

Features

- Advanced Trench Cell Design
- 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
- Thermal Resistance: 150°C/W Junction to Ambient

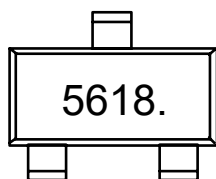
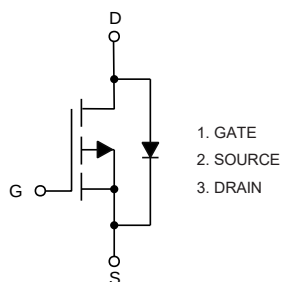
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	-60	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current ^(Note 2)	T _A =25°C	I _D	-1.9	A
	T _A =100°C		-1.2	A
Pulsed Drain Current ^(Note 3)		I _{DM}	-7.6	A
Total Power Dissipation		P _D	0.83	W

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

2. Surface Mounted on 1 in² Pad Area, $t \leq 10$ sec.

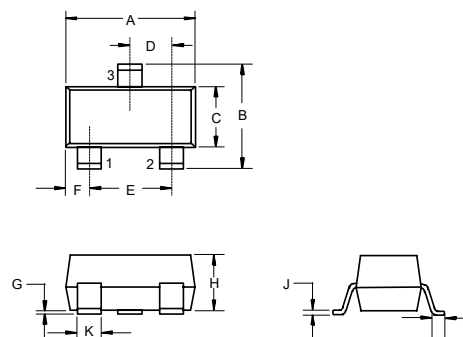
3. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

Internal Structure and Marking Code



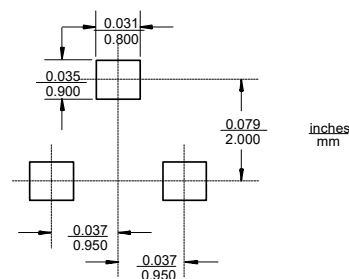
P-CHANNEL MOSFET

SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.090	0.104	2.30	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	0.040	0.90	1.02	
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 @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-60			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-48V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage ^(Note 3)	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-2	-3	V
Drain-Source On-Resistance ^(Note 3)	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-1.5A$		125	150	m Ω
		$V_{GS}=-4.5V, I_D=-1A$		165	200	
Diode Forward Voltage ^(Note 3)	V_{SD}	$V_{GS}=0V, I_S=-1A$		-0.8	-1.4	V
Continuous Body Diode Current	I_S				-1.9	A
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		580		pF
Output Capacitance	C_{oss}			52		
Reverse Transfer Capacitance	C_{rss}			35		
Total Gate Charge	Q_g	$V_{DS}=-20V, V_{GS}=-10V, I_D=-1.5A$		9.5		nC
Gate-Source Charge	Q_{gs}			1.52		
Gate-Drain Charge	Q_{gd}			1.76		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-15V, V_{GEN}=-10V,$ $R_G=3.3\Omega, R_L=15\Omega,$ $I_{DS}=-1A$		17.4		ns
Turn-On Rise Time	t_r			5.4		
Turn-Off Delay Time	$t_{d(off)}$			37.2		
Turn-Off Fall Time	t_f			2.4		

