

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

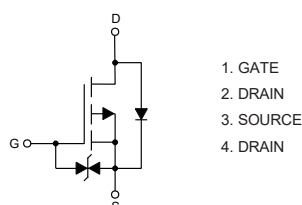
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current	I_D	-6.0	A
Pulsed Drain Current ^(Note2,3)	$I_{DM}(\text{Silicon limit})$	-30	A
	$I_{DM}(\text{Package limit})$	-20	
Total Power Dissipation	P_D	1.25	W

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

2.Surface Mounted on 6cm² FR4 Board, t ≤ 10 sec.

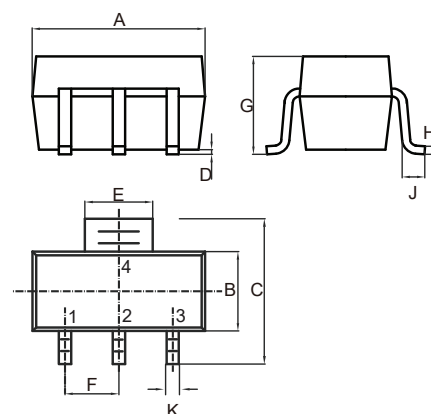
3.The Maximum Current Rating is Package Limited.

Internal Structure



P-Channel Power MOSFET

SOT-223



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	-100			V
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±16V			±10	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-100V, V _{GS} =0V			-1	μA
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.2	-1.75	-2.8	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-6A			205	mΩ
		V _{GS} =-4.5V, I _D =-6A			250	
Forward Tranconductance	g _{FS}	V _{DS} =-15V, I _D =-5A	10			S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-25V,V _{GS} =0V,f=1MHz		760		pF
Output Capacitance	C _{oss}			260		
Reverse Transfer Capacitance	C _{rss}			170		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DD} =-50V,V _{GS} =-10V,I _D =-6A		25		nC
Gate-Source Charge	Q _{gs}			5		
Gate-Drain Charge	Q _{gd}			7		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-50V, V _{GEN} =-10V I _D =-6A, R _{GEN} =9.1Ω		14		ns
Turn-On Rise Time	t _r			18		
Turn-Off Delay Time	t _{d(off)}			50		
Turn-Off Fall Time	t _f			18		
Drain-Source Body Diode Characteristics						
Diode Forward Current	I _S				-13	A
Diode Forward Voltage	V _{SD}	I _{SD} =-6A, V _{GS} =0V			-1.2	V
Reverse Recovery Time	t _{rr}	I _F =-6A, di/dt=100A/μs		35		ns
Reverse Recovery Charge	Q _{rr}			46		nC
Forward Turn-On Time	T _{on}	Intrinsic Turn-On Time is Negligible (Turn-On is Dominated by LS+LD)				

