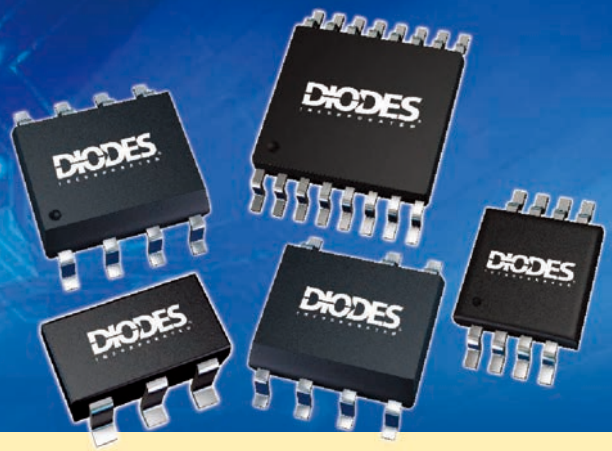
DIODES
INCORPORATED

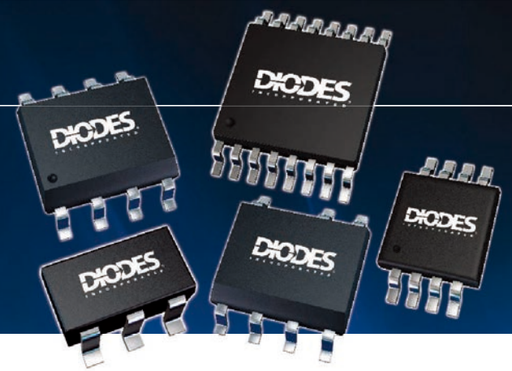


POWER MANAGEMENT PRODUCTS

diodes.com

POWER MANAGEMENT

PRODUCTS



COMPANY OVERVIEW

DIODES INCORPORATED'S DISCRETE, ANALOG, MIXED-SIGNAL AND LOGIC PRODUCTS PROVIDE OUR CUSTOMERS WITH LEADING EDGE SOLUTIONS FOR NEXT GENERATION SYSTEMS.

Discrete products include Bipolar Transistors, MOSFETs, Diodes and Rectifiers, Protection products and Functional Specific Arrays.

Analog and Mixed-signal products cover these main areas: Power Management ICs, Standard Linear, LED Drivers, Sensors and Motor Control, Switching, Signal Integrity, Connectivity and Timing products.

Diodes Incorporated's Logic products include Single-Gate, Dual-Gate and Standard-Logic Gates as well as Level Translators, Analog Switches, Registers and Multiplexers.

DIODES' GROWING PORTFOLIO OF POWER MANAGEMENT SOLUTIONS INCLUDES AC-DC OFFLINE POWER CONVERSION SOLUTIONS, LED DRIVING SOLUTIONS, DC-DC AND LINEAR (INCLUDING LOW DROP OUT (LDO) VOLTAGE REGULATORS, µP SUPERVISORS AND POWER RAIL PROTECTED SWITCHES

These power management solutions offer customers superior performance in small packages to allow energy-efficient power system design. Value-added features significantly reduce current consumption and provide design flexibility for product differentiation.

This brochure highlights a subset of the overall portfolio (diodes.com/products/power-management) focussing on its voltage/current regulation devices.

AC-DC CONVERTERS (page 3)
Diodes Incorporated offers a comprehensive range of AC-DC converter products supporting a wide range of applications and markets.

DC-DC CONVERTERS (page 4)
Diodes Incorporated has developed a wide portfolio of switching regulators with input voltages up to 40V and output voltages down to 0.6V. The families include buck converters/controllers and boost converters.

LOW DROPOUT REGULATORS (page 5)
Diodes Incorporated has a broad portfolio of LDO regulators that covers a wide range of specifications and performance for consumer, computing, communications, portable, and industrial applications.

