	PCMF3USB3B/C	83
NUP1301QA	77	PBHV8550X	37	PBSS305NZ	31	<b>PBSS4360X</b>	<b>31</b>	PCMF3USB3S	83
NUP1301U	77	PBHV8560Z	37	PBSS305PD	33	PBSS4360Z	31	PD11284P11	157
NX138AK	115	PBHV9040T	37	PBSS305PX	33	PBSS4480X	31	PDTA113EM	40
<b>NX138AKH</b>	<b>110</b>	PBHV9040X	37	PBSS305PZ	33	PBSS4520X	31	PDTA113EMB	40
<b>NX138AKM</b>	<b>110</b>	PBHV9040Z	37	PBSS306NX	31	PBSS4540X	31	PDTA113ET	39
NX138AKS	118	PBHV9050T	37	PBSS306NZ	31	PBSS4540Z	31	PDTA113EU	39
NX138BK	115	PBHV9050Z	37	PBSS306PX	33	PBSS4560PA	31	PDTA113EM	40
NX138BKH	110	PBHV9115T	37	PBSS306PZ	33	PBSS4580PA	31	PDTA113ZM	40
NX138BKM	110	PBHV9115TLH	37	PBSS306Z	31	PBSS4620PA	31	PDTA113ZMB	40
NX138BKS	118	PBHV9115X	37	PBSS2515M	32	PBSS4630PA	31	PDTA113ZT	39
NX138BKW	115	PBHV9115Z	37	PBSS2515MB	32	PBSS4630PA	31	PDTA113ZU	39
NX2301P	99	PBHV9215Z	37	PBSS2515YPN	35	PBSS512PAP	35	PDTA114EM	40
NX2301P	99	PBHV9215Z	37	PBSS2540M	32	PBSS5120T	34	PDTA114EMB	40
NX2301P	117	PBHV9414Z	37	PBSS2540MB	32	PBSS5130PAP	35	PDTA114EQA	40
NX3008CBKS	100	PBHV9515QA	37	PBSS3515M	34	PBSS5130T	34	<b>PDTA114EQB (-Q)</b>	<b>11</b>
NX3008CBKS	118	PBHV9540X	37	PBSS3515MB	34	PBSS5140T	34	PDTA114EQB <b>(-Q)</b>	<b>40</b>
NX3008NBK	100	PBHV9540Z	37	PBSS3540M	34	PBSS5140U	34	<b>PDTA114EQC (-Q)</b>	<b>11</b>
NX3008NBK	115	PBHV9560Z	37	PBSS3540MB	34	PBSS5160DS	35	PDTA114EQC <b>(-Q)</b>	<b>40</b>
NX3008NBKS	100	PBLS1501Y	36	PBSS3540NT	32	PBSS5160PAP	35	PDTA114ET	39
NX3008NBKS	118	PBLS1502Y	36	PBSS4021NX	31	PBSS5160PAPS	35	PDTA114EU	39
NX3008NBKW	100	PBLS1503Y	36	PBSS4021NZ	31	PBSS5160QA	34	PDTA114TM	40
NX3008NBKW	115	PBLS1504Y	36	PBSS4021PT	34	PBSS5160T <b>(-Q)</b>	34	PDTA114TMB	40
NX3008PBK	100	PBLS2001D	36	PBSS4021PX	33	PBSS5160U	34	PDTA114TT	39
NX3008PBK	117	PBLS2002D	36	PBSS4021PZ	33	PBSS5220PAPS	35	PDTA114TU	39
NX3008PBKS	100	PBLS2003D	36	PBSS4032ND <sup>3)</sup>	31	PBSS5220T	34	PDTA114YU	40
NX3008PBKS	118	PBLS2004D	36	PBSS4032NT <sup>3)</sup>	32	PBSS5230PAP	35	PDTA114YMB	40
NX3008PBKW	100	PBLS2021D	36	PBSS4032NX <sup>3)</sup>	31	PBSS5230T	34	PDTA114YQA	40
NX3008PBKW	117	PBLS2022D	36	PBSS4032NZ <sup>3)</sup>	31	PBSS5240T <b>(-Q)</b>	34	<b>PDTA114YQB (-Q)</b>	<b>10</b>
NX3020NAK	115	PBLS2023D	36	PBSS4032PD <sup>3)</sup>	33	PBSS5240X	33	PDTA114YQC <b>(-Q)</b>	<b>11</b>
NX3020NAKS	118	PBLS2024D	36	PBSS4032PT <sup>3)</sup>	34	PBSS5240Y	34	<b>PDTA114YQC (-Q)</b>	<b>11</b>
NX3020NAKW	115	PBLS4001D	36	PBSS4032PX <sup>3)</sup>	33	PBSS5250T	34	PDTA114YQC <b>(-Q)</b>	<b>40</b>
NX5008NBKH	110	PBLS4001Y	36	PBSS4032PZ <sup>3)</sup>	33	<b>PBSS5250TH</b>	<b>33</b>	PDTA114YT	39
NX5008NBKM	110	PBLS4002D	36	PBSS4041NT	32	PBSS5250X	34	PDTA114YU	39
<b>NX6008NBK</b>	<b>115</b>	PBLS4002Y	36	PBSS4041NX	31	PBSS5255PAPS	35	PDTA115EM	40
<b>NX6008NBKS</b>	<b>118</b>	PBLS4003D	36	PBSS4041NZ	31	PBSS5260PAP	35	PDTA115EMB	40
<b>NX6008NBKW</b>	<b>115</b>	PBLS4003Y	36	PBSS4041PT	34	PBSS5260PAPS	35	PDTA115ET	39
