Features

- TrenchFET Power MOSFET
- Load Switch for Portable Devices
- Epoxy Meets UL 94 V-0 Flammability Rating
- AEC-Q101 Qualified
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-Channel MOSFET

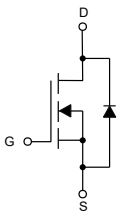
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 357°C/W Junction to Ambient

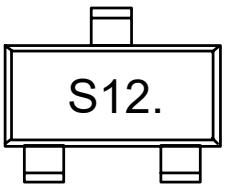
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Drain Current-Continuous	I_D	5.0	A
Source-Dra in Diode Current-Continuous	I_S	1.04	A
Power Dissipation	P_D	0.35	W

Note: 1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

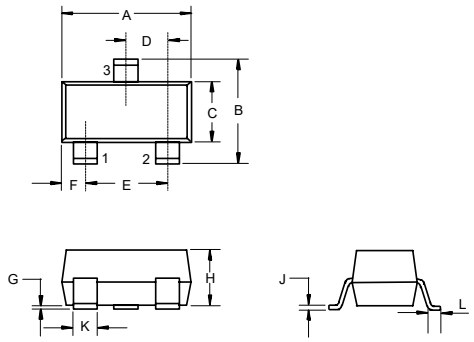
Internal Structure and Marking Code



1. GATE
2. SOURCE
3. DRAIN

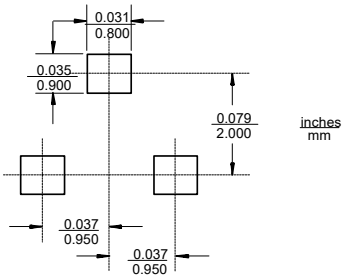


SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	20			V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.45		1.0	V
Gate-Body Leakage Current	I_{GSS}	V_{GS}=± 8V, V_{DS}=0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	μA
Drain-Source On-Resistance(Note 2)	$R_{DS(on)}$	V_{GS}=4.5V, I_D=5.0A			31.8	mΩ
		V_{GS}=2.5V, I_D=4.7A			35.6	
		V_{GS}=1.8V, I_D=4.3A			41.4	
Forward Transconductance(Note 2)	g_{FS}	V_{DS}=10V, I_D=5.0A	6.0			S
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=4A		0.75	1.2	V
Dynamic Characteristics(Note 3)						
Input Capacitance	C_{iss}	V_{DS}=10V,V_{GS}=0V, f=1MHz		865		pF
Output Capacitance	C_{oss}			105		
Reverse Transfer Capacitance	C_{rss}			55		
Gate resistance	R_g	f=1MHz	0.5		4.8	Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=10V,R_L=2.2Ω,V_{GEN}=5V, I_D=4A,R_G=1Ω			10	ns
Turn-On Rise Time	t_r				20	
Turn-Off Delay Time	$t_{d(off)}$				32	
Turn-Off Fall Time	t_f				12	

Notes:
2. Pulse Test: Pulse Width≤300μA, Duty Cycle≤2%.
3. These parameters have no way to verify.