PROTECTED SWITCHES (page 6)
Diodes Incorporated protected switches are integrated high-side power switches providing both over-current and over-temperature protection. They consist of two main types:

- USB Switches
- Load Switches

LED DRIVERS (page 7)
Diodes Incorporated's LED driving solutions are not only recognized for their high-efficiency and simplicity; they are also renowned for their incredible versatility and are well suited to tackle a wide range of applications.

AC-DC PRODUCTS

THE **DIODES** ADVANTAGE

Simple, efficient solutions to off-line power supplies with extremely lower standby power

- Low standby current primary-side regulation (PSR) controllers and switchers
- High-efficiency green-mode PWM and quasi-resonant controllers
- Simple constant current/voltage (CC-CV) controllers for improved secondary side regulation
- High-efficiency secondary-side synchronous rectifier solutions supporting different modes of operation: DCM, CCM, QR and CrCM

PRIMARY SIDE REGULATION SWITCHERS

Part	Description	Startup Current (µA)	Operating Current (µA)	Power Rating (W)	Standby Power (mW)	Package Outlines
AP3983B/C/R	Low power PSR switcher in SO-7	0.6	650	6/7.5/10	75	SO-7
AP3983C/D/E	High power PSR switcher in DIP-7	0.6	650	10/18/20	74	DIP-7

PWM CONTROLLERS

Part	Description	HV Startup Current	Startup Current (µA)	Gate Output (mA)	Oscillation Frequency (kHz)	BNO	LOVP	Package Outlines
AP3108L	Green-mode PWM controller	Yes	1.5	500	65	Auto-recover	Auto-recover	SSOP-9 (Type CJ)
AP3125B/HB	Green-mode PWM controller	No	1	350	65/100	Auto-recover	Latch	SOT26
AP3301/2	Quasi-resonant PWM controller	No	1	350	62/120	Auto-recover	N/A	SOT26

CC-CV SECONDARY SIDE FEEDBACK CONTROLLERS

Part	Description	Vref Tol. %	Vref (V)	VSENSE (mV)	Max Vcc (V)	ICC (mA)	Package Outlines
AP4305/13	Constant voltage and constant current controller	±0.5/±1	1.21	200	18	0.5	SOT26
AP4310	Dual op amp and voltage reference	±0.4	2.5	N/A	40	0.2	SO-8
AP4312/Q	Constant voltage and constant current controller	±0.5	1.21	70	18	0.18	SOT26

SYNCHRONOUS RECTIFICATION

Part	Description	Max Supply voltage (V)	Operating Current (µA)	Max Drain Voltage (V)	Modes of Operation DCM	CCM	QR	CrCM	Turn-Off Threshold Voltage (mV)	Turn-Off Delay (ns)	MOSFET Switch R_{DS} (ON) (mΩ)	Gate Source Current (A)	Gate Sink Current (A)	Package Outlines
APR343	5V output controller	6	100	50	Y	N	N	N	-12.5	100	Controller	NS	NS	SOT25
APR34309C	5V, 15W output USB Type-C™	6	100	50	Y	N	N	N	-9	100	8	N/A	N/A	SO-8EP
APR345	≤12V output controller	16	250	120	Y	Y	Y	N	-11.5	100	Controller	NS	NS	SOT26
APR34509	18W-33W output (Quick Charge™3.0/4)	16	100	60	Y	Y	Y	N	-11.5	100	8	N/A	N/A	SO-8EP
ZXGD3105N8	Proportional gate drive controller	25	1.56	100	Y	Y	N	Y	10	14	Controller	4	9	SO-8
ZXGD3107N8	High voltage rail controller	40	1.79	200	Y	Y	N	Y	10	15	Controller	4	9	SO-8
ZXGD3113W6	Reduced footprint controller	40	6.2	160	Y	Y	N	Y	10	27	Controller	0.5	1.5	SOT26

EVALUATION BOARDS

For a list of EVMs and user guides see: diodes.com/design/tools/evaluation-board-user-guides