NX6020CAKS	118	PBLS4004D	36	PBSS4041PX	33	PBSS5260QA	34	PDTA115EU	39
NX7002AK	115	PBLS4004Y	36	PBSS4041PZ	33	PBSS5320D	33	PDTA115TM	40
NX7002AKS	118	PBLS4005D	36	PBSS4112PAN	35	PBSS5320T <b>(-Q)</b>	34	PDTA115TMB	40
NX7002AKW	115	PBLS4005Y	36	PBSS4112PANP	35	PBSS5320X	33	PDTA115TT	39
NX7002BK	115	PBLS6001D	36	PBSS4120T	32	PBSS5330PA	33	PDTA115TU	39
NX7002BKH	110	PBLS6002D	36	PBSS4130PAN	35	PBSS5330PAS <sup>2)</sup>	33	PDTA123EM	40
NX7002BKM	110	PBLS6003D	36	PBSS4130PANP	35	PBSS5330X	33	PDTA123EMB	40
NX7002BKM	115	PBLS6004D	36	PBSS4130QA	32	PBSS5350D	33	PDTA123ET	39
NX7002BKMB	110	PBLS6005D	36	PBSS4130T	32	<b>PBSS5350TH</b>	<b>33</b>	PDTA123EU	39
NX7002BKMB	115	PBLS6021D	36	PBSS4140DPN	35	PBSS5350T <b>(-Q)</b>	34	PDTA123JM	40
NX7002BKS	118	PBLS6022D	36	PBSS4140T	32	PBSS5350X	33	PDTA123JMB	40
NX7002BKW	115	PBLS6023D	36	PBSS4140U	32	PBSS5350Z	33	PDTA123JQA	40
NX7002BKXB	111	PBLS6024D	36	PBSS4160DPN	35	PBSS5360PAS <sup>2)</sup>	33	<b>PDTA123JQB (-Q)</b>	<b>10</b>
NX7002BKXB	118	PBRN113ET <b>(-Q)</b>	<b>42</b>	PBSS4160DS	35	PBSS5360X	33	PDTA123JQB <b>(-Q)</b>	<b>11</b>
NXB0101	164	PBRN113ZT <b>(-Q)</b>	<b>42</b>	PBSS4160PAN	35	PBSS5360Z	33	<b>PDTA123JQC (-Q)</b>	<b>10</b>
NXB0102	164	PBRN123ET <b>(-Q)</b>	<b>42</b>	PBSS4160PANP	35	PBSS5480X	33	PDTA123JQC <b>(-Q)</b>	<b>40</b>
NXB0102-Q100	150	PBRN123YT <b>(-Q)</b>	<b>42</b>	PBSS4160PANPS	35	PBSS5520X	33	PDTA123JT	39



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PDTA123YMB	40	PDTB114EU	42	PDTC124XT	39	PESD1LIN	72	PESD3V3U1UL	79
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PDTA124EMB	40	PDTB123TT	42	PDTC143EQA	40	PESD2CAN	72	PESD3V3W1BCSF	80
PDTA124EQA	40	PDTB123YQA	42	<b>PDTC143EQB (-Q)</b>	<b>11</b>	<b>PESD2CANFD24L-T</b>	<b>72</b>	PESD3V3X1BCSF	76
<b>PDTA124EQB (-Q)</b>	<b>10</b>	PDTB123YT	42	PDTC143EQB (-Q)	40	<b>PESD2CANFD24L-U</b>	<b>72</b>	PESD3V3X1BL	77
<b>PDTA124EQC (-Q)</b>	<b>40</b>	PDTB123YU	42	<b>PDTC143EQC (-Q)</b>	<b>11</b>	<b>PESD2CANFD24U-QB</b>	<b>72</b>	<b>PESD3V3X2UT</b>	<b>76</b>
<b>PDTA124EQC (-Q)</b>	<b>11</b>	PDTB143EQA	42	PDTC143EQC (-Q)	40	<b>PESD2CANFD24U-QC</b>	<b>72</b>	PESD3V3X4UHC	78
PDTA124EQC (-Q)	40	PDTB143ET	42	PDTC143ET	39	<b>PESD2CANFD24U-T</b>	<b>72</b>	PESD3V3Y1BSF	76
PDTA124EU	39	PDTB143EU	42	PDTC143EQA	40	<b>PESD2CANFD24V-T</b>	<b>72</b>	PESD3V3Z1BCSF	76
PDTA124TM	40	PDTB143XT	42	PDTC143TM	40	<b>PESD2CANFD24V-QB</b>	<b>72</b>	PESD3V3Z1BSF	76
PDTA124TMB	40	PDTB143XU	42	PDTC143TMB	40	<b>PESD2CANFD24V-QC</b>	<b>72</b>	<b>PESD4USB3B-TBR</b>	<b>74</b>
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PDTA124TU	39	PDTC114EMB	40	PDTC143TU	39	<b>PESD2CANFD24V-U</b>	<b>72</b>	<b>PESD4USB3B-TTS</b>	<b>74</b>
PDTA124XM	40	PDTC114EQA	40	PDTC143TM	40	<b>PESD2CANFD27L-T</b>	<b>72</b>	<b>PESD4USB3U-TBR</b>	<b>74</b>
PDTA124XMB	40	<b>PDTC114EQB (-Q)</b>	<b>10</b>	PDTC143XM	40	<b>PESD2CANFD27L-U</b>	<b>72</b>	<b>PESD4USB3U-TBS</b>	<b>74</b>
