Features

- TrenchFET Power Mosfet
- Load Switch for Portable Devices
- 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)

P-Channel MOSFET

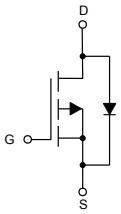
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 90°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-8	V
Gate -Source Voltage	V_{GS}	±8	V
Drain Current-Continuous(Note 2)	I_D	-4.1	A
Drain Source Current-Continuous	I_S	-0.8	A
Total Power Dissipation	P_D	1.4	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.

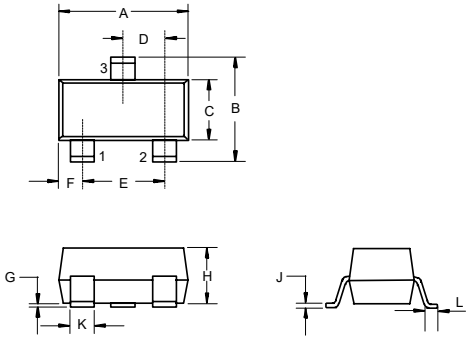
Internal Structure



1. GATE
2. SOURCE
3. DRAIN

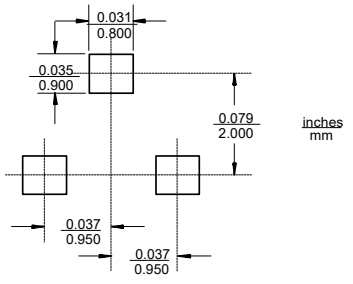
Marking:S5

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	-8			V
Gate-Threshold Voltage(Note 4)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.55		-0.9	V
Gate-Body Leakage Current	I_{GSS}	V_{GS} =± 8V, V_{DS} =0V			±0.1	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-8V, V_{GS} =0V			-1	μA
Drain-Source On-Resistance(Note 2)	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-3.5A			45	mΩ
		V_{GS}=-2.5V, I_D=-3.0A			60	
		V_{GS}=-1.8V, I_D=-2.0A			90	
Forward Tranconductance(Note 2)	g_{FS}	V_{DS}=-5V, I_D=-4.1A	6			S
Dynamic Characteristics						
Input Capacitance(Note 3,4)	C_{iss}	V_{DS}=-4V,V_{GS}=0V, f=1MHz		740		pF
Output Capacitance(Note 3,4)	C_{oss}			290		
Reverse Transfer Capacitance(Note 3,4)	C_{rss}			190		
Gate Resistance(Note 3,4)	R_g	f =1MHz	1.4	7	14	Ω
Total Gate Charge(Note 3)	Q_g	V_{DS}=-4V,V_{GS}=-4.5V,I_D=-4.1A		7.8	15	nC
		V_{DS}=-4V,V_{GS}=-2.5V,I_D=-4.1A		4.5	9	
Gate-Source Chage(Note 3)	Q_{gs}			1.2		
Gage-Drain Charge(Note 3)	Q_{gd}			1.6		
Turn-On Delay Time(Note 3,4)	$t_{d(on)}$	V_{DD}=-4V,V_{GEN}=-4.5V,I_D=-3.3A R_L=1.2Ω,R_{GEN}=1Ω		13	20	ns
Turn-On Rise Time(Note 3,4)	t_r			35	53	
Turn-Off Delay Time(Note 3,4)	$t_{d(off)}$			32	48	
Turn-Off Fall Time(Note 3,4)	t_f			10	20	
Turn-On Delay Time(Note 3,4)	$t_{d(on)}$	V_{DD}=-4V,V_{GEN}=-8V,I_D=-3.3A R_L=1.2Ω,R_{GEN}=1Ω		5	10	ns
Turn-On Rise Time(Note 3,4)	t_r			11	17	
Turn-Off Delay Time(Note 3,4)	$t_{d(off)}$			22	33	
Turn-Off Fall Time(Note 3,4)	t_f			16	24	
Drain-source body diode characteristics						
Diode Forward Current	I_S	T_C=25℃			-1.4	A
Diode Pulsed Forward Current(Note 2)	I_{SM}	I_F=-3.3A			-10	A
Diode Forward Voltage(Note 4)	V_{SD}			-0.8	-1.2	V

Note:

2. Pulse Test: Pulse Width≤ 300μs,Duty Cycle≤2%.
3. Guaranteed by Design, Not Subject to Production Testing.
4. These Parameters Have No Way to Verify.