Part	Applications	Solutions: Key AC-DC Parts	Key Features
15W	USB Type-C adaptor	AP3785T + APR34309C + AP43761	5V @ 3A USB Type-C charger
18W	Smart home appliance	AP3983E	12V @ 1.5A
18W	Quick Charge 3.0	AP3302 (QR) APR34509L + AP43331	5V/9V, up to 2A QC3.0
25W	Smart adaptors	AP3125	Dual Output – 12V @ 2A, 5V @ 0.2A
27W	Quick Charge 4/4+	AP3302 + APR345	5V/9V/12V, ≤3A, QC4/4+
42W	Mid-power adaptor	AP3301 (QR) + APR345	Single Output – 12V @ 3.5A
45W	USB PD 3.0 notebook adaptor	AP3108L + APR346	5V/9V/15V/20V, ≤3A, USB PD 3.0
57W	Dual-port PD Type-C + 12W Type A	AP3108L + APR346	USB PD 2.0: 5V/9V/15V @ 3A + Type A: 5V 2.4A

DC-DC CONVERTERS

THE **DIODES** ADVANTAGE

High-efficiency synchronous DC-DC buck converters across wide output powers in DFN, SO-8EP, SOT-23, and TSOT26 packages

- **500kHz fixed frequency aCOT converter with HLLE**
  Improves transient response with increased efficiency in light-load conditions
- **Multiple protection features (over-current, over-voltage, over-temperature protection)**
  Improves robustness of circuit and prevents premature failure
- **Small footprint packages**
  Saves PCB spacing and cost in industry-standard footprint

BUCK CONVERTERS

Part	Input Voltage (V)	Output Voltage (V)	Output Current (A)	Control Topology	Frequency	Synchronous	PG	Light-load High Efficiency	Ambient Temp Range (°C)	Package Outlines
AP3403	2.3 – 5.5	0.6 – 5.5	0.6	Current mode	2MHz	Y	N	Y	-40 to +85	DFN1616-6
AP3401	2.5 – 5.5	0.6 – 5.5	1	Current mode	1.5MHz	Y	Y	Y	-40 to +85	DFN2020-6 TSOT26
AP3428	2.5 – 5.5	0.6 – 5.5	1	Current mode	1.5MHz	Y	N	Y	-40 to +85	DFN2020-6 TSOT25
AP3429/A	2.7 – 5.5	0.6 – 5.5	2	Current mode	1MHz	Y	N	Y	-40 to +85	TSOT25
AP3441/L	2.7 – 5.5	0.6 – 5.5	3	Current mode	1MHz	Y	Y	Y	-40 to +85	DFN2020-8
AP3440	2.95 – 5.5	0.8 – 5.5	4	Current mode	Adj.	Y	Y	Y	-40 to +85	QFN3030-16
AZ34063U*	3 – 36	1.25 – 28	1.5	Current mode	180kHz	N	N	N	-40 to +85	SOIC-8
AP65111A	4.5 – 18	0.8 – 15	1.5	Current mode	500kHz	Y	N	Y	-40 to +85	TSOT26
AP65211A	4.5 – 18	0.8 – 15	2	Current mode	500kHz	Y	N	Y	-40 to +85	TSOT26
AP65251	4.5 – 16	0.6 – 6	2	aCOT	650kHz	Y	N	Y	-40 to +85	TSOT26
AP65353	4.5 – 18	0.76 – 6	3	aCOT	650kHz	Y	N	Y	-40 to +85	SO-8EP
AP65355							Y			DFN3030-10
AP65450	4.5 – 18	0.76 – 6	4	aCOT	650kHz	Y	N	Y	-40 to +85	SO-8EP
AP65550	4.5 – 18	0.76 – 6	5	aCOT	650kHz	Y	N	Y	-40 to +85	SO-8EP DFN3030-10

