

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)

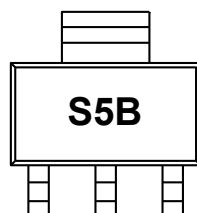
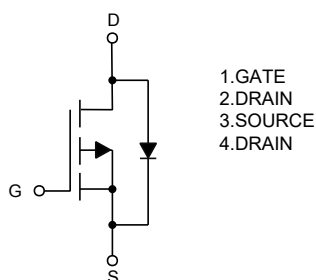
Maximum Ratings

- 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 Voltage	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

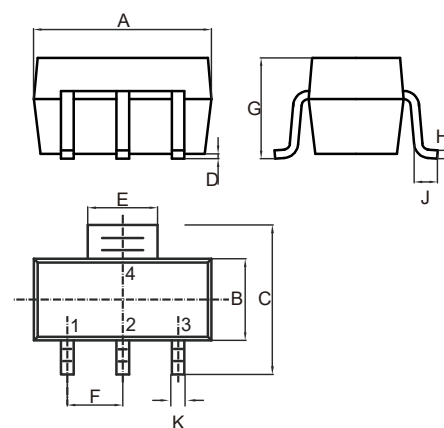
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure and Marking Code



P-Channel MOSFET

SOT-223



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 $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

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

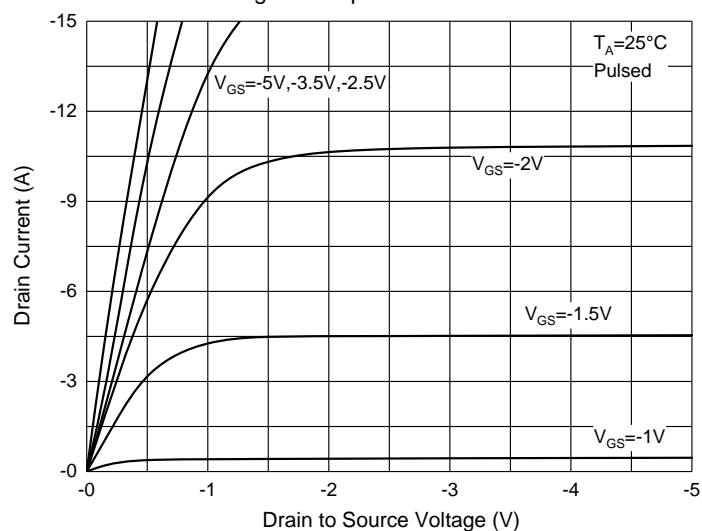


Fig. 2 - $R_{DS(ON)} - V_{GS}$

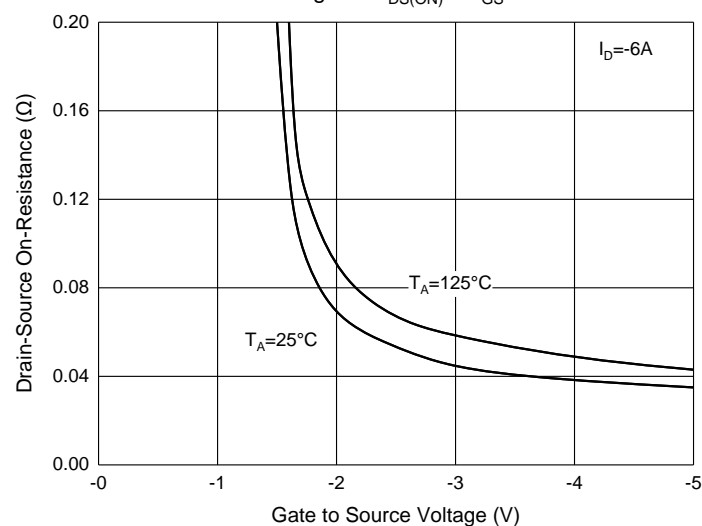
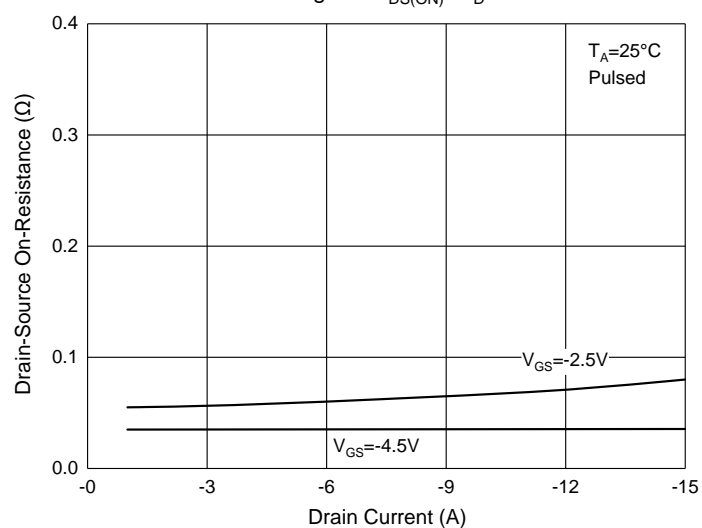


Fig. 3 - $R_{DS(ON)} - I_D$



Ordering Information

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

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