

Features

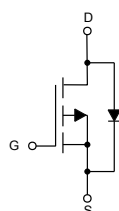
- TrenchFET Power Mosfet
- Load Switch for Portable Devices
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 90°C/W Junction to Ambient^(Note 1)

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-8	V
Gate -Source Voltage	V_{GS}	±8	V
Drain Current-Continuous ^(Note 1)	I_D	-4.1	A
Drain Source Current-Continuous	I_S	-0.8	A
Total Power Dissipation	P_D	1.4	W

Internal Structure

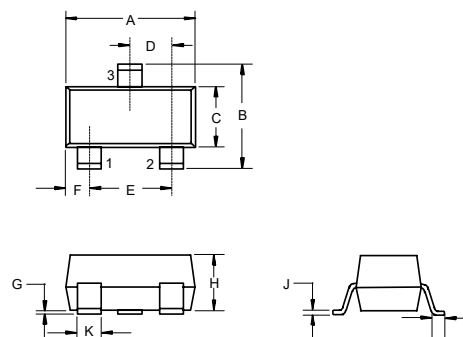


1. GATE
2. SOURCE
3. DRAIN

Marking:S5

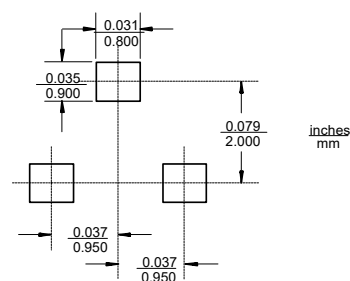
P-Channel MOSFET

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°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 =-250μA	-8			V
Gate-Threshold Voltage ^(Note 3)	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 ^(Note1)	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 1)	g _{FS}	V _{DS} =-5V, I _D =-4.1A	6			S
Dynamic Characteristics						
Input Capacitance ^(Note 2,3)	C _{iss}	V _{DS} =-4V, V _{GS} =0V, f=1MHz		740		pF
Output Capacitance ^(Note 2,3)	C _{oss}			290		
Reverse Transfer Capacitance ^(Note 2,3)	C _{rss}			190		
Gate Resistance ^(Note 2,3)	R _g	f =1MHz	1.4	7	14	Ω
Total Gate Charge ^(Note 2)	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	
Q _{gs}			1.2			
Q _{gd}			1.6			
Turn-On Delay Time ^(Note 2,3)	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 2,3)	t _r			35	53	
Turn-Off Delay Time ^(Note 2,3)	t _{d(off)}			32	48	
Turn-Off Fall Time ^(Note 2,3)	t _f			10	20	
Turn-On Delay Time ^(Note 2,3)	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 2,3)	t _r			11	17	
Turn-Off Delay Time ^(Note 2,3)	t _{d(off)}			22	33	
Turn-Off Fall Time ^(Note 2,3)	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 1)	I _{SM}	I _F =-3.3A			-10	A
Diode Forward Voltage ^(Note 3)	V _{SD}			-0.8	-1.2	V

Note:

1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. Guaranteed by Design, Not Subject to Production Testing.
3. These Parameters Have No Way to Verify.