<b>PDTA124XQB (-Q)</b>	<b>10</b>	<b>PDTC114EQC (-Q)</b>	<b>11</b>	PDTC143XMB	40	<b>PESD2CANFD27U-QB</b>	<b>72</b>	<b>PESD4USB3U-TTS</b>	<b>74</b>
<b>PDTA124XQB (-Q)</b>	<b>40</b>	PDTC114EQC (-Q)	40	<b>PDTC143XQB (-Q)</b>	<b>10</b>	<b>PESD2CANFD27U-QC</b>	<b>72</b>	<b>PESD4USB5B-TBR</b>	<b>74</b>
<b>PDTA124XQC (-Q)</b>	<b>11</b>	PDTC114EQC (-Q)	40	<b>PDTC143XQB (-Q)</b>	<b>40</b>	<b>PESD2CANFD27U-T</b>	<b>72</b>	<b>PESD4USB5B-TBS</b>	<b>74</b>
<b>PDTA124XQC (-Q)</b>	<b>40</b>	PDTC114EQC (-Q)	40	<b>PDTC143XQC (-Q)</b>	<b>11</b>	<b>PESD2CANFD27U-U</b>	<b>72</b>	<b>PESD4USB5B-TTS</b>	<b>74</b>
PDTA124XQC (-Q)	40	PDTC114ET (-Q)	39	PDTC143XQC (-Q)	40	<b>PESD2CANFD27U-QB</b>	<b>72</b>	<b>PESD4USB5U-TBR</b>	<b>74</b>
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PDTA124XU	39	PDTC114TM	40	PDTC143XU	39	<b>PESD2CANFD27V-U</b>	<b>72</b>	<b>PESD4USB5U-TTS</b>	<b>74</b>
PDTA143EM	40	PDTC114TMB	40	PDTC143ZM	40	<b>PESD2CANFD27V-U</b>	<b>72</b>	PESD4V0W1BCSF	76
PDTA143EMB	40	PDTC114TT	39	PDTC143ZMB	40	<b>PESD2CANFD36LT-Q</b>	<b>72</b>	<b>PESD4V0X2UM</b>	<b>77</b>
PDTA143EQA	40	PDTC114TU	39	PDTC143ZQA	40	<b>PESD2CANFD36LU-Q</b>	<b>72</b>	PESD4V0Y1BSF	76
<b>PDTA143EQB (-Q)</b>	<b>10</b>	PDTC114YM	40	<b>PDTC143ZQB (-Q)</b>	<b>11</b>	<b>PESD2CANFD36UT-Q</b>	<b>72</b>	PESD4V0Z1BCSF	76
<b>PDTA143EQB (-Q)</b>	<b>40</b>	PDTC114YMB	40	<b>PDTC143ZQB (-Q)</b>	<b>40</b>	<b>PESD2CANFD36UU-Q</b>	<b>72</b>	PESD4V0Z1BSF	76
<b>PDTA143EQC (-Q)</b>	<b>11</b>	PDTC114YQA	40	<b>PDTC143ZQC (-Q)</b>	<b>11</b>	<b>PESD2CANFD36VT-Q</b>	<b>72</b>	<b>PESD4V0Z2BCDF</b>	<b>77</b>
<b>PDTA143EQC (-Q)</b>	<b>40</b>	<b>PDTC114YQB (-Q)</b>	<b>40</b>	PDTC143ZQC (-Q)	40	<b>PESD2CANFD36VU-Q</b>	<b>72</b>	PESD5V0C1BSF	76
<b>PDTA143EQC (-Q)</b>	<b>11</b>	<b>PDTC114YQC (-Q)</b>	<b>11</b>	PDTC143ZT	39	<b>PESD2ETH1G-T</b>	<b>73</b>	PESD5V0C1USF	76
<b>PDTA143EQC (-Q)</b>	<b>40</b>	<b>PDTC114YQB (-Q)</b>	<b>40</b>	PDTC143ZU	39	<b>PESD2ETH1GXT-Q</b>	<b>73</b>	<b>PESD5V0C2BDF</b>	<b>77</b>
<b>PDTA143ET</b>	<b>39</b>	<b>PDTC114YQC (-Q)</b>	<b>11</b>	PDTC144EM	40	<b>PESD2ETH100-T</b>	<b>73</b>	PESD5V0F1BL	73
PDTA143EU	39	PDTC114YTC (-Q)	40	PDTC144EM	40	PESD2ETH-AD	73	PESD5V0F1BL	77
PDTA143TM	40	PDTC114YT	39	PDTC144EQA	40	PESD2ETH-AX	73	PESD5V0F1BLD	73
PDTA143TMB	40	PDTC115EM	40	<b>PDTC144EQB (-Q)</b>	<b>11</b>	PESD2ETH-D	73	PESD5V0F1BLD	75
PDTA143TT	39	PDTC115EMB	40	<b>PDTC144EQC (-Q)</b>	<b>11</b>	PESD2ETH-X	73	PESD5V0F1BLD	76
PDTA143TU	39	PDTC115ET	39	<b>PDTC144EQC (-Q)</b>	<b>40</b>	PESD2IVN24-T	72	PESD5V0F1BRLD	75
PDTA143XM	40	PDTC115EU	39	PDTC144EQB (-Q)	40	PESD2IVN24-U	72	PESD5V0F1BRLD	76
PDTA143XMB	40	PDTC115TM	40	<b>PDTC144EQB (-Q)</b>	<b>40</b>	PESD2IVN27-T	72	PESD5V0F1BRSF	76
PDTA143XQA	40	PDTC115TMB	40	<b>PDTC144EQC (-Q)</b>	<b>11</b>	PESD2IVN27-U	72	PESD5V0F1BSF	76