* Device can be configured as buck, boost, or buck-boost

BOOST CONVERTERS

Part	Input Voltage (V)	Output Voltage (V)	SW Current (A)	Control Topology	Frequency	Synchronous	Ambient Temp Range (°C)	Package Outlines
AZ34063U*	3 – 36	1.25 – 28	1.5	Current mode	180kHz	N	-40 to +85	SOIC-8
PAM2401	0.9 – 4.75	2.5 – 5	3	Current mode	1MHz	Y	-40 to +85	MSOP-8 DFN3030-12
PAM2421	2.7 – 5.5	2.7 – 28	3	Current mode	520kHz	N	-40 to +85	SO-8EP
PAM2422			4.5					
PAM2423			5.5					

LDO REGULATORS

THE **DIODES** ADVANTAGE

Diodes is a leading LDO regulator provider across a wide input voltage and output current range

- **Low quiescent current**
  Reduced standby power leads to extended battery life
- **Accurate output voltage**
  ±1% output voltage accuracy for most Diodes' LDOs
- **Small footprint packages**
  Your product can be smaller, lighter, and thinner
- **Wide operating voltage options**
  Supporting industrial and consumer operating voltages

Part	AEC-Q10x Qualified	Automotive-Compliant PPAPs	Output Current (A)	Minimum Input Voltage (V)	Maximum Input Voltage (V)	Maximum Dropout Voltage (V)	Quiescent per Current channel (µA)	PSRR (dB)	Output Voltage: Fixed (V)	Output Voltage: Adjustable Version Feedback Voltage (V)	Ambient Temperature Range (°C)	Enable Active H/L	Output Discharge	PG	Status	Package Outlines
HIGH PSRR, LOW NOISE LDO																
AP7315	No	No	0.15	1.7	5.25	0.3	35	75	1.1; 1.2; 1.35; 1.5; 1.8; 1.85; 2.2; 2.3; 2.5; 2.6; 2.8; 2.85; 2.9; 2.95; 3.0; 3.1; 3.2; 3.3	No	-40 to +85	H	No	No	Active	SOT23; SOT25; X2-DFN1010-4
AP7315D	No	No	0.15	1.7	5.25	0.3	35	75		No	-40 to +85	H	No	No	Active	
AP7343	No	No	0.3	1.7	5.25	0.3	35	75	0.9; 1.0; 1.1; 1.2; 1.35; 1.4; 1.5; 1.6; 1.7; 1.8; 1.85; 1.9; 2.0; 2.1; 2.2; 2.3; 2.5; 2.6; 2.7; 2.8; 2.85; 2.9; 2.95; 3.0; 3.1; 3.2; 3.3; 3.4; 3.5; 3.6	No	-40 to +85	H	No	No	Active	SOT25; X2-DFN1010-4
AP7343D	No	No	0.3	1.7	5.25	0.3	35	75		No	-40 to +85	H	Yes	No	Active	
AP7330	No	No	0.3	1.8	5.5	0.31	45	80	None	0.8	-40 to +85	H	No	No	Active	SOT25
AP7330D	No	No	0.3	1.8	5.5	0.31	45	80	None			H	Yes	No	Active	SOT25
AP7361C	No	No	1	2.2	6	0.36	60	75	1, 1.2, 1.5, 1.8, 2.5, 2.8, 3.3, ADJ	0.8	-40 to +85	Y	No	No	Active	SO-8EP; SOT223; SOT89-5; TO252; U-DFN3030-8
WIDE INPUT VOLTAGE (V_{IN} > 12V) LDO																
AZ1117E	No	No	1	V_{OUT} + 1.5	13	1.3	3500	70	1.2; 1.5; 1.8; 2.5; 3.3; 5.0	1.25	-40 to 125	No	No	No	Active	SOT223
AP2202	No	No	0.15	2.5	13.2	0.275	95	60	3.3; 3.0; 2.8; 2.6; 2.5	1.25	-40 to 125	H	No	No	Active	SOT25; SOT89
AP2210	No	No	0.3	2.5	13.2	0.25	100	60	2.5; 2.8; 3.0; 3.3; 5.0	1.25	-40 to 125	H	No	No	Active	SC59; SOT25
