

Features

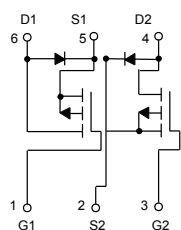
- TrenchFET Power MOSFET
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 100°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain -source Voltage	V_{DS}	-20V	V
Gate -Source Voltage	V_{GS}	±8	V
Drain Current-Continuous	I_D	-2.3	A
Drain Current-Pulse ^(Note 2)	I_{DM}	-10	A
Power Dissipation	P_D	1.25	W

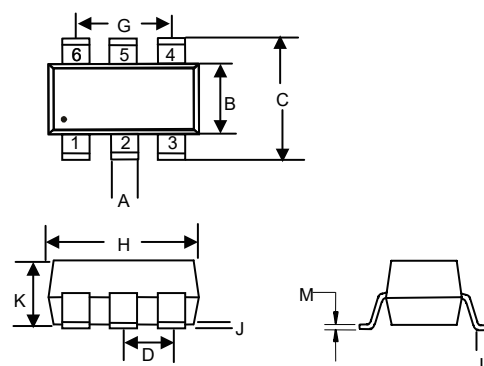
Internal Structure



Marking: S1

Dual P-Channel MOSFET

SOT23-6L



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.012	0.020	0.30	0.50	
B	0.051	0.070	1.30	1.80	
C	0.087	0.126	2.20	3.20	
D	0.037		0.95		TYP.
G	0.074		1.90		TYP.
H	0.106	0.122	2.70	3.10	
J	0.002	0.006	0.05	0.15	
K	0.030	0.051	0.75	1.30	
L	0.012	0.024	0.30	0.60	
M	0.003	0.008	0.08	0.22	

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	-20			V
Gate-Threshold Voltage ^(Note 1)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.4	-0.7	-1.0	V
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±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 1)	R _{DS(on)}	V _{GS} =-4.5V, I _D =-2.5A		58	90	mΩ
		V _{GS} =-2.5V, I _D =-2.0A		80	125	
		V _{GS} =-1.8V, I _D =-1.6A		120	200	
Forward Tranconductance ^(Note 1)	g _{FS}	V _{DS} =-5V, I _D =-2.8A	4			S
Diode Forward Voltage ^(Note 1)	V _{SD}	V _{GS} =0V, I _S =0.7A			-1.2	V
Dynamic Characteristics ^(Note 2)						
Input Capacitance	C _{iss}	V _{DS} =-10V,V _{GS} =0V, f=1MHz		405		pF
Output Capacitance	C _{oss}			75		
Reverse Transfer Capacitance	C _{rss}			55		
Switching Characteristics ^(Note 2)						
Turn-On Delay Time	t _{d(on)}	V _{DD} =-10V,V _{GEN} =-4.5V, I _D =-1A,R _{GEN} =1Ω,R _L =10Ω			20	ns
Turn-On Rise Time	t _r				60	
Turn-Off Delay Time	t _{d(off)}				50	
Turn-Off Fall Time	t _f				20	
Total Gate Charge(-4.5V)	Q _g	V _{DS} =-10V,V _{GS} =-2.5V,I _D =-3A		5.5	10	nC
Total Gate Charge(-2.5V)				3.3	6	
Gate-Source Chage	Q _{gs}			0.7		
Gage-Drain Charge	Q _{gd}			1.3		

Note:

1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 0.5\%$.
2. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Output Characteristics

