Features

- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)

P-Channel MOSFET

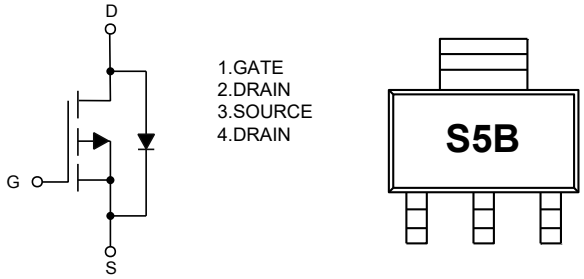
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 42°C/W Junction to Ambient (Note3)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Volltage	V_{GS}	±12	V
Drain Current	I_D	-6.0	A
Pulsed Drain Current(Note 5)	I_{DM}	-30	A
Total Power Dissipation	P_D	3.0	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 and Marking Code



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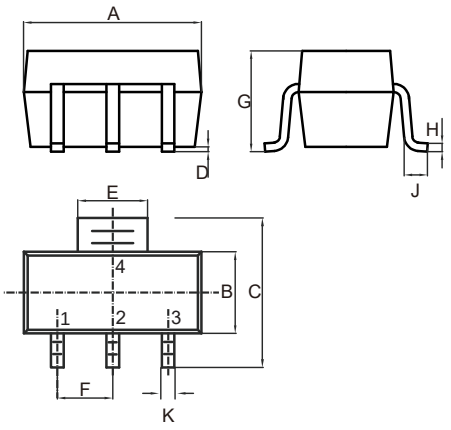


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

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=-250μA	-20			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±10V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V			-1	μA
Gate-Threshold Voltage(Note 2)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.5		-0.9	V
Drain-Source On-Resistance(Note 2)	$R_{DS(on)}$	V_{GS}=-4.5V, I_D=-6A		35	60	mΩ
		V_{GS}=-2.5V, I_D=-4A		46	80	
Forward Tranconductance(Note 2)	g_{FS}	V_{DS}=-5V, I_D=-4.1A	6			S
Dynamic Characteristics(Note 3,4)						
Input Capacitance	C_{iss}	V_{DS}=-4V,V_{GS}=0V,f=1MHz		740		pF
Output Capacitance	C_{oss}			290		
Reverse Transfer Capacitance	C_{rss}			190		
Total Gate Charge	Q_g	V_{DS}=-4V,V_{GS}=-4.5V,ID=-4.1A		7.8	15	nC
		V_{DS}=-4V,V_{GS}=-2.5V,I_D=-4.1A		4.5	9	
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.6		
Gate Resistance	R_g	f=1MHz	1.4	7	14	Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =-4V, V_{GEN}=-4.5V I_D=-3.3A, R_g=1Ω, R_L=1.2Ω		13	20	ns
Turn-On Rise Time	t_r			35	53	
Turn-Off Delay Time	$t_{d(off)}$			32	48	
Turn-Off Fall Time	t_f			10	20	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =-4V, V_{GEN}=-8V I_D=-3.3A, R_g=1Ω, R_L=1.2Ω		5	10	ns
Turn-On Rise Time	t_r			11	17	
Turn-Off Delay Time	$t_{d(off)}$			22	33	
Turn-Off Fall Time	t_f			16	24	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S	T_C=25°C			-4.2	A
Pulsed Diode Forward Current(Note 2)	I_{SM}				-10	
Body Diode Voltage	V_{SD}	I_F=-3.3A, V_{GS}=0V		-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.

5.Pulse Width Limited by Max. Junction Temperature.

Curve Characteristics

Fig. 1 - Output Characteristics

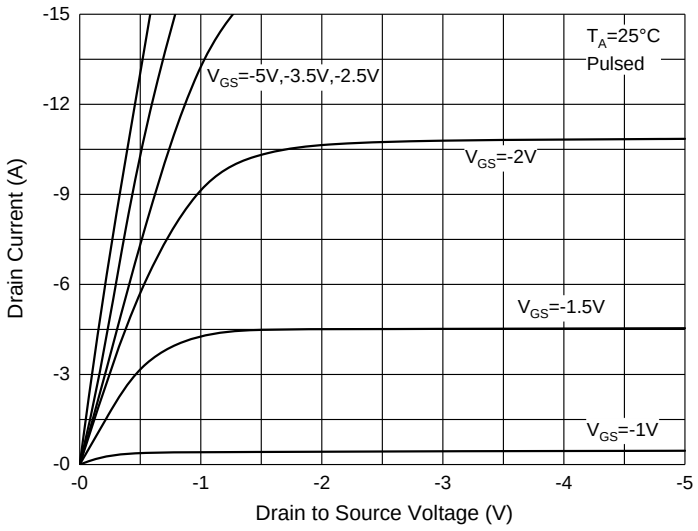


Fig. 2 - $R_{DS(ON)}$—V_{GS}

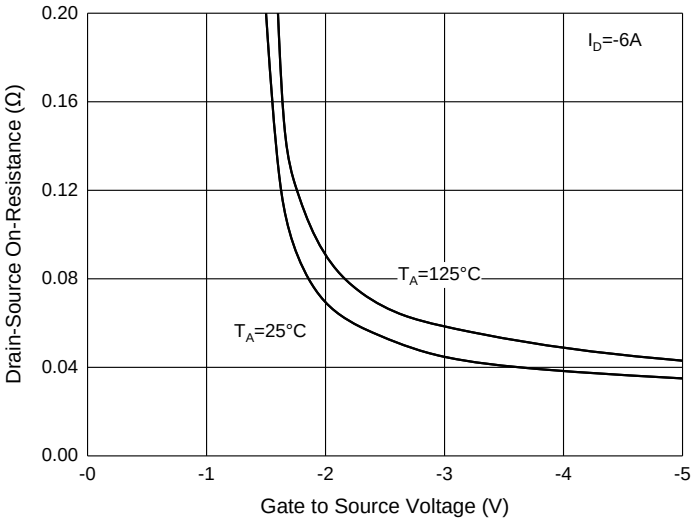
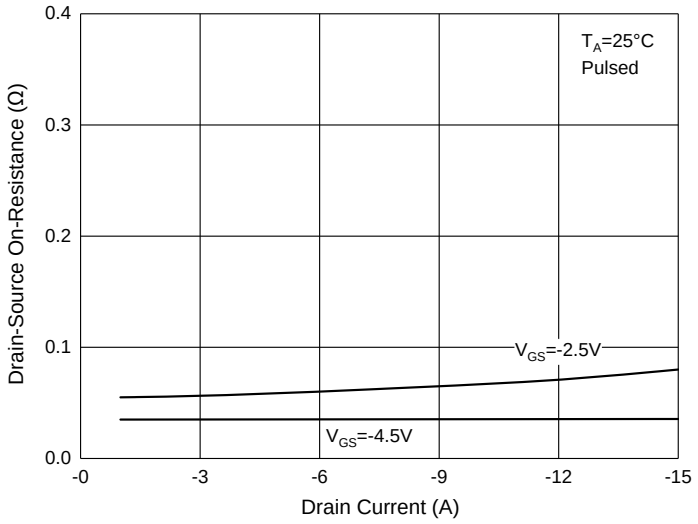


Fig. 3 - $R_{DS(ON)}$—I_D



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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