

Features

- Excellent Stability and Uniformity
- High Dense Cell Design For Extremely Low $R_{DS(ON)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

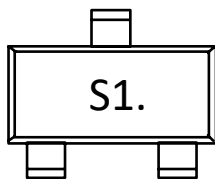
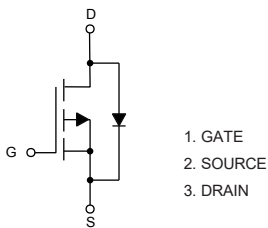
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 125°C/W Junction to Ambient (Note2)

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-20	V
Gate -Source Voltage	V_{GS}	±8	V
Drain Current-Continuous	I_D	-2.8	A
Drain Current-Pulse (Note 2)	I_{DM}	-10	A
Power Dissipation	P_D	1	W

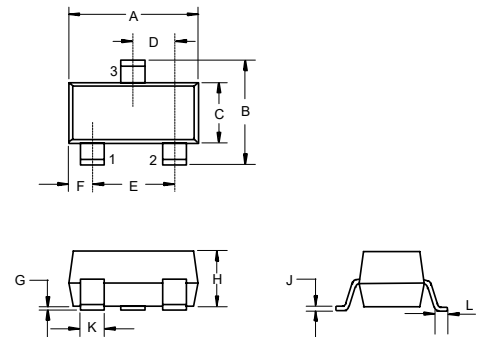
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure and Marking Code



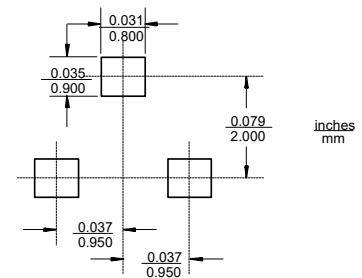
P-Channel MOSFET

SOT-23



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	0.004	0.01	0.10	
H	0.035	0.041	0.90	1.025	
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°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Threshold Voltage ^(Note 3)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.5	-0.7	-0.9	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
Drain-Source On-Resistance ^(Note 3)	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-2.8A$		80	120	m Ω
		$V_{GS}=-2.5V, I_D=-2.0A$		110	150	
Forward Transconductance	g_{FS}	$V_{DS}=-5V, I_D=-2.8A$		8		S
Diode Forward Current	I_S				-2.8	A
Diode Forward Voltage ^(Note 3)	V_{SD}	$V_{GS}=0V, I_S=-2.8A$			-1.2	V
Dynamic Characteristics^(Note 4)						
Input Capacitance	C_{iss}	$V_{DS}=-6V, V_{GS}=0V, f=1MHz$		482		pF
Output Capacitance	C_{oss}			79		
Reverse Transfer Capacitance	C_{rss}			64		
Switching Characteristics^(Note 4)						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-6V, V_{GS}=-4.5V, I_D=-1A, R_{GEN}=6\Omega$		7.26	14	ns
Turn-On Rise Time	t_r			8.18	16	
Turn-Off Delay Time	$t_{d(off)}$			46.72	75	
Turn-Off Fall Time	t_f			19.46	35	
Total Gate Charge	Q_g	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-2.8A$		5.4	7.5	nC
Gate-Source Charge	Q_{gs}			0.77		
Gate-Drain Charge	Q_{gd}			1.07		

Note:

- Device mounted on FR-4 PCB, with minimum recommended pad layout
- Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Typical Output Characteristics