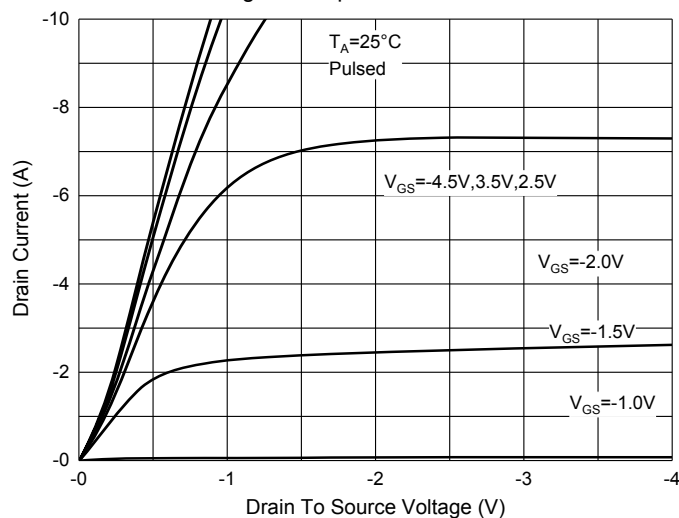


Fig. 2 - Transfer Characteristics

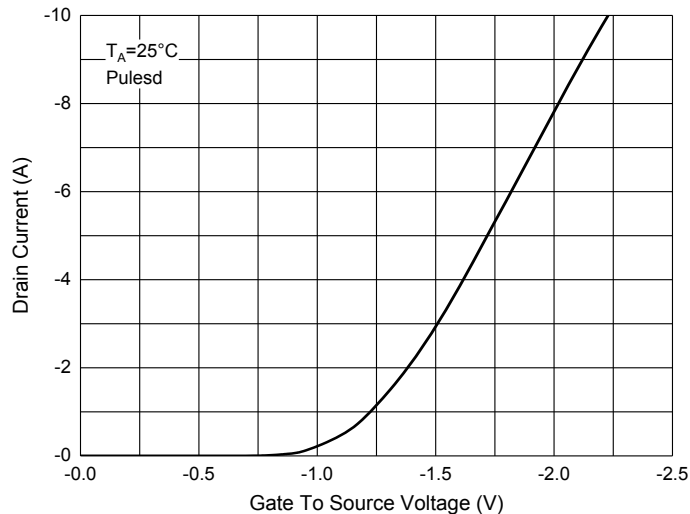


Fig. 3 - $R_{DS(ON)} - I_D$

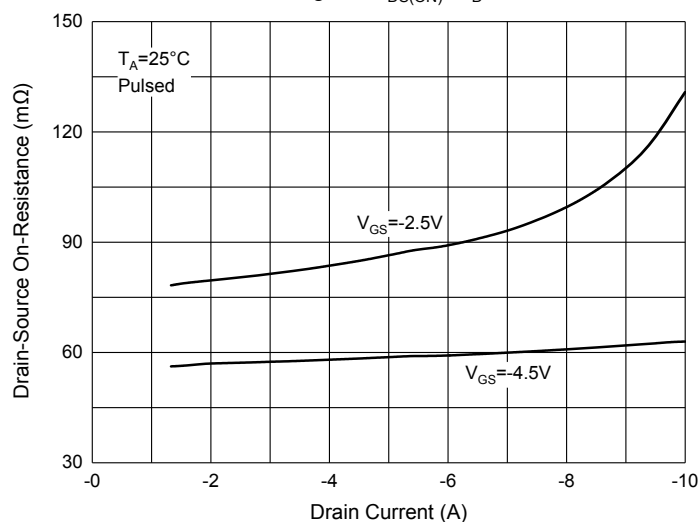


Fig. 4 - $R_{DS(ON)} - V_{GS}$

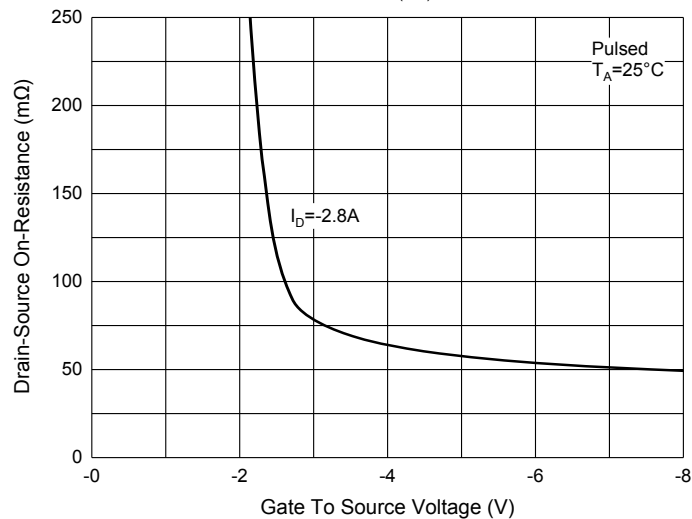
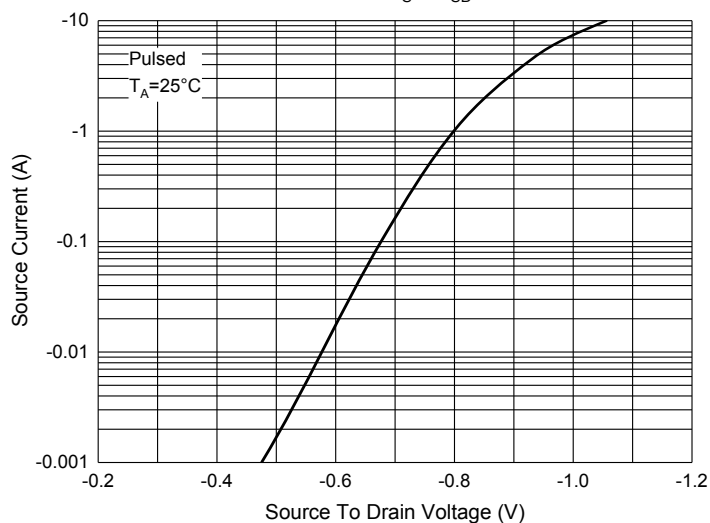


Fig. 5 - $I_S - V_{SD}$



Ordering Information

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

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

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