AZ1117C	No	No	0.8	V_{OUT} + 1.5	15	1.4	6000	70	1.2; 1.5; 1.8; 2.5; 3.3; 5.0	1.25	-20 to 25	No	No	No	Active	SOT223; SOT89; TO252
AZ1117I	No	No	1	V_{OUT} + 1.5	15	1.4	4000	70	1.2; 1.5; 1.8; 2.5; 3.3; 5.0	1.25	-40 to 125	No	No	No	Active	SOT223; TO252
AZ2117	No	No	1	V_{OUT} + 1.5	15	1.5	300	53	None	1.25	-40 to 125	No	No	No	Active	SOT223
AP2213	No	No	0.5	2.5	18	0.35	100	65	2.5; 3.0; 3.3	None	-40 to 125	H	No	No	Active	SO-8; SOT223
AZ2185	No	No	3	V_{OUT} + 1.5	18	1.5	300	65	None	1.25	-40 to 125	No	No	No	Active	TO252
ZLDO1117Q	Yes	Yes	1	V_{OUT} + 1.5	20	1.35	4000	N/A	1.2; 1.5; 1.8; 2.5; 3.3; 5.0	1.25	-40 to 105	No	No	No	Active	SOT223; TO252
AP2204	No	No	0.15	2.3	24	0.5	50	60	1.5; 1.8; 2.5; 2.8; 3.0; 3.3; 5.0	1.24	-40 to 125	H	No	No	Active	SO-8EP; SOT25; SOT89
AP7380	No	No	0.15	3.5	24	1.1	1.8	N/A	3.0; 3.3; 4.15; 4.4; 5.0	None	-40 to 125	No	No	No	Active	SOT25; SOT89
AP7383	No	No	0.05	3.5	30	1.1	1	N/A	1.8; 3.0; 3.3; 3.6; 4.1; 4.4; 5.0	None	-40 to 125	No	No	No	Expected Q2 18	SOT25; SOT89
AP2205	No	No	0.15	2.3	36	0.5	20	60	1.8; 2.5; 2.8; 3.0; 3.3; 5.0	1.24	-40 to 125	H	No	No	Expected Q1 18	SOT25; SOT89
AP7370	No	No	0.35	2.3	36	0.5	1	60	1.8; 2.5; 3.0; 3.3; 5.0	1.24	-40 to 125	H	No	No	Expected Q2 18	SOT25; SOT89
AP7381	No	No	0.15	3.3	40	1.3	2.5	60	3.3; 5.0	None	-40 to 125	No	No	No	Active	SOT89; TO92
AP7384	No	No	0.05	3.3	40	1.3	1.5	60	2.8; 3.3; 5.0; 7.0	None	-40 to 125	No	No	No	Expected Q1 18	SOT25; SOT89
LOW QUIESCENT CURRENT (I_Q<10µA) MICROPOWER LDO																
AP7350	No	No	0.15	2	5.25	0.35	0.25	23	1.2; 1.5; 1.8; 1.85; 2.5; 2.7; 2.8; 3.0; 3.3; 4.5	None	-40 to 150	H	No	No	Active	X2-WLB0606-4
AP7350D	No	No	0.15	2	5.25	0.35	0.25	23		None	-40 to 150	H	Yes	No	Active	
AP7354	No	No	0.15	2	5.25	0.35	0.25	23	1.2; 1.5; 1.8; 1.85; 2.5; 2.7; 2.8; 3.0; 3.3; 4.5	None	-40 to 150	H	No	No	Expected Q1 18	SOT23; SOT25; X2-DFN1010-4
AP7354D	No	No	0.15	2	5.25	0.35	0.25	23		None	-40 to 150	H	Yes	No	Expected Q1 18	
AP2138	No	No	0.25	2	6.6	0.4	1	55	1.2; 1.4; 1.5; 1.8; 2.1; 2.2; 2.5; 2.8; 3.0; 3.3	None	-40 to 125	No	No	No	Active	SC59
AP2139	No	No	0.25	2	6.6	0.4	1	55		None	-40 to 125	H	No	No	Active	SOT25
AP7383	No	No	0.05	3.5	24	1.1	1	NS	3.0; 3.3; 4.15; 4.4; 5.0	None	-40 to 125	No	No	No	Expected Q2 18	SOT25; SOT89
AP7370	No	No	0.35	2.3	36	0.5	1	60	1.8; 2.5; 3.0; 3.3; 5.0	1.24	-40 to 125	H	No	No	Expected Q2 18	SOT25; SOT89
AP7384	No	No	0.05	3.3	40	1.3	1.5	60	3.3	None	-40 to 125	No	No	No	Expected Q1 18	SOT25; SOT89
AP7380	No	No	0.15	3.5	24	1.1	1.8	NS	3.0; 3.3; 4.15; 4.4; 5.0	None	-40 to 125	No	No	No	Active	SOT25; SOT89
AP7381	No	No	0.15	3.3	40	1.3	2.5	60	3.3; 5.0	None	-40 to 125	No	No	No	Active	SOT89; TO92