<b>PDTA143XQB (-Q)</b>	<b>10</b>	PDTC115TU	39	PDTC144EQC (-Q)	40	PESD2USB3B	83	PESD5V0F1USF	76
<b>PDTA143XQB (-Q)</b>	<b>40</b>	PDTC115TT	39	PDTC144EQA	40	PESD2USB3S	83	<b>PESD5V0F2UT</b>	<b>76</b>
<b>PDTA143XQC (-Q)</b>	<b>11</b>	PDTC123EM	40	<b>PDTC144EQB (-Q)</b>	<b>11</b>	PESD2USB3UV-T	74	PESD5V0H1BSF	76
<b>PDTA143XQC (-Q)</b>	<b>40</b>	PDTC123EMB	40	<b>PDTC144EQC (-Q)</b>	<b>40</b>	PESD2USB3UX-T	74	<b>PESD5V0H1BSN</b>	<b>76</b>
PDTA143XT	39	PDTC123ET	39	PDTC144EM	40	PESD2USBSUV-T	74	PESD5V0L1BA	80
PDTA143XU	39	PDTC123EU	39	PDTC144VMB	40	PESD2USBSUX-T	74	PESD5V0L1BSF	80
PDTA143ZM	40	PDTC123JM	40	PDTC144TU	39	PESD2V0Y1BSF	76	<b>PESD5V0L1BSL</b>	<b>81</b>
PDTA143ZMB	40	PDTC123JMB	40	PDTC144TMB	40	PESD2V5X1BSF	76	PESD5V0L1UA	80
PDTA143ZQA	40	PDTC123JT	39	PDTC144VMB	40	PESD2V5Y1BSF	76	PESD5V0L1UB	79
<b>PDTA143ZQB (-Q)</b>	<b>11</b>	PDTC123JQA	40	PDTC144WT	39	PESD2V8R1BSF	76	PESD5V0L1UL	79
<b>PDTA143ZQB (-Q)</b>	<b>40</b>	<b>PDTC123JQB (-Q)</b>	<b>40</b>	PDTC144WU	39	PESD3USB3B	83	PESD5V0L1ULD	79
<b>PDTA143ZQC (-Q)</b>	<b>11</b>	<b>PDTC123JQC (-Q)</b>	<b>11</b>	PDTC144WM	40	PESD3USB3S	83	PESD5V0L1USF	79
<b>PDTA143ZQC (-Q)</b>	<b>40</b>	<b>PDTC123JQC (-Q)</b>	<b>40</b>	PDTC144WU	39	PESD3V3C1BSF	76	PESD5V0L2BT	81
PDTA143ZT	39	PDTC123JT	39	PDTC144WU	39	PESD3V3F1BSF	76	PESD5V0L2UM	81
PDTA143ZU	39	PDTC123JU	39	PDTC144WU	39	<b>PESD3V3F2UT</b>	<b>76</b>	PESD5V0L2UMB	81
PDTA144EM	40	PDTC123TM	40	PDTD113EQA	42	PESD3V3L1BA	80	PESD5V0L2UUB	81
PDTA144EMB	40	PDTC123TMB	40	PDTD113ET	42	<b>PESD3V3L1BSL</b>	<b>81</b>	PESD5V0L2UUM	81
PDTA144EQA	40	PDTC123TT	42	PDTD113EU	42	<b>PESD3V3L1BLS</b>	<b>81</b>	PESD5V0L4UF	82
<b>PDTA144EQB (-Q)</b>	<b>10</b>	PDTC123TU	39	PDTD113ZQA	42	PESD3V3L1UB	79	PESD5V0L4UG	82
<b>PDTA144EQB (-Q)</b>	<b>40</b>	PDTC123TMB	40	PDTD113ZT	42	PESD3V3L1UL	79	PESD5V0L5UF	82
<b>PDTA144EQC (-Q)</b>	<b>11</b>	PDTC123TT	42	PDTD113ZU	42	PESD3V3L2BT	81	PESD5V0L5UY	82
<b>PDTA144EQC (-Q)</b>	<b>40</b>	PDTC123TU	39	PDTD114EQA	42	PESD3V3L2BT	81	<b>PESD5V0R1BCSF</b>	<b>76</b>
PDTA144ET	39	PDTC123YU	42	PDTD114ET	42	PESD3V3L2UM	81	<b>PESD5V0R1BDSF</b>	<b>76</b>
PDTA144EU	39	PDTC123YM	40	PDTD114EQA	42	PESD3V3L2UM	81	PESD5V0R1BSF	76
PDTA144EU	39	PDTC123YMB	40	PDTD123EQA	42	PESD3V3L5UF	82	PESD5V0S1BA	81
PDTA144TM	40	PDTC123YT	39	PDTD123ET	42	PESD3V3L5UF	82	PESD5V0S1BB	81
PDTA144TMB	40	PDTC123YU	39	PDTD123EU	42	PESD3V3L5UY	82	PESD5V0S1BL	81
PDTA144TT	39	PDTC124EM	40	PDTD123QA	42	PESD3V3S1BL	80	PESD5V0S1BLD	75
PDTA144TU	39	PDTC124EMB	40	PDTD123T	42	<b>PESD3V3S1BSF</b>	<b>80</b>	PESD5V0S1BLD	81
PDTA144VMB	40	PDTC124EQA	40	PDTD123TT	42	PESD3V3S1UB	79	PESD5V0S1BSF	80
PDTA144VT	39	<b>PDTC124EQB (-Q)</b>	<b>11</b>	PDTD123TU	42	PESD3V3S1UL	79	PESD5V0S1UA	80
PDTA144VU	39	<b>PDTC124EQC (-Q)</b>	<b>11</b>	PDTD123YU	42	<b>PESD3V3S1ULS</b>	<b>79</b>	PESD5V0S1UB	79
PDTA144WM	40	<b>PDTC124EQC (-Q)</b>	<b>40</b>	PDTD123YU	42	PESD3V3S2UAT	81	PESD5V0S1UJ	80