Curve Characteristics

Fig. 1 - Output Characteristics

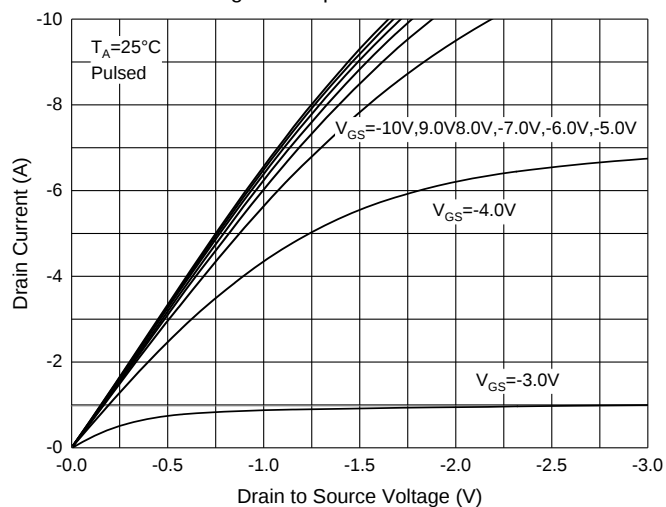


Fig. 2 - $R_{DS(ON)} - I_D$

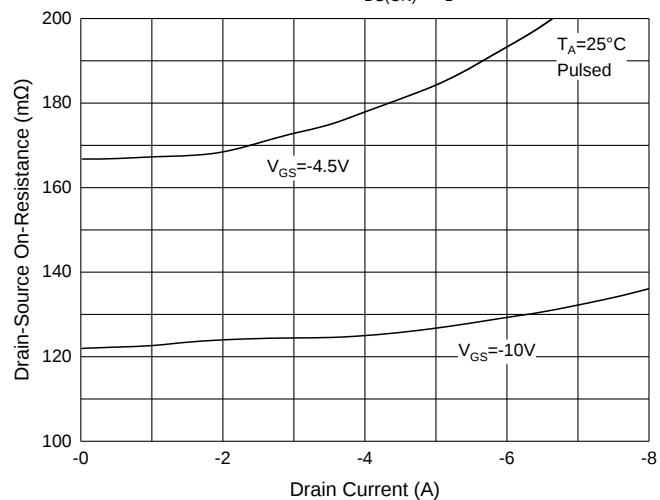


Fig. 3 - Normalized On-Resistance

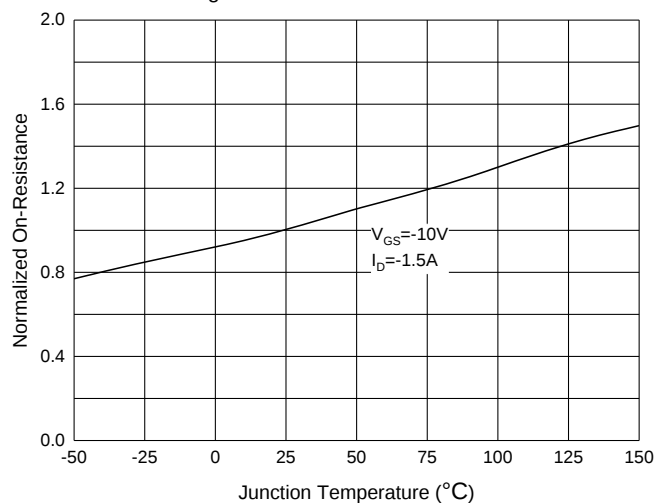


Fig. 4 - $I_S - V_{SD}$

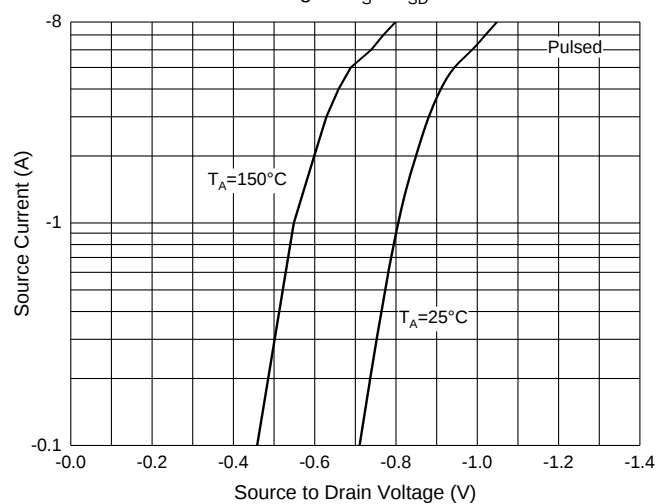


Fig. 5 - Capacitance Characteristics

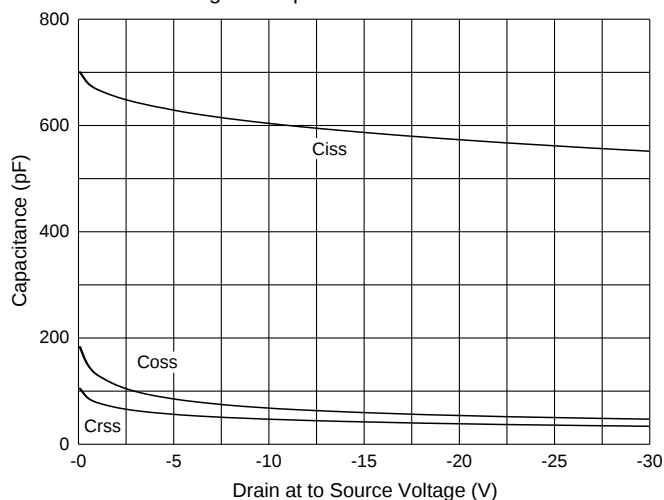
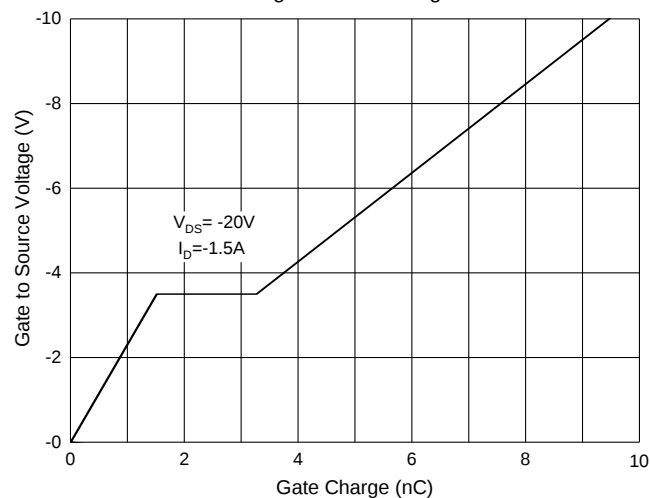


Fig. 6 - Gate Charge



Ordering Information

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

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