Curve Characteristics

Fig. 1 - Output Characteristics

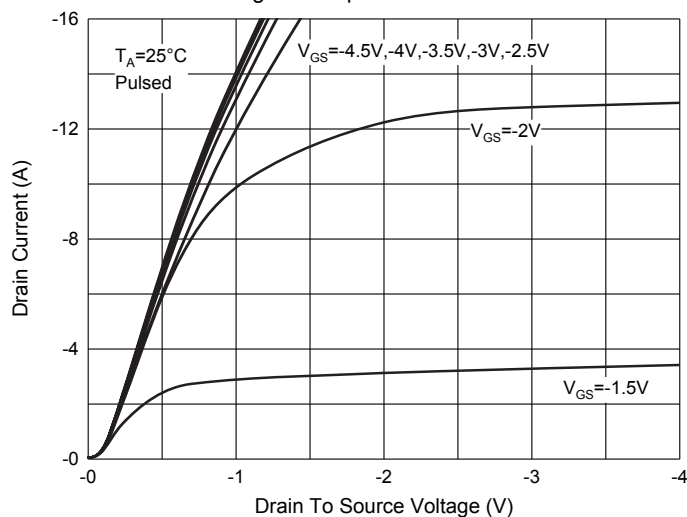


Fig. 2 - Transfer Characteristics

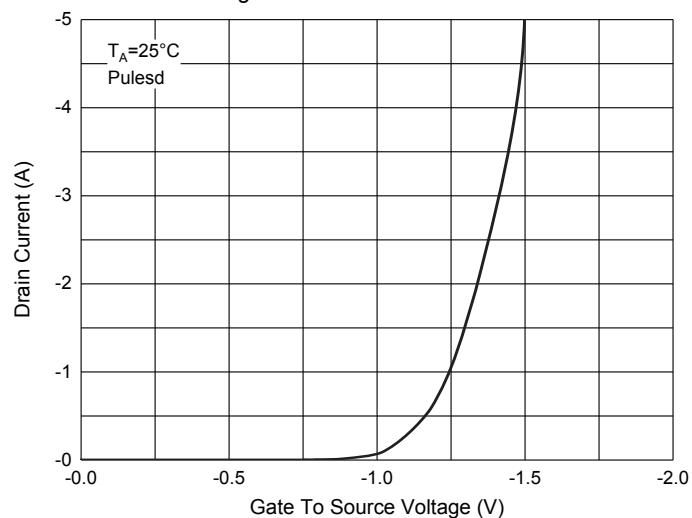


Fig. 3 - $R_{DS(ON)} - I_D$

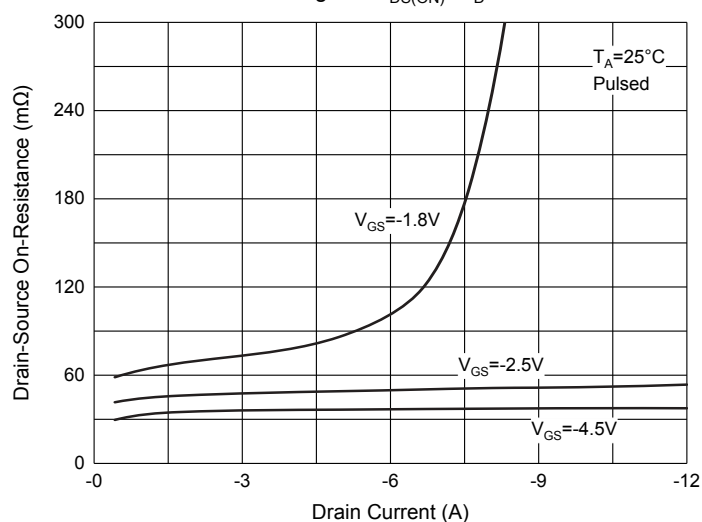


Fig. 4 - $R_{DS(ON)} - V_{GS}$

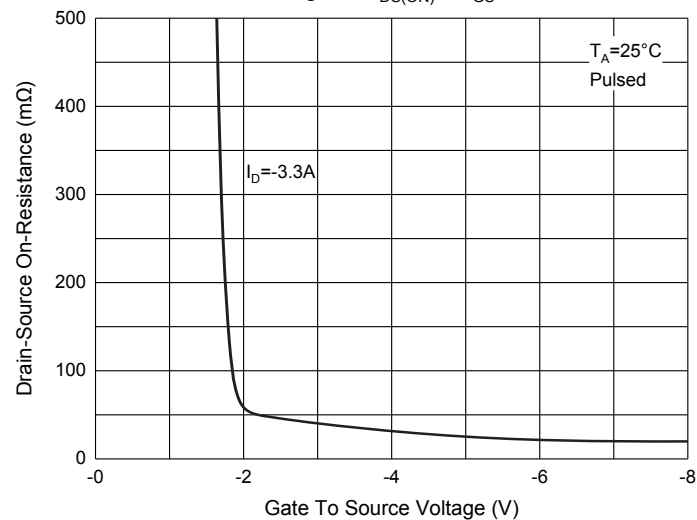
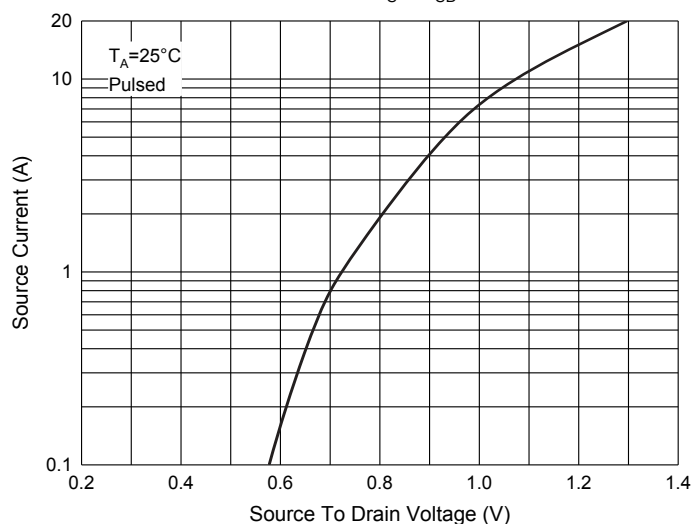


Fig. 5 - $I_S - V_{SD}$



Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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