



UTN3055

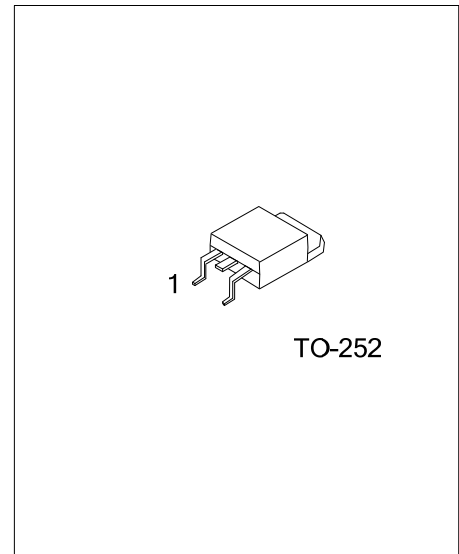
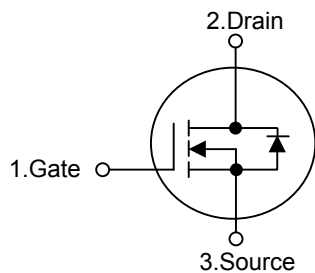
Power MOSFET

12A, 25V N-CHANNEL ENHANCEMENT MODE

DESCRIPTION

The UTC **UTN3055** is N-channel logic level enhancement mode field effect transistor.

SYMBOL



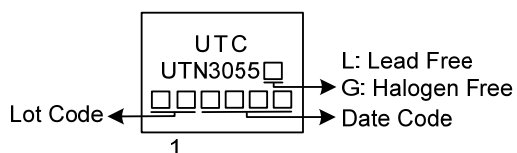
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTN3055L-TN3-R	UTN3055G-TN3-R	TO-252	G	D	S	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

<p>UTN3055G-TN3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) TN3: TO-252</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	25	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current	I _D	12	A
Pulsed Drain Current (Note 1)	I _{DM}	45	A
Repetitive Avalanche Energy (L=0.05mH, Duty Cycle ≤ 1%)	E _{AR}	3	mJ
Power Dissipation	P _D	43	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