Curve Characteristics

Fig. 1 - Output Characteristics

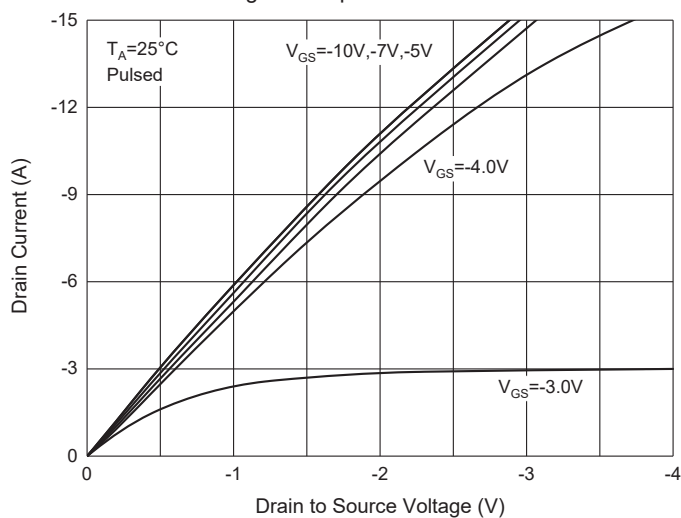


Fig. 2 - $R_{DS(ON)}$ —Temperature

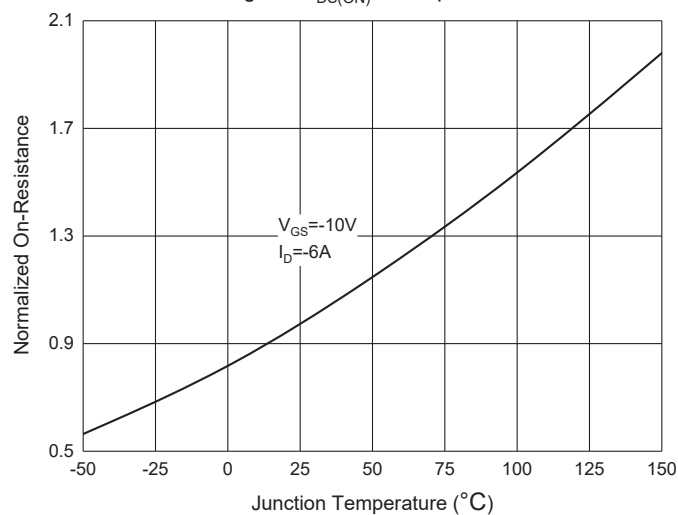


Fig. 3 - Transfer Characteristics

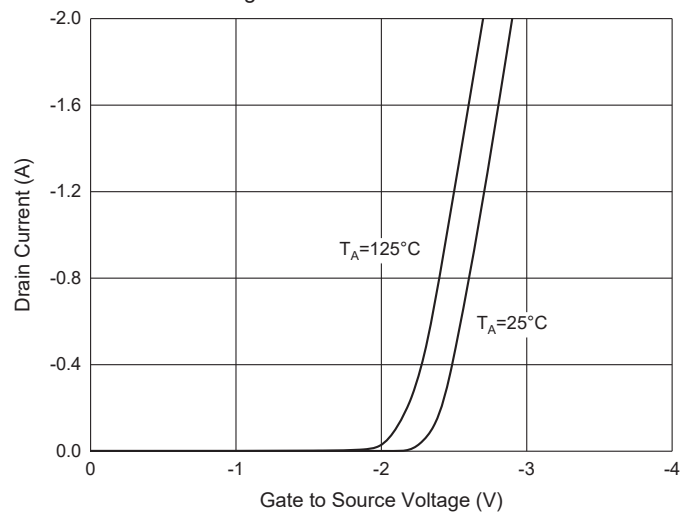


Fig. 4 - Gate Charge

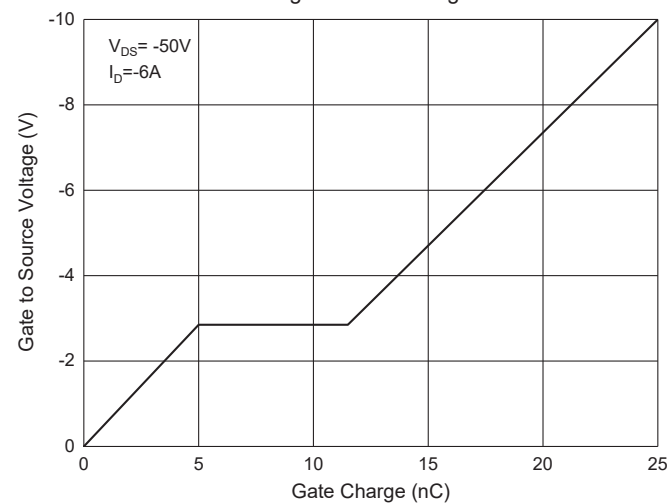


Fig. 5 - I_S — V_{SD}

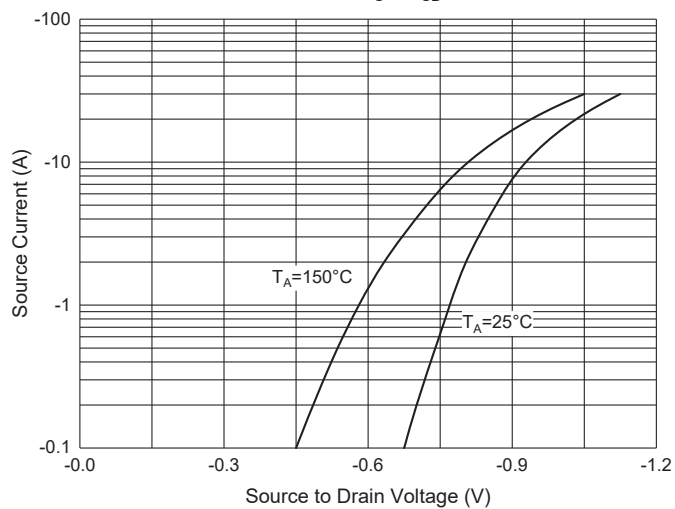


Fig. 6 - $R_{DS(ON)}$ — I_D

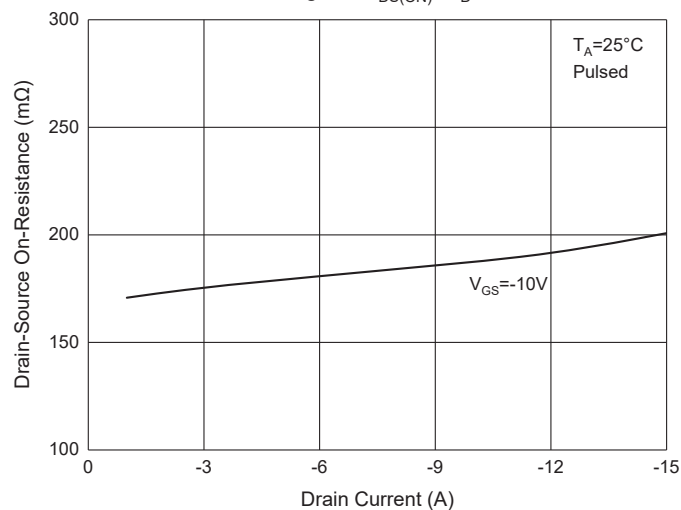
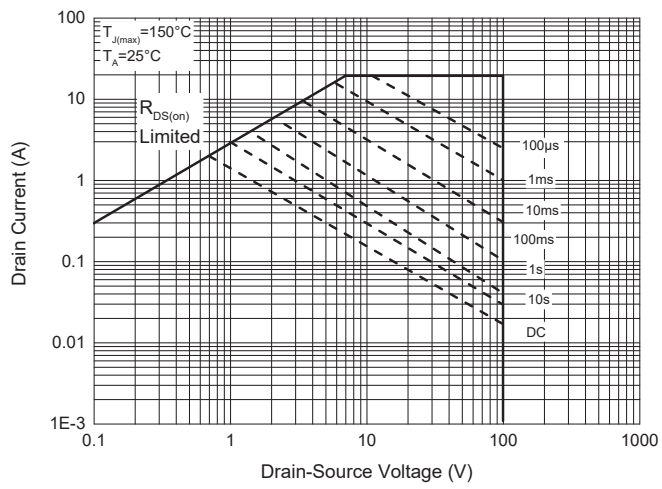


Fig. 7 - Safe Operation Area



Ordering Information

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

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