PDTA144WMB	40	<b>PDTC124EQC (-Q)</b>	<b>11</b>	PDTD143EQA	42	PESD3V3S2UT	81	PESD5V0S1UL	79
PDTA144WT	39	PDTC124EQC (-Q)	40	PDTD143XT	42	PESD3V3S4UD	82	PESD5V0S1ULD	79
PDTA144WU	39	PDTC124EU	39	PDTD143XU	42	PESD3V3S4UF	82	<b>PESD5V0S1ULS</b>	<b>79</b>
PDTB113EQA	42	PDTC124EU	39	PESD1CAN	72	PESD3V3S5UD	82	PESD5V0S1USF	79
PDTB113ET	42	PDTC124TU	39	<b>PESD1ETH1GLS-Q</b>	<b>73</b>				

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Type number	Page Number	Type number	Page Number	Type number	Page Number	Type number	Page Number	Type number	Page Number
PESD5V0S2BQA	82	PESD15VS1UB	79	<b>PIMC32 (-Q)</b>	<b>11</b>	PMDPB56XNEA	113	PMEG100T030ELPE(-Q) <sup>1)</sup>	66
PESD5V0S2BT	82	PESD15VS1UL	79	<b>PIMC32 (-Q)</b>	<b>42</b>	PMDPB56XNEA	118	<b>PMEG100T30ELP(-Q)<sup>1)</sup></b>	<b>66</b>
PESD5V0S2UAT	81	PESD15VS1ULD	79	<b>PIMN31 (-Q)</b>	<b>11</b>	PMDPB58UPE	113	PMEG100T30ELR(-Q) <sup>1)</sup>	66
PESD5V0S4UD	82	<b>PESD15VS1ULS</b>	<b>79</b>	<b>PIMN31 (-Q)</b>	<b>42</b>	PMDPB58UPE	118	PMEG100T050ELPE(-Q) <sup>1)</sup>	66
PESD5V0S4UF	82	PESD15VS2UAT	81	<b>PIMN32 (a-Q)</b>	<b>42</b>	PMDPB70XP	113	<b>PMEG100T50ELP(-Q)<sup>1)</sup></b>	<b>66</b>
PESD5V0S5UD	82	PESD15VS2UT	81	<b>PIMN32 (-Q)</b>	<b>11</b>	PMDPB70XP	118	PMEG100T080ELPE(-Q) <sup>1)</sup>	67
PESD5V0U1BA	81	PESD15VS5UD	82	<b>PIMP31 (-Q)</b>	<b>11</b>	PMDPB70XPE	113	PMEG100T100ELPE(-Q) <sup>1)</sup>	67
PESD5V0U1BB	81	PESD15VU1UT	76	<b>PIMP31 (-Q)</b>	<b>42</b>	PMDPB70XPE	118	PMEG100T120ELPE <sup>1)</sup>	67
PESD5V0U1BL	81	<b>PESD15VW1BCSF</b>	<b>76</b>	<b>PIMP32 (-Q)</b>	<b>11</b>	PMDPB80XP	113	PMEG100T150ELPE <sup>1)</sup>	67
PESD5V0U1BLD	81	<b>PESD16VV1BSF</b>	<b>80</b>	<b>PIMP32 (-Q)</b>	<b>42</b>	PMDPB80XP	118	PMEG100T200ELPE <sup>1)</sup>	67
PESD5V0U1UA	80	PESD18VF1BL	75	PIMT1	23	PMDPB85UPE	113	PMEG100V060ELPD	67
PESD5V0U1UB	79	PESD18VF1BL	77	PIMZ2	23	PMDPB85UPE	118	<b>PMEG100V060EPE(-Q)</b>	<b>67</b>
PESD5V0U1UL	79	PESD18VF1BSF	76	PMBD353 PMBD354 <sup>1)</sup>	<b>63</b>	PMDPB95XNE2	113	PMEG100V080ELPD	67
PESD5V0U1UT	76	<b>PESD18VU1BSF</b>	<b>80</b>	PMB53904	24	PMDPB95XNE2	118	<b>PMEG100V080EPE(-Q)</b>	<b>67</b>
PESD5V0U2BM	82	PESD24VF1BL	75	PMB53906	24	PMDXB550UNE	111	PMEG100V100ELPD	67
PESD5V0U2BMB	82	PESD24VF1BL	77	PMBT2222	24	PMDXB550UNE	118	<b>PMEG100V100EPE(-Q)</b>	<b>67</b>
PESD5V0U4BF	82	PESD24VF1BSF	76	PMBT2222A	24	PMDXB600UNE	111	PMEG120G10ELR (-Q)	61
PESD5V0U5BF	82	PESD24VL1BA	80	PMBT2222AM	24	PMDXB600UNE	118	<b>PMEG120G20ELP (-Q)</b>	<b>61</b>
PESD5V0V1BA	81	PESD24VL2BT	82	PMBT2222AMB	24	<b>PMDXB600UNEL</b>	<b>111</b>	PMEG120G20ELR (-Q)	61
PESD5V0V1BB	81	PESD24VS1UA	80	PMBT2222AQA	24	PMDXB950UPE	111	<b>PMEG120G30ELP (-Q)</b>	<b>61</b>
PESD5V0V1BCSF	80	PESD24VS1UB	79	PMBT2222AYS	24	PMDXB950UPE	118	PMEG150G10ELR (-Q)	61
PESD5V0V1BDFS	80	PESD24VS1ULD	79	PMBT2369	24	<b>PMDXB950UPEL</b>	<b>111</b>	PMEG150G20ELP (-Q)	61