PROTECTED SWITCHES

THE **DIODES** ADVANTAGE

Simple, rugged solutions to power supply and high-side load switching

- Extensive portfolio in industry-standard pin-outs, packages and current requirements
- Adjustable over-current and comprehensive protection features to secure the system with optimized cost
- Extended capabilities and improved protection for USB-PD or Type-C applications

USB POWER SWITCHES AND LOAD SWITCHES

Part	Type	Channel	Input voltage range	Bias Voltage/ Vcc	Nominal Output Current	$R_{DS(ON)}$	Enable	Output Discharge	Over-current protection	Short Circuit Protection	Fault Flag	Package Outlines
			(V)	(V)	(A)	(mΩ)						
AP2331/TD	HDMI	1	2.7~5.5	None	0.2	110	N	Y	Y	Y	N	SC59; SOT23
AP21410/21510	USB power switch	1	2.7~5.5	None	0.2	90	L/H	Y	Y	Y	Y	DFN2018-6
AP2151D	USB power switch with discharge	1	2.7~5.5	None	0.5	95	H	Y	Y	Y	Y	DFN2018-6; MSOP-8EP; SOT25 ;SO-8
AP2151A	USB power switch supports dual-purpose port apps	1	2.7~5.5	None	0.5	95	H	N	Y	Y	Y	
AP2161A		1	2.7~5.5	None	1.0	95	L	N	Y	Y	Y	
AP2162A	Dual USB switch	1	2.7~5.5	None	1.0	85	L	Y	Y	Y	Y	DFN3030-8; MSOP-8EP; SO-8
AP2337	SOT23 USB switch	1	2.7~5.5	None	1.0	110	N	Y	Y	Y	Y	SOT23
AP2171D	USB power switch with discharge	1	2.7 ~5.5	None	1.0	95	H	Y	Y	Y	Y	DFN2018-6; MSOP-8EP; SOT25; SO-8
AP2171A	USB power switch supports dual-purpose port apps	1	2.7~5.5	None	1.0	95	H	N	Y	Y	Y	
AP2191A		1	2.7~5.5	None	1.5	95	H	N	Y	Y	Y	
AP2191D	USB power switch with discharge	1	2.7~5.5	None	1.5	95	H	Y	Y	Y	Y	
AP2301A		1	2.7~5.5	None	2.0	70	L	Y	Y	Y	Y	
AP2280/1	Simple load switch	1	1.5~6.0	None	2.0	80	H	Y/N	N	N	N	DFN2018-6; SOT25/6
AP2552/3	Adjustable current limit USB power switch	1	2.7~5.5	None	0.075~2.1	70	L/H	Y	Y	Y	Y	DFN2020-6; SOT26
AP2501A	USB power switch with discharge	1	2.7~5.5	None	2.5	70	L	Y	Y	Y	Y	DFN2020-6; MSOP-8; MSOP-8EP; SO-8; DFN3030-8
AP22811/04/14	Load switch with discharge	1	2.7~5.5	None	2.0/2.5/3.0	50	L/H	Y	Y	Y	Y	MSOP-8; SOT25; U-DFN2020-6
AP22800		1	1.5~5.5	None	4.0	16	H	Y	Y	Y	Y	DFN2116-8
AP22850		1	4.5~11	2.5~5.5	8.0	21	H	Y	Y	Y	Y	DFN2020-8
AP22966	Dual channel load switch	2	0.8~Vbias	2.5~5.5	6.0	17	H	Y	Y	Y	Y	DFN3020-14

