

Features

- TrenchFET Power MOSFET
- 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)

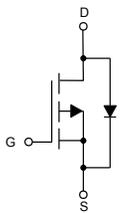
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 114°C/W Junction to Ambient^(Note 2)

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-30	V
Gate -Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-2.7	A
Continuous Source-Drain Diode Current	I_S	-0.91	A
Power Dissipation	P_D	1.1	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

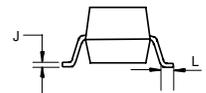
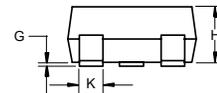
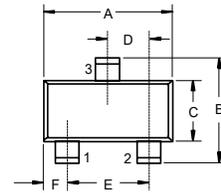


1. GATE
2. SOURCE
3. DRAIN

Marking:S7

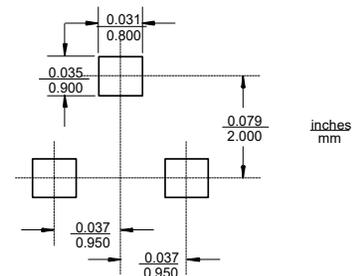
P-Channel MOSFET

SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0		-3.0	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
		$V_{DS}=-30V, V_{GS}=0V, T_J=55^\circ C$			-10	
Drain-Source On-Resistance ^(Note 3)	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-2.5A$		110	138	m Ω
		$V_{GS}=-10V, I_D=-3.5A$		73	88	
Forward Transconductance ^(Note 3)	g_{FS}	$V_{DS}=-10V, I_D=-3.5A$		7		S
Dynamic Characteristics^(Note 4)						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		340		pF
Output Capacitance	C_{oss}			67		
Reverse Transfer Capacitance	C_{rss}			51		
Total Gate Charge	Qg	$V_{DS}=-15V, V_{GS}=-4.5V, I_D=-2.5A$		4.1	6.2	nC
Gate-Source Charge	Qgs			1.3		
Gate-Drain Charge	Qgd			1.8		
Gate Resistance	Rg	f=1MHz		10		Ω
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-15V, V_{GEN}=-4.5V, R_L=15\Omega, I_D=-1A, R_G=1\Omega$		40	60	ns
Turn-On Rise Time	t_r			40	60	
Turn-Off Delay Time	$t_{d(off)}$			20	40	
Turn-Off Fall Time	t_f			17	30	
Drain-Source Body Diode Characteristics						
Body Diode Voltage	V_{SD}	$I_S=-0.75A, V_{GS}=0$		-0.8	-1.2	V

Note :