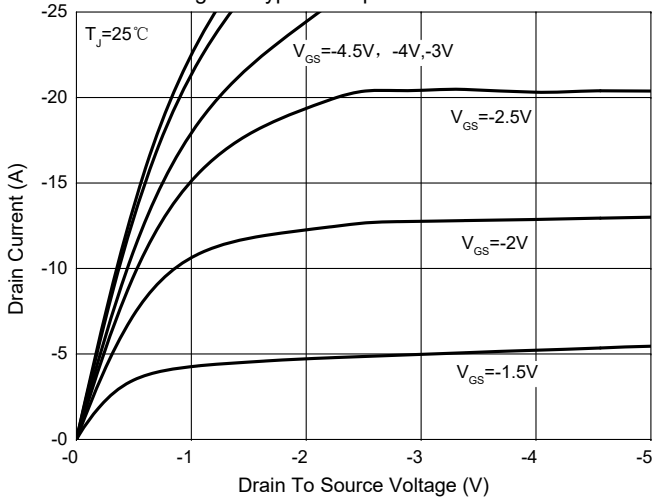


Fig. 2 - Transfer Characteristics

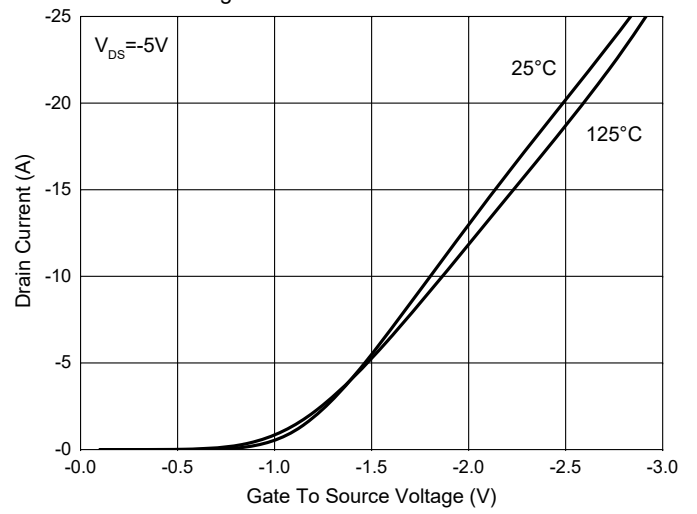


Fig. 5 - Capacitance Characteristics

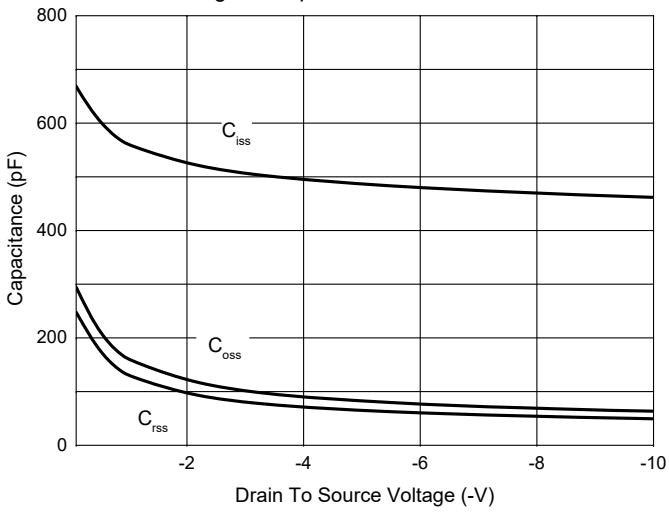


Fig.4-NormalizedOnResistanceCharacteristics

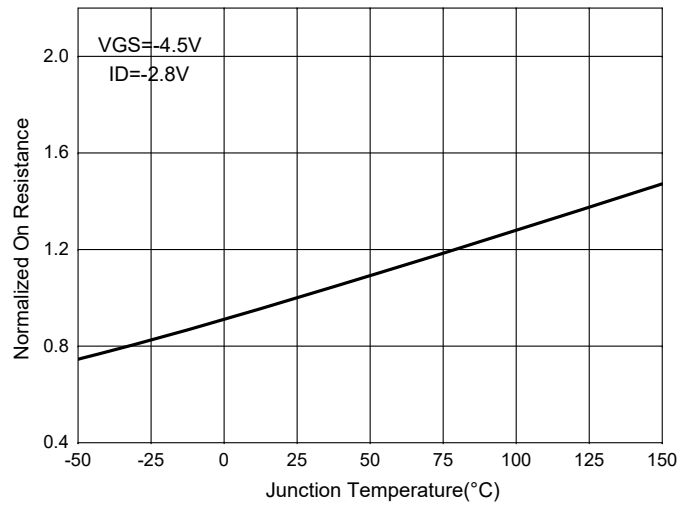


Fig. 5 - Threshold voltage

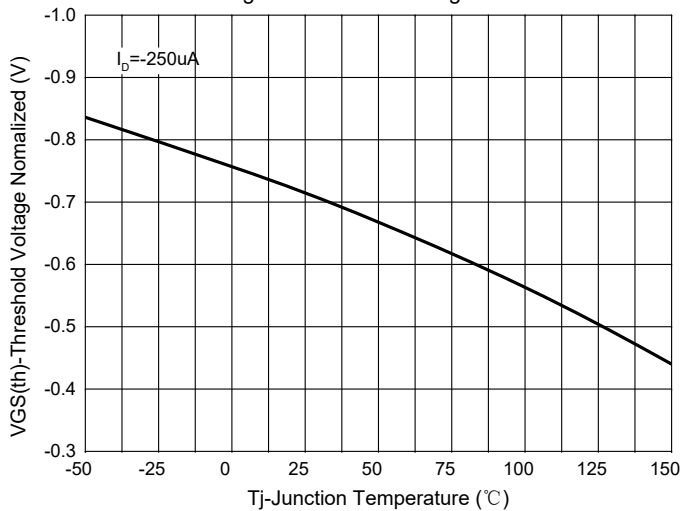
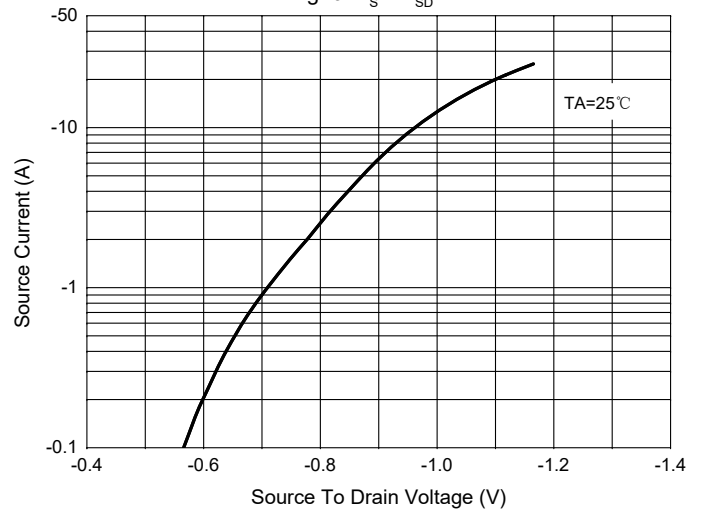


Fig. 6 - $I_S - V_{SD}$



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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