PESD5V0V1BL	80	<b>PESD24VS1ULS</b>	<b>79</b>	PMBT2907	24	PMDXB1200UPE	111	PMEG150G20ELR (-Q)	61
PESD5V0V1BLD	75	PESD24VS2UAT	81	PMBT2907A	24	PMDXB1200UPE	118	PMEG150G30ELP (-Q)	61
PESD5V0V1BB	81	PESD24VS2UT	81	PMBT2907AM	24	PMEG030V030EPD	66	PMEG200G10ELR (-Q)	61
<b>PESD5V0V1BLS</b>	<b>81</b>	PESD24VU1UT	81	PMBT2907AMB	24	<b>PMEG030V030EPE(-Q)</b>	<b>66</b>	PMEG200G20ELP (-Q)	61
PESD5V0V1BSF	80	PESD24VS4UD	82	PMBT2907AQA	24	PMEG030V050EPD	66	PMEG200G20ELR (-Q)	61
PESD5V0V2BM	82	PESD24VS5UD	82	PMBT2907AYS	24	<b>PMEG030V050EPE(-Q)</b>	<b>66</b>	PMEG200G30ELP (-Q)	61
PESD5V0V2BMB	82	PESD24VU1UT	76	PMBT3904	24	PMEG40T10ER(-Q) <sup>1)</sup>	66	PMEG200J020EA	68
PESD5V0X1BCAL	77	PESD24VV1BA	80	PMBT3904M	24	PMEG40T20EP(-Q) <sup>1)</sup>	66	PMEG1020EH	68
PESD5V0X1BCL	77	<b>PESD24VV2BT</b>	<b>82</b>	PMBT3904MB	24	PMEG40T20ER(-Q) <sup>1)</sup>	66	PMEG1020EJ	68
PESD5V0X1BCSF	76	PESD30VF1BL	75	PMBT3904QA	24	PMEG40T30EP(-Q) <sup>1)</sup>	66	PMEG1030EH	68
PESD5V0X1BT	77	PESD30VF1BL	77	PMBT3904RA	24	PMEG40T30ER(-Q) <sup>1)</sup>	66	PMEG1030EJ	68
PESD5V0X1UAB	76	<b>PESD30VF1BSF</b>	<b>76</b>	PMBT3904YS	24	PMEG40T50EP(-Q) <sup>1)</sup>	66	PMEG2002AESF	65
PESD5V0X1UALD	76	PESD32VL1BA	80	PMBT3906	24	PMEG040V030EPD	66	PMEG2002ESF	65
PESD5V0X1UB	76	PESD36VL1BA	80	PMBT3906M	24	<b>PMEG040V030EPE(-Q)</b>	<b>66</b>	PMEG2005AEA	67
PESD5V0X1ULD	76	PESD36VS1UJ	80	PMBT3906YS	24	<b>PMEG040V050EPE(-Q)</b>	<b>66</b>	PMEG2005AEL	65
PESD5V0X2UAM	77	PESD36VS1UL	79	PMBT3946YPN	24	PMEG45A10EPD	67	PMEG2005AESF	65
PESD5V0X2UAMB	77	<b>PESD36VS1ULS</b>	<b>79</b>	PMBT4401	24	<b>PMEG45T10EXD(-Q)<sup>1)</sup></b>	<b>66</b>	PMEG2005BELD(-Q)	65
PESD5V0X2UM	77	PESD36VS2UT	81	PMBT4401YS	24	PMEG45T15EPD <sup>1)</sup>	67	PMEG2005CT	68
PESD5V0X2UMB	77	PESD42VS2UT	81	PMBT4403	24	<b>PMEG45T20EXD(-Q)<sup>1)</sup></b>	<b>66</b>	PMEG2005EB	67
<b>PESD5V0X2UT</b>	<b>76</b>	PHB33NQ20T	107	PMBT4403YS	26	PMEG045T030EPD <sup>1)</sup>	66	PMEG2005EGW	67
PESD5V2S2UT	81	PHB45NQ15T	107	PMBT5550	26	PMEG045T050EPD <sup>1)</sup>	66	PMEG2005EH(-Q)	67
<b>PESD5V5S1BSF</b>	<b>80</b>	PHDMI2AB4	78	PMBT5551 / BSR19A(-Q)	<b>26</b>	PMEG045T100EPE(-Q) <sup>1)</sup>	67	PMEG2005EJ(-Q)	67
<b>PESD5V5U1BCSF</b>	<b>80</b>	PHDMI2FR4	78	PMBT6428	22	PMEG045T150EIPD <sup>1)</sup>	67	PMEG2005SEL	65
<b>PESD5V5V1BCSF</b>	<b>80</b>	PHD18NQ11T	106	PMBT6429	22	PMEG045T150EPD <sup>1)</sup>	67	PMEG2005ELD	65
<b>PESD5V5V1BCSN</b>	<b>80</b>	PHP18NQ11T	106	PMBTA06	22	PMEG045V050EPD	66	PMEG2005EPK	65
PESD5Z2.5	79	PHP20NQ20T	106	PMBTA06 (-Q)	<b>23</b>	<b>PMEG045V050EPE(-Q)</b>	<b>66</b>	PMEG2005ESF	65
PESD5Z3.3	79	PHP23NQ11T	106	PMBTA13	28	<b>PMEG045V100EPE(-Q)</b>	<b>67</b>	PMEG2005ET	67
PESD5Z5.0	79	PHP27NQ11T	106	PMBTA14	28	PMEG045V100EPD	67	PMEG2010AEB(-Q)	67
PESD5Z6.0	79	PHP28NQ15T	106	PMBTA42	26	<b>PMEG045V100EPE(-Q)</b>	<b>67</b>	PMEG2010AEH	67
PESD5Z7.0	79	PHP33NQ20T	106	PMBTA42DS	26	PMEG045V150EPD	67	PMEG2010AEJ	67