DISCRETE POWER SWITCHES

Part	Type	Channel	Input voltage range	Bias Voltage/ Vcc	Nominal Output Current	$R_{DS(ON)}$	Enable	Output Discharge	Over-current protection	Short Circuit Protection	Fault Flag	Package Outlines
			(V)	(V)	(A)	(mΩ)						
DML1008	Load switch	1	0.8~Vbias -1.5V	3.2~5.5	6	8	Y	Y	N	N	N	V-DFN3030-8
DML1009	High current load switch	1	0.8~Vbias -1.5V	3.2~5.5	10	8	Y	Y	N	N	N	V-DFN3030-8
DML3006		1	0.5~13.5	3.0~5.5	10	10.8	H	Y	N	Y	Y	V-DFN2020-8
DML3009		1	0.5~13.5	3.0~5.5	20	6.1	H	Y	N	Y	Y	V-DFN3030-12
DPS1113	Load switch with charge pump	1	4.5~5.5	None	3	29	H	Y	Y	Y	Y	V-QFN4040-17
DPS1133		1	4.5~24	None	3	29	H	Y	Y	Y	Y	V-QFN4040-17
DPS1035		1	4.5~24	None	3.5	29	H	Y	N	Y	Y	V-QFN4040-17

LED DRIVERS

THE **DIODES** ADVANTAGE

Simple, versatile, efficient high-power density LED driver solutions for dimmable, smart-connected and automotive LED lighting applications

- Versatile LED driver/controllers support multiple configurations (boost, buck, buck-boost and flyback) by simply changing external components
- LED driver solutions – ranging from high-voltage off-line lamps to high-reliability automotive lamps to low voltage single-cell battery flashlights
- Simple small footprint high power density linear LED drivers
- Flexible dimming and protection options to optimize user system performance

OFF-LINE LED DRIVERS AND VOLTAGE CONVERTERS

Part	Topology	Type	Mains Voltage	Max Output Current	Accuracy (%)	Dimming	Switching Frequency	Efficiency (%)	Temp Range (°C)	Package Outlines
AL1663/R	Flyback; Buck-Boost	Hi PF LED driver-controller	Universal	Ext MOS	±5	PWM; Analog	Variable	85	-40 to +105	SO-8
AL1672	Buck	Hi PF LED driver	Universal	500mA	±3	PWM; Analog	Variable	90	-40 to +105	SO-8EP
AL1673	Flyback; Buck-boost	Hi PF LED driver	120 & 230	350mA	±5	PWM; Analog	Variable	85	-40 to +105	SO-8EP
AL1676	Buck	Hi PF LED driver	Universal	350mA	±3	None	Variable	90	-40 to +105	SO-7
AL1692	Flyback; Buck-boost; Boost	Hi PF LED driver/controller	120 & 230	Internal MOS / Ext MOS	±3	Triac	Variable	85	-40 to +105	SO-7; SO-8
AL17050[1]	Buck	Non-isolated converter for IOT/smart lighting control	Universal	Voltage (Iout ≤50mA)	±4	N/A	Variable	80	-40 to +105	TSOT25
AL1788[2]	Flyback; Buck-boost ; Buck	Hi PF voltage controller/converter	Universal	Voltage	±4	N/A	Variable	87	-40 to +105	SOT26; SO-7
AL6562A	Flyback; Boost	Hi PF voltage controller	Universal	Ext MOS	±1.5	N/A	Variable	90	-40 to +125	SO-8