Curve Characteristics

Fig. 1 - Output Characteristics

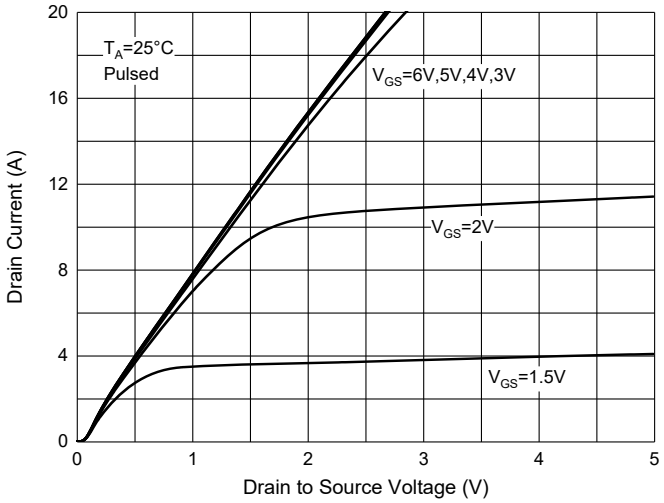


Fig. 2 - Transfer Characteristics

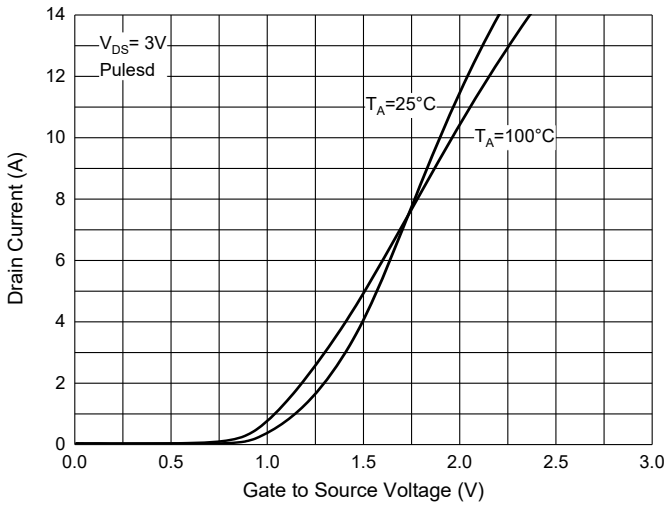


Fig. 3 - $R_{DS(ON)}$—I_D

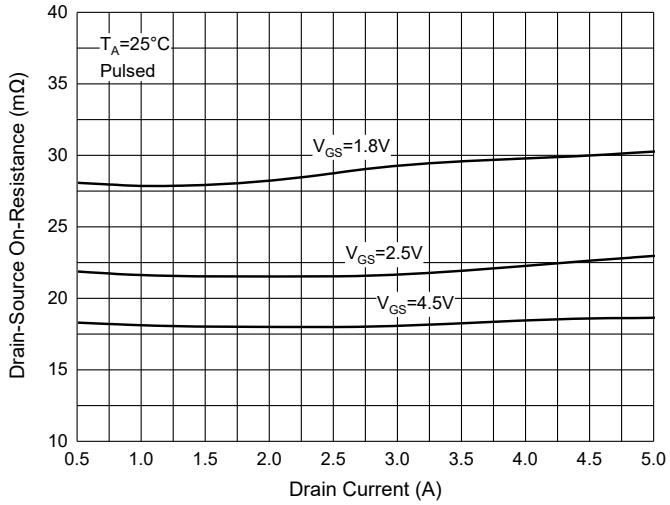


Fig. 4 - $R_{DS(ON)}$—V_{GS}

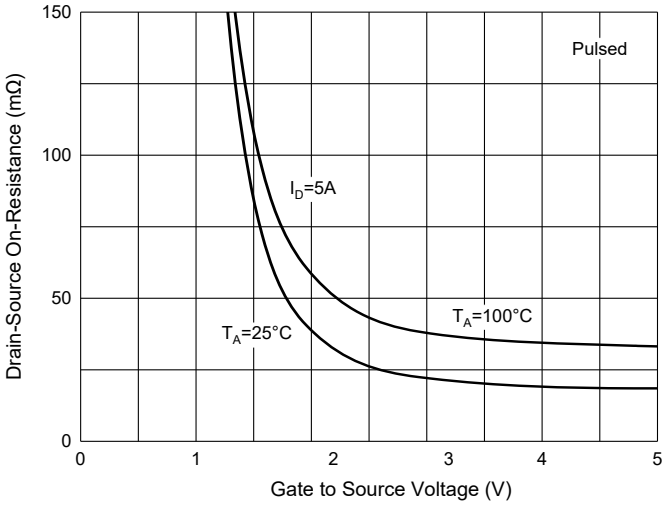


Fig. 5 - Threshold Voltage

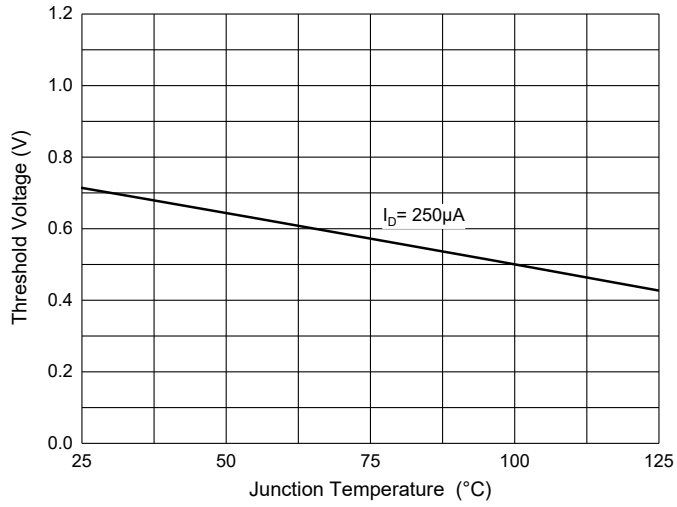
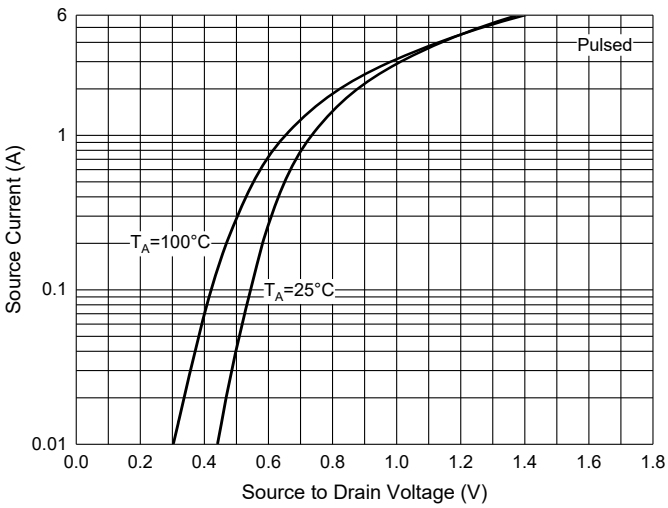


Fig. 6 - I_S—V_{SD}



Ordering Information

Device	Packing
SI2312HE3-TP	Tape&Reel:3Kpcs/Reel

单击下面可查看定价，库存，交付和生命周期等信息

>>MCC(美微科)