



UT2308

Power MOSFET

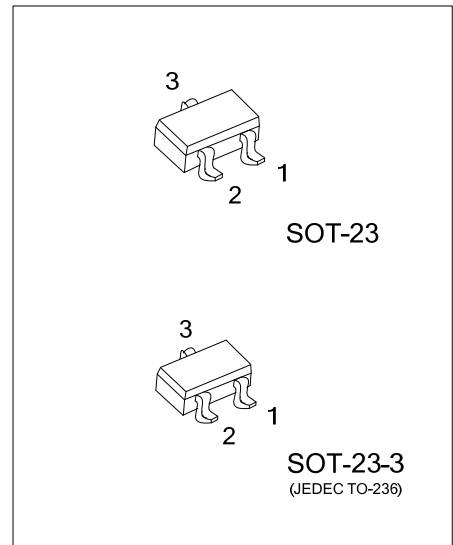
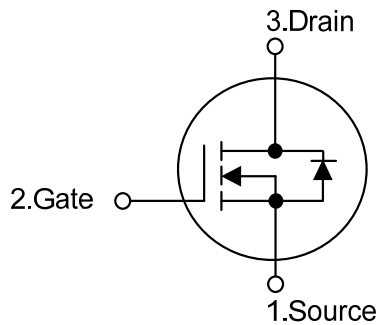
N-CHANNEL ENHANCEMENT MODE

■ DESCRIPTION

The UTC **UT2308** is N-channel Power MOSFET, designed with high density cell, with fast switching speed, ultra low on-resistance and excellent thermal and electrical capabilities.

Used in commercial and industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

■ SYMBOL



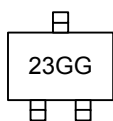
■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
UT2308G-AE2-R	SOT-23-3	S	G	D	Tape Reel
UT2308G-AE3-R	SOT-23	S	G	D	Tape Reel

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

<p>UT2308G-AE2-R</p>	<p>(1) R: Tape Reel (2) AE2: SOT-23-3, AE3: SOT-23 (3) G: Halogen Free and Lead Free</p>
----------------------	--

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	± 10	V
Continuous Drain Current	I_D	2.7	A
Power Dissipation	P_D	1.25	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

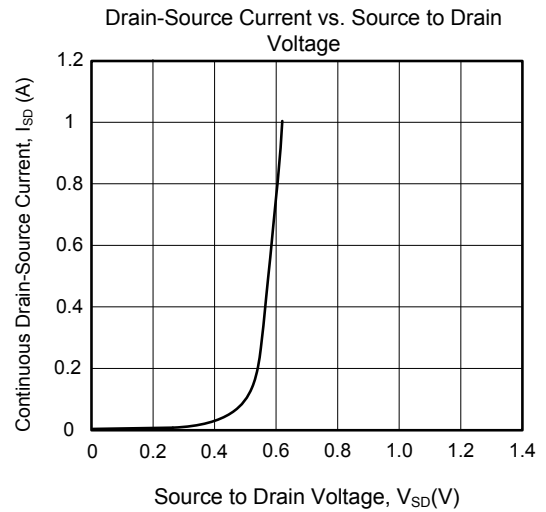
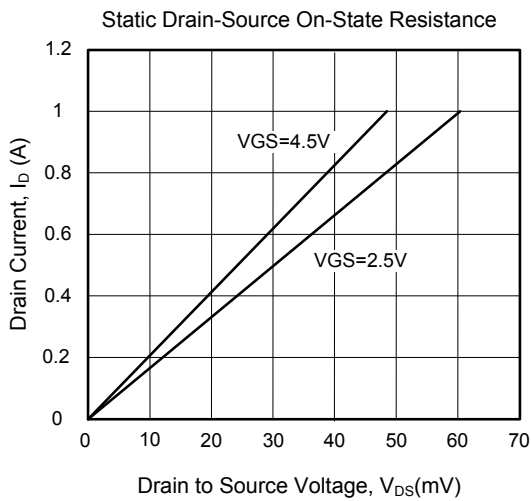
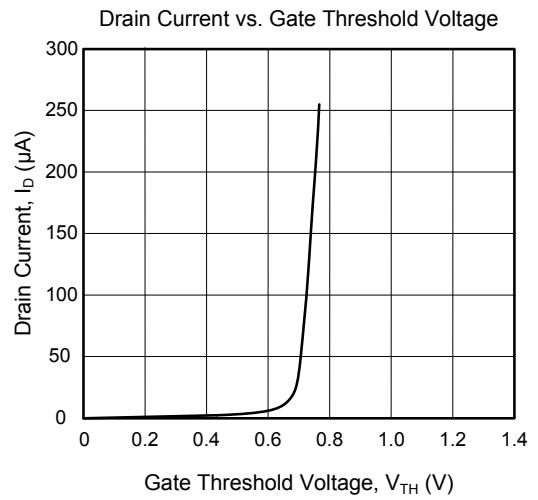
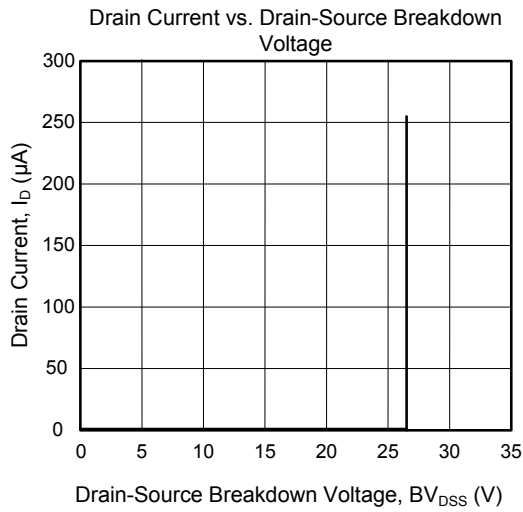
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	20			V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$			1.0	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 10\text{V}$			± 100	nA
ON CHARACTERISTICS						
Gate-Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	0.4	0.8	1.0	V
Static Drain-Source On-State Resistance (Note2)	$R_{DS(ON)}$	$V_{GS} = 4.5\text{ V}, I_D = 1\text{A}$			80	m Ω
		$V_{GS} = 2.5\text{ V}, I_D = 1\text{A}$			110	m Ω
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}			215		pF
Output Capacitance	C_{OSS}			65		pF
Reverse Transfer Capacitance	C_{RSS}			45		pF
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q_G	$V_{GS} = 4.5\text{V}$		3.8		nC
Gate Source Charge	Q_{GS}			0.7		nC
Gate-Drain Charge	Q_{GD}			0.9		nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}			0.8	1.2	V

- Notes: 1. Pulse width limited by $T_{J(MAX)}$
 2. Pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.
 3. Surface mounted on FR4 board $t \leq 5\text{ sec}$.

TYPICAL CHARACTERISTICS



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.