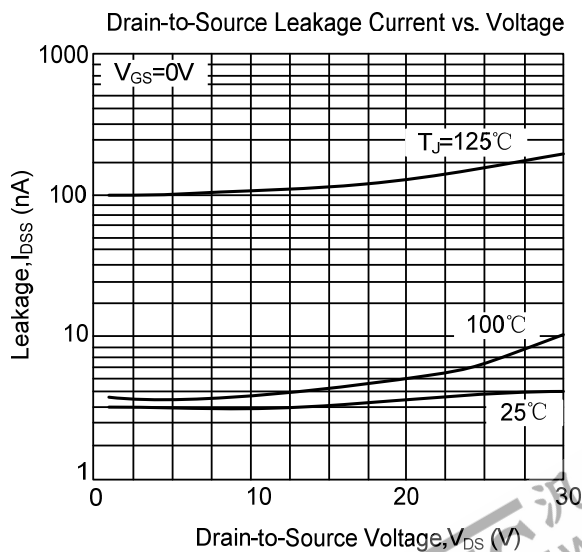
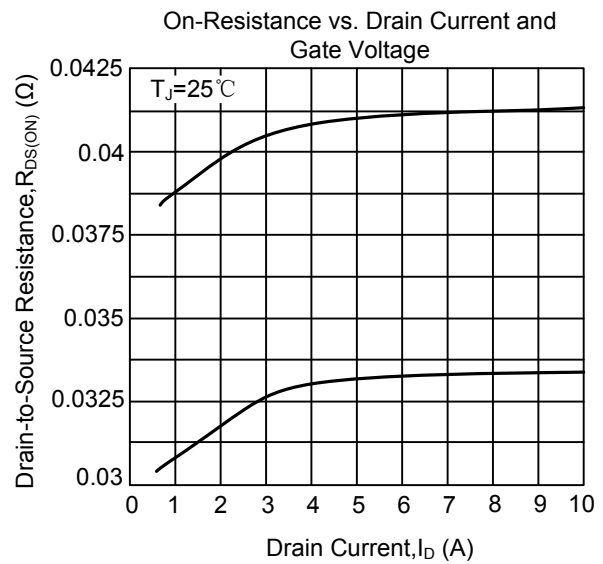
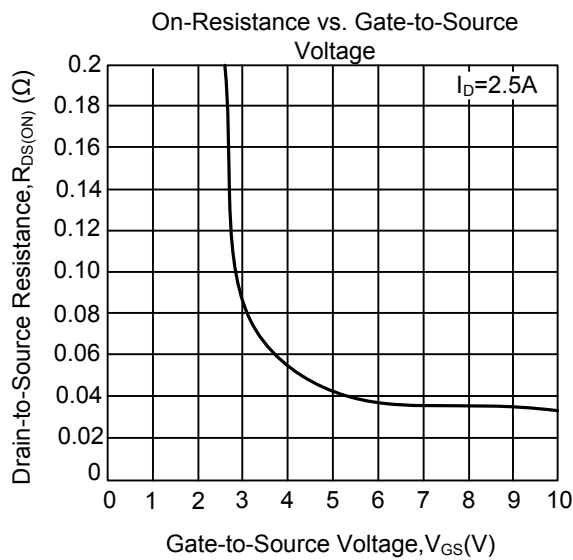
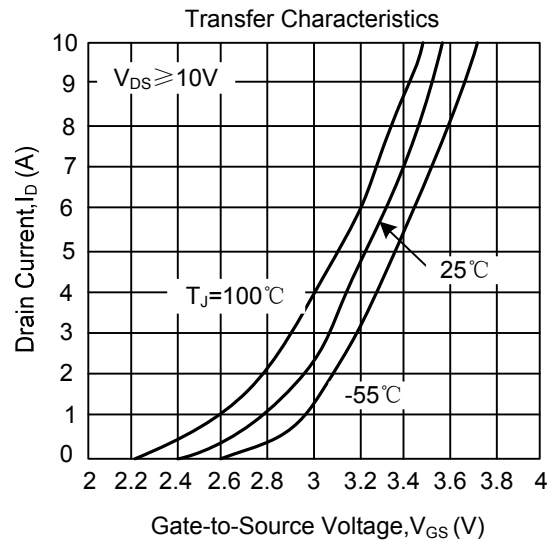
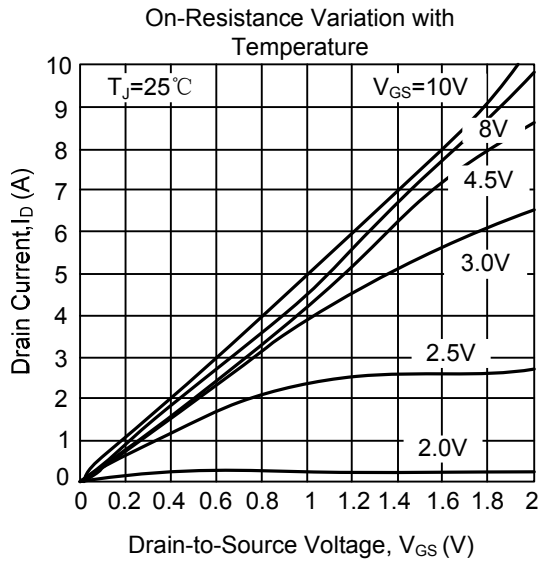
PARAMETER	SYMBOL	RATINGS	UNIT
Junction-to-Ambient	θ _{JA}	60	°C/W
Junction-to-Case	θ _{JC}	2.6	°C/W

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	25			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			25	uA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±250	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250uA	0.8	1.2	2.5	V
On-State Drain Current (Note 2)	I _{D(ON)}	V _{DS} =10V, V _{GS} =10V	12			A
Drain-Source On-State Resistance (Note 2)	R _{DS(ON)}	V _{GS} =10V, I _D =12A		50	90	mΩ
		V _{GS} =5V, I _D =12A		70	120	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =15V, f=1.0MHz		450		pF
Output Capacitance	C _{OSS}			200		pF
Reverse Transfer Capacitance	C _{RSS}			60		pF
SWITCHING CHARACTERISTICS (Note 2)						
Total Gate Charge	Q _G	V _{DS} =15V, V _{GS} =10V, I _D =6A		15		nC
Gate-Source Charge	Q _{GS}			2.0		nC
Gate-Drain Charge	Q _{GD}			7.0		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DS} =15V, V _{GS} =10V, I _D =12A, R _G =2.5Ω, R _L =1Ω		6.0		ns
Turn-ON Rise Time	t _R			6.0		ns
Turn-OFF Delay Time	t _{D(OFF)}			20		ns
Turn-OFF Fall Time	t _F			5.0		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I _S				12	A
Maximum Pulsed Drain-Source Diode Forward Current (Note 1)	I _{SM}				45	A
Drain-Source Diode Forward Voltage(Note2)	V _{SD}	I _F =I _S , V _{GS} =0V			1.5	V

Notes: 1. Pulse width limited by T_{J(MAX)}
2. Pulse width ≤ 300us, duty cycle ≤ 2%.

■ TYPICAL CHARACTERISTICS



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