DC-DC LED DRIVERS

Part	Automotive Compliant Supports PPAPs	Buck	Buck-boost	Boost	Input Voltage Range (V)	Max LED Current (A)	LED Current Accuracy (%)	Dimming	Max Switching Frequency (kHz)	Efficiency (%)	Temp Range (°C)	Package Outlines
PAM2804	No	No	No	Yes	2.5~6	1	3	PWM	1500	93	-40 to 85	TSOT25
AL3022	No	No	No	Yes	4~18	Ext MOS	3	PWM; Analog	140	93	-40 to 85	SO-8
AL3065/6	No	No	No	Yes	4.5~33	0.4/ch	3	PWM; Analog	1000	95	-40 to 85	SO-16
AL8805/06	AL8806Q	Yes	No	No	6~36	1; 1.5	5	PWM; Analog	1000	98	-40 to 125	SOT25/ MSOP-8EP
AL8807	AL8807Q	Yes	No	No	6~36	1.3	5	PWM; Analog	1000	98	-40 to 125	MSOP-8EP; SOT25
AL8843	No	Yes	No	No	4.5~40	3	4	PWM; Analog	1000	95	-40 to 105	SO-8EP
AL8860/61	AL8860Q/61Q[1]	Yes	No	No	4.5~40	1; 1.5	4	PWM; Analog	1000	97	-40 to 125	SOT89-5; TSOT25; MSOP-8EP
AL8862	AL8862Q[1]	Yes	No	No	5~60	1	4	PWM; Analog	1000	95	-40 to 125	SO-8EP
ZXLD1366	ZXLD1366Q	Yes	No	No	6~60	1	2.5	PWM; Analog	625	95	-40 to 125	SO-8; TSOT25; V-DFN3030-6
ZXLD1370/71	ZXLD1370Q/71Q	Yes	Yes	Yes	5~60	Ext MOS	2	PWM; Analog	1000	97	-40 to 125	TSSOP-16EP

LINEAR LED DRIVERS

Part	Automotive Compliant Supports PPAPs	Topology	Input Voltage Range (V)	LED Current/ch (mA)	Accuracy (%)	Dimming	# Channels	Current Sense Voltage (mV)	Temp Range (°C)	Package Outlines
AL1791/2/3/4	No	LED driver	6.5~30	600	2.5	PWM; Analog	1/2/3/4	N/A	-40 to 125	U-DFN4030-14
AL5801	AL5801Q	LED driver	5~100	350	N/A	PWM	1	560	-40 to 125	SOT26
AL5802	No	LED driver	4.5~30	120	N/A	PWM	1	650	-40 to 125	SOT26
AL5809	AL5809Q	LED driver	2.5~60	Fixed: 15~150	5	Ext	1	N/A	-40 to 125	PowerDI123; SOD123
AL5811/12	No	LED driver	3.5~60	15~75/150	6	Ext	1	N/A	-40 to 125	MSOP-8EP/ U-DFN3030-6
AL5814	AL5814Q[1]	Controller	4.5~60	Ext transistor	4	PWM	1	200	-40 to 125	MSOP-8EP
AL5815/16	AL5816Q[1]	Controller	4.5~60	Ext transistor	4	PWM	1	200	-40 to 125	SOT25
AL5817	No	Controller	4.5~60	Ext transistor	4	PWM	1	200	-40 to 125	MSOP-8EP
AL5890	No	LED driver	7~400	10~40	10	Ext	1	N/A	-40 to 125	PowerDI123 (Type B)
AL8400	AL8400Q	Controller	2.2~18	Ext transistor	3	Ext	1	200	-40 to 125	SOT353
BCR401/2/5U	BCR40xUQ	LED driver	1.4~18	10/20/50	10	No	1	700	-55 to 150	SOT26
BCR420U/21U	BCR420UQ/21UQ	LED driver	1.4~40	10 preset	10	No/PWM	1	700	-55 to 150	SOT26/ U-DFN2020-6

Note: [1] Expected Q2 2018

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