PESD6V0L2UU	81	PHPT60406NY	38	PMBTA44	26	PMEG050T150EIPD <sup>1)</sup>	67	PMEG2010AET	67
PESD6V5C1USF	76	PHPT60406PY	38	PMBTA45	37	PMEG050T150EPD <sup>1)</sup>	67	PMEG2010AEB	67
PESD7V0C1BSF	76	PHPT60410NY	38	PMBTA64	28	PMEG050V030EPD	66	PMEG2010BELD(-Q)	65
PESD7V0H1BSF	76	PHPT60415NY	38	PMBTA92(-Q)	<b>26</b>	<b>PMEG050V030EPE(-Q)</b>	<b>66</b>	PMEG2010BER(-Q)	66
<b>PESD7V0L1BSL</b>	<b>81</b>	PHPT60415PY	38	PMCA14UN	113	PMEG050V150EPD	67	PMEG2010EA BAT760(-Q)	67
PESD7V0R1BSF	76	PHPT60603NY	38	<b>PMCB60XN</b>	<b>113</b>	PMEG60T10ELP(-Q) <sup>1)</sup>	66	PMEG2010EA	67
PESD8V0S1ULD	79	PHPT60603PY	38	<b>PMCB60XNE</b>	<b>113</b>	PMEG60T10ELR(-Q) <sup>1)</sup>	66	PMEG2010EJ	67
<b>PESD8V0S1ULS</b>	<b>79</b>	PHPT60606NY	38	PMCM950ENE	113	<b>PMEG60T10ELXD(-Q)</b>	<b>66</b>	PMEG2010EPA	65
<b>PESD9V0C1BSF</b>	<b>76</b>	PHPT60606PY	38	PMCM4401UNE	113	PMEG60T20ELP(-Q) <sup>1)</sup>	66	PMEG2010EPAS	65
<b>PESD9V0W1BDSF</b>	<b>76</b>	PHPT60606PY	38	PMCM4401UPE	113	PMEG60T20ELR(-Q) <sup>1)</sup>	66	PMEG2010EPK	65
<b>PESD9V0Z1BDSF</b>	<b>76</b>	PHPT60610NY	38	PMCM4401VNE	113	<b>PMEG60T20ELXD(-Q)</b>	<b>66</b>	PMEG2010ER(-Q)	66
PESD12VA-SF	80	PHPT60610PY	38	PMCM4401VPE	113	PMEG060T030ELPE(-Q) <sup>1)</sup>	66	PMEG2010ET	67
PESD12VL1BA	80	PHPT61002NYC	38	PMCM4402UPE	113	PMEG60T30ELP(-Q) <sup>1)</sup>	66	PMEG2015EH	68
<b>PESD12VL1BSL</b>	<b>81</b>	<b>PHPT61002NYCLH</b>	<b>38</b>	PMCM6501UNE	113	PMEG60T30ELR(-Q) <sup>1)</sup>	66	PMEG2015EA	68
PESD12VL2BT	81	PHPT61002PYC	38	PMCM6501VNE	113	PMEG060T040CLPE(-Q) <sup>1)</sup>	66	PMEG2015EJ	68
PESD12VS1UA	80	<b>PHPT61002PYCLH</b>	<b>38</b>	PMCM6501VPE	113	PMEG060T050ELPE(-Q) <sup>1)</sup>	66	PMEG2015EPK	65
PESD12VS1UB	80	PHPT61003NY	38	PMCPB5530X	118	PMEG060T50ELP(-Q) <sup>1)</sup>	66	PMEG2020AEA	68
PESD12VS1UJ	79	PHPT61003PY	38	PMCPB5530X	118	PMEG060T060CLPE(-Q) <sup>1)</sup>	67	PMEG2020CPA	68
PESD12VS1UL	79	PHPT61006NY	38	PMCPB8900UE	111	PMEG060T080CLPE(-Q) <sup>1)</sup>	67	PMEG2020CPAS	68
PESD12VS1ULD	79	PHPT61006PY	38	PMCPB9000UE	118	PMEG060T100CLPE(-Q) <sup>1)</sup>	67	PMEG2020EH	68
<b>PESD12VS1ULS</b>	<b>79</b>	PHPT61010NY	38	<b>PMCPB9000UJ</b>	<b>111</b>	PMEG060V030EPD	66	PMEG2020EJ	68
PESD12VS2UT	81	PHPT61010PY	38	PMCX81000UE	111	<b>PMEG060V030EPE(-Q)</b>	<b>66</b>	PMEG2020EPA	65
PESD12VS5UD	82	PHPT610030NK	38	PMCX81000UE	118	PMEG060V050EPD	66	PMEG2020EPAS	65
PESD12VU1UT	76	PHPT610030NPK	38	PMD2001D	30	<b>PMEG060V050EPE(-Q)</b>	<b>66</b>	PMEG2020EPK	65
PESD12VV1BL	81	PHPT610035NK	38	PMD3001D	30	<b>PMEG060V100EPE(-Q)</b>	<b>67</b>	PMEG3001EEF	65
<b>PESD12VV1BLS</b>	<b>81</b>	PHPT610035NKL	38	PMDPB30XN	118	<b>PMEG060V100EPE(-Q)</b>	<b>67</b>	PMEG3002AEB	67
<b>PESD12VV1BLSF</b>	<b>81</b>	PHPT610035NPK	38	PMDPB30XN	118	PMEG100T10ELR(-Q) <sup>1)</sup>	66	PMEG3002AEL	65
<b>PESD12VW1BCSF</b>	<b>76</b>	PHPT610035SPK	29	PMDPB55XP	113	<b>PMEG100T10ELXD(-Q)</b>	<b>66</b>	PMEG3002AELD	65