2. Surface Mounted on 1" x1" FR4 Board.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Output Characteristics

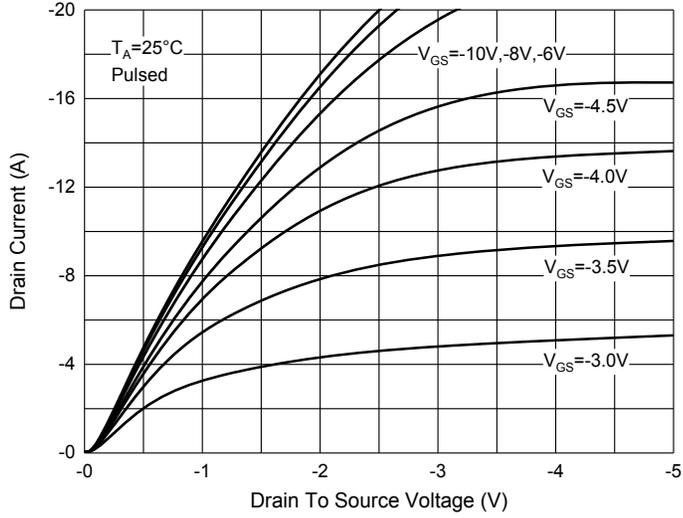


Fig. 2 - Transfer Characteristics

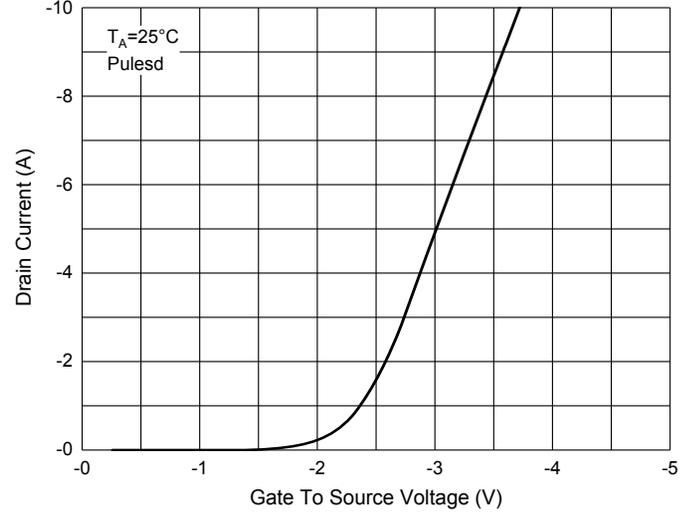


Fig. 3 - $R_{DS(ON)} - I_D$

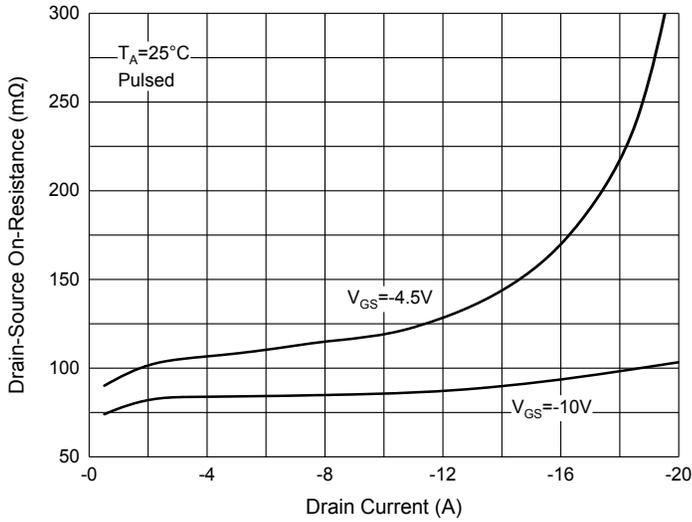


Fig. 4 - $R_{DS(ON)} - V_{GS}$

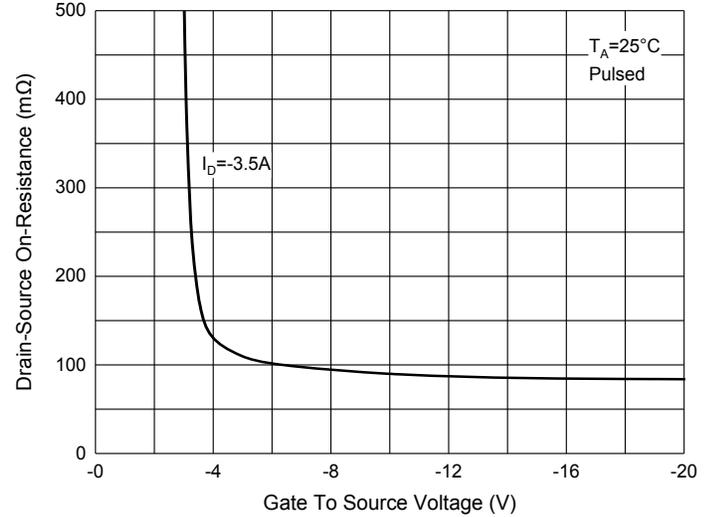
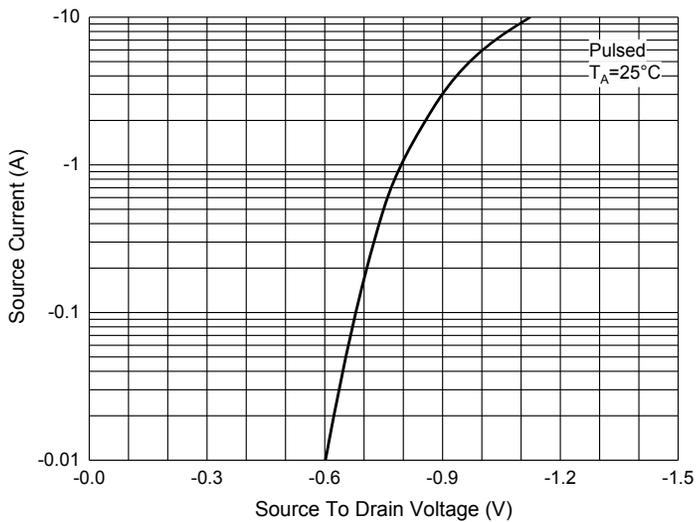


Fig. 5 - $I_S - V_{SD}$



Ordering Information

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

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