



UT3055

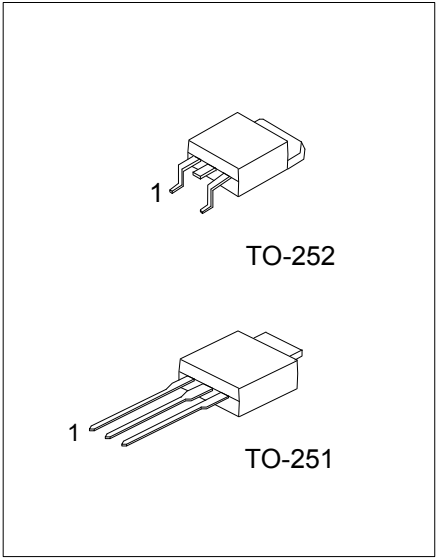
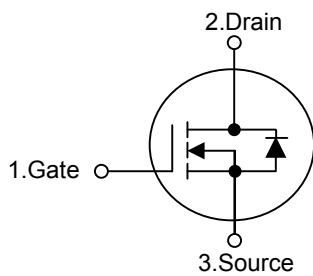
Power MOSFET

12A, 25V N-CHANNEL POWER MOSFET

DESCRIPTION

The UTC **UT3055** 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	
UT3055-TM3-T	UT3055L-TM3-T	TO-251	G	D	S	Tube
UT3055-TN3-R	UT3055L-TN3-R	TO-252	G	D	S	Tape Reel
UT3055-TN3-T	UT3055L-TN3-T	TO-252	G	D	S	Tube

<p>UT3055L-TN3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) TM3: TO-251, TN3: TO-252</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ **ABSOLUTE MAXIMUM RATINGS** ($T_C = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	25	V
Gate-Source Voltage	V_{GSS}	± 16	V
Continuous Drain Current	I_D	12	A
Power Dissipation	P_D	50	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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}	62	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	2.5	$^\circ\text{C/W}$

■ **ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	25			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=16\text{V}, V_{GS}=0\text{V}$			10	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 12\text{V}$			± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$		1.1		V
Drain-Source On-State Resistance (Note 2)	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=5\text{A}$			70	m Ω
		$V_{GS}=4.5\text{V}, I_D=5\text{A}$			95	m Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}			240		pF
Output Capacitance	C_{OSS}			97		pF
Reverse Transfer Capacitance	C_{RSS}			68		pF
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q_G	$V_{GS}=4.5\text{V}$		3.2		nC
Gate-Drain Charge	Q_{GD}			0.8		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage (Note2)	V_{SD}	$I_F=I_S, V_{GS}=0\text{V}$			1.0	V
Maximum Continuous Drain-Source Diode Forward Current	I_S		5			A

Notes: 1. Pulse width limited by $T_{J(MAX)}$

2. Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

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