PESD15VL1BA	80	PHPT610035SPK	38	PMDPB55XP	118	<b>PMEG100T20ELP(-Q)<sup>1)</sup></b>	<b>66</b>	PMEG3002AESF	65
PESD15VL2BT	82	<b>PIMC31 (-Q)</b>	<b>11</b>	PMDPB56XNEA	99	PMEG100T20ELR(-Q) <sup>1)</sup>	66	PMEG3002EEF	65
		<b>PIMC31 (-Q)</b>	<b>42</b>	PMDPB56XNEA	100	<b>PMEG100T20ELXD(-Q)</b>	<b>66</b>	PMEG3002EJ	67

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PMEG3005AEA	67	PMEG4020EPAS	65	PMN48XPA2	99	PMPB100ENE	112	PMV164ENE	99
PMEG3005AESF	65	PMEG4020EPK	65	PMN50EPE	117	PMPB215ENE	112	PMV164ENE	115
PMEG3005CT	68	PMEG4020EP(-Q)	66	PMN52XP	117	PMSS3904	24	PMV240SP	117
PMEG3005EB	67	PMEG4020ER(-Q)	66	PMN55ENE	115	PMSS3906	24	PMV250EPE	99
PMEG3005EEF	65	PMEG4020ETP(-Q)	66	PMN55ENE	99	PMST2222	24	PMV250EPE	117
PMEG3005EGW	67	PMEG4020ETR(-Q)	66	PMN70EPE	117	PMST2222A	24	PMV280ENE	99
PMEG3005EH(-Q)	67	PMEG4030EP(-Q)	66	PMN70XP	117	PMST2369	24	PMV280ENE	115
PMEG3005EJ(-Q)	67	PMEG4030ER(-Q)	66	PMN70XPE	117	PMST2907A	24	PMV450ENE	99
PMEG3005SEL	65	PMEG4030ETP(-Q)	66	PMN100EPA	99	PMST3904	24	PMV450ENE	115
PMEG3005ELD	65	<b>PMEG4030ER(-Q)</b>	<b>66</b>	PMN120ENE	99	PMST3906	24	<b>PMX100UN</b>	<b>110</b>
<b>PMEG3005ELS(-Q)</b>	<b>65</b>	PMEG4050EP(-Q)	66	PMN230ENE	115	PMST4401	24	<b>PMX100UNE</b>	<b>110</b>
PMEG3005ESF	65	PMEG4050ETP(-Q)	66	PMN230ENE	99	PMST4403	24	<b>PMX300UNE</b>	<b>110</b>
PMEG3005ET	67	PMEG6002EB	67	PMN280ENE	99	PMST5088	22	<b>PMX400UP</b>	<b>110</b>
<b>PMEG3010AESA</b>	<b>65</b>	PMEG6002EJ	67	PMN280ENE	115	PMST5089	22	<b>PMX400UPE</b>	<b>110</b>
PMEG3010AESB	65	PMEG6002EL	65	PMP4201G	29	PMST5550	26	<b>PMX800UPE</b>	<b>110</b>
PMEG3010BEA(-Q)	68	PMEG6002ELD	65	PMP4201Y	29	PMST5551	26	<b>PMX2000EN</b>	<b>110</b>
PMEG3010BEP(-Q)	66	PMEG6010AESB	65	PMP4501G	29	PMST6428	22	<b>PMX3000ENE</b>	<b>110</b>
PMEG3010BER(-Q)	66	PMEG6010CEGW	68	PMP4501QAS	29	PMST6429	22	PMXB40UNE	111
PMEG3010CEH	68	PMEG6010CEH	68	PMP4501Y	29	PMSTA05	22	PMXB43UNE	111
PMEG3010CEJ	68	PMEG6010CEJ	68	PMP5201G	29	PMSTA06	22	PMXB56EN	111
PMEG3010EB	68	PMEG6010CPA	68	PMP5201Y	29	PMSTA06	23	PMXB65ENE	111
PMEG3010EGW	68	PMEG6010CPAS	68	PMP501G	29	PMSTA42	26	PMXB65UPE	111
PMEG3010EH	68	PMEG6010ELRL(-Q)	66	PMP5501QAS	29	PMSTA55	23	PMXB75UPE	111
PMEG3010EJ	68	PMEG6010EP(-Q)	66	PMP5501Y	29	PMSTA92	26	PMXB120EPE	111
PMEG3010EP(-Q)	66	PMEG6010ER(-Q)	66	PMPB07ROUN	112	<b>PMV13XNEA</b>	<b>115</b>	PMXB350UPE	111
PMEG3010ER(-Q)	66	PMEG6010ESB	65	<b>PMPB07R3EN</b>	<b>112</b>	PMV15ENE	99	PMXB360ENE	99
PMEG3010ESB	65	PMEG6010ETR(-Q)	66	<b>PMPB07R3VP</b>	<b>112</b>	PMV15ENE	115	PMXB360ENE	111
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PMEG3010EH	68	PMEG6020AELR(-Q)	66	<b>PMPB08R5XN</b>	<b>112</b>	PMV15UNEA	115	PMZ130UNE	115
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With all the essentials in one handy guide,  
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