Curve Characteristics

Fig. 1 - Output Characteristics

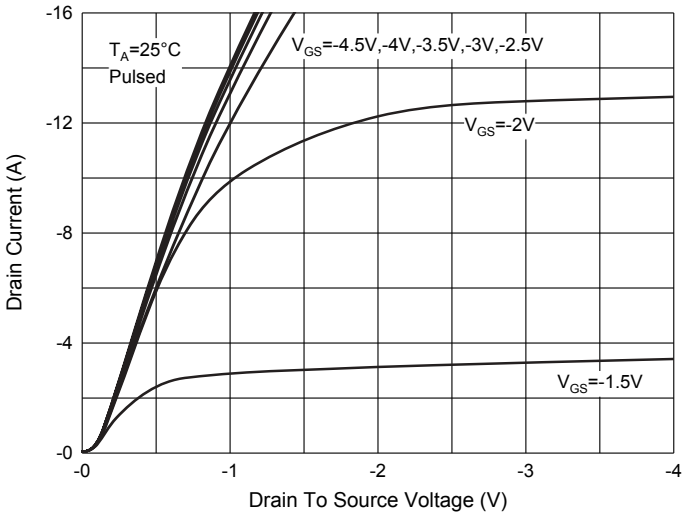


Fig. 2 - Transfer Characteristics

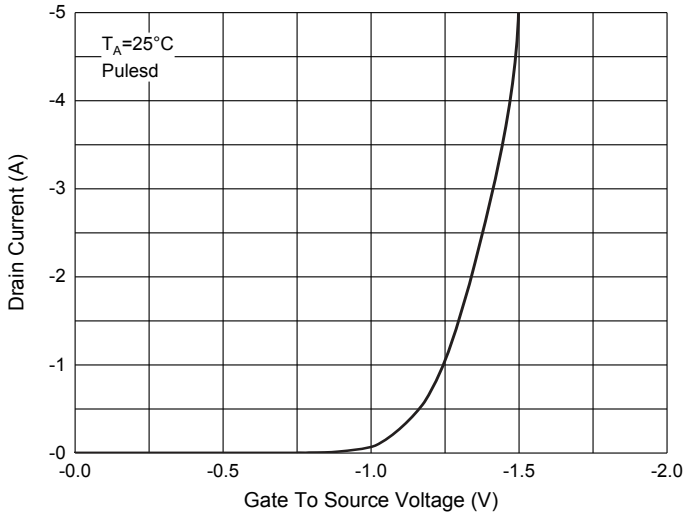


Fig. 3 - $R_{DS(ON)}$—I_D

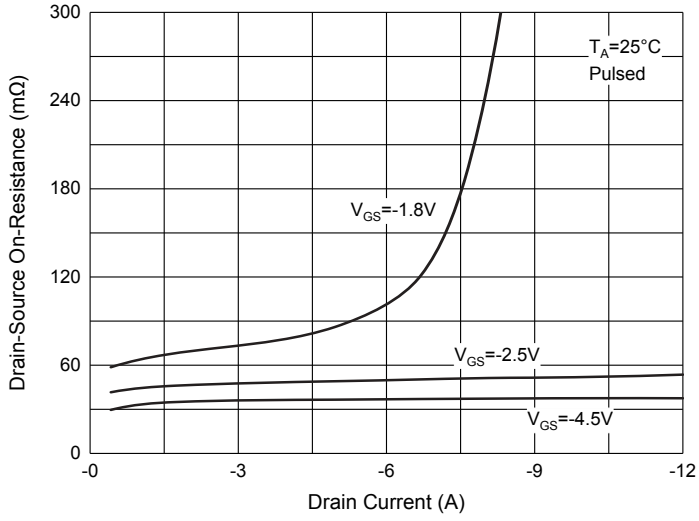


Fig. 4 - $R_{DS(ON)}$—V_{GS}

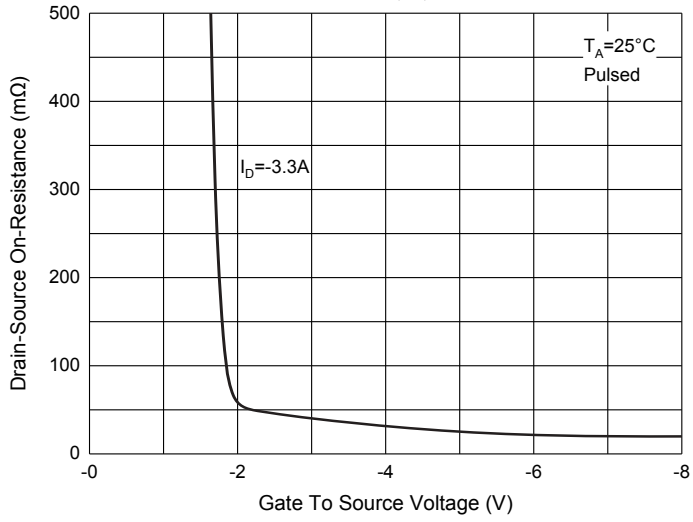
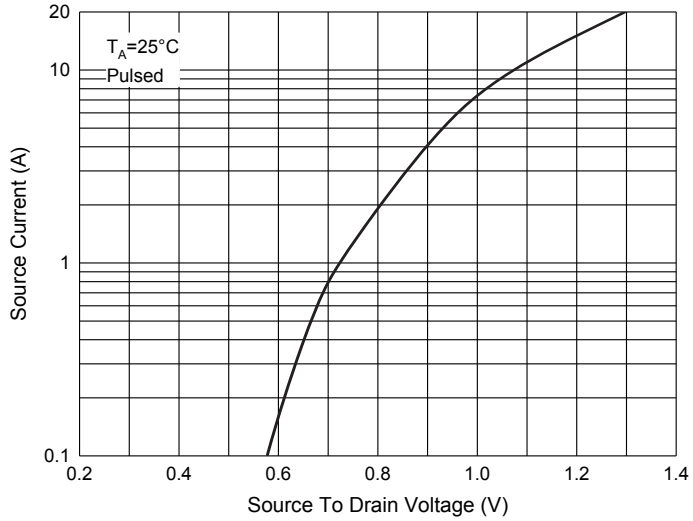


Fig. 5 - I_S—V_{SD}



Ordering Information

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

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