

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

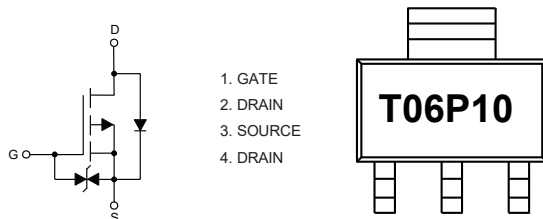
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

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)	$I_{DM(Silicon\ limit)}$	-30	A
	$I_{DM(Package\ limit)}$	-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.

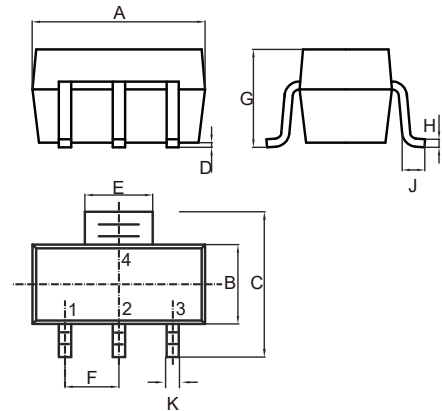
- 2.Surface Mounted on 6cm² FR4 Board, t ≤ 10 sec.
3.The Maximum Current Rating is Package Limited.

Internal Structure and Marking Code



P-Channel Power 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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-100			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 16V$			± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.2	-1.75	-2.8	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-6A$			205	m Ω
		$V_{GS}=-4.5V, I_D=-6A$			250	
Forward Transconductance	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	$t_{d(on)}$	$V_{DD}=-50V, V_{GEN}=-10V$ $I_D=-6A, R_{GEN}=9.1\Omega$		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}	$I_F=-6A, di/dt=100A/\mu s$		35		ns
Reverse Recovery Charge	Q_{rr}				46	
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

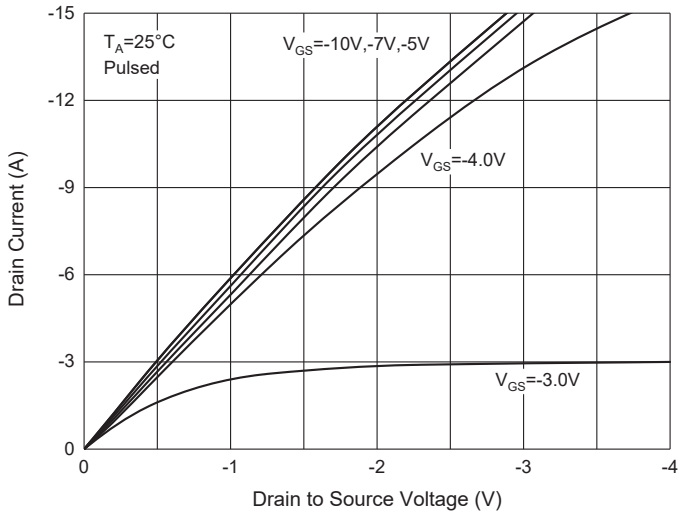


Fig. 2 - $R_{DS(ON)}$ —Temperature

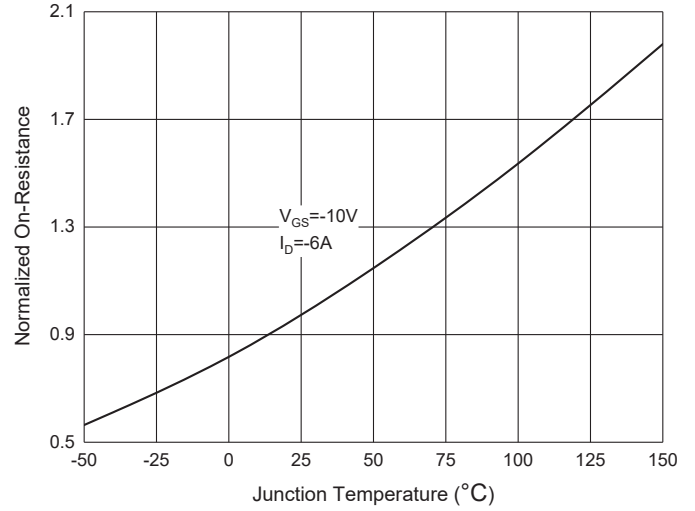


Fig. 3 - Transfer Characteristics

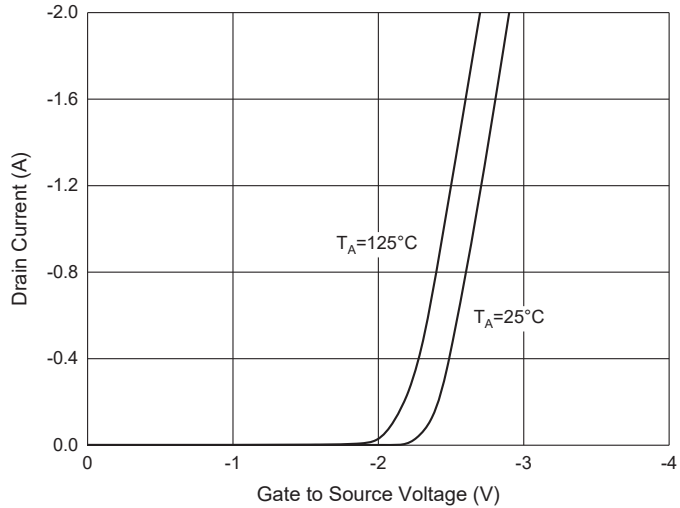


Fig. 4 - Gate Charge

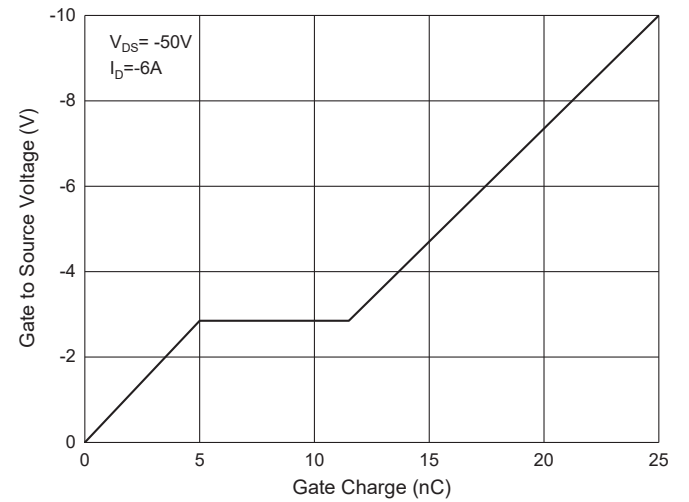


Fig. 5 - I_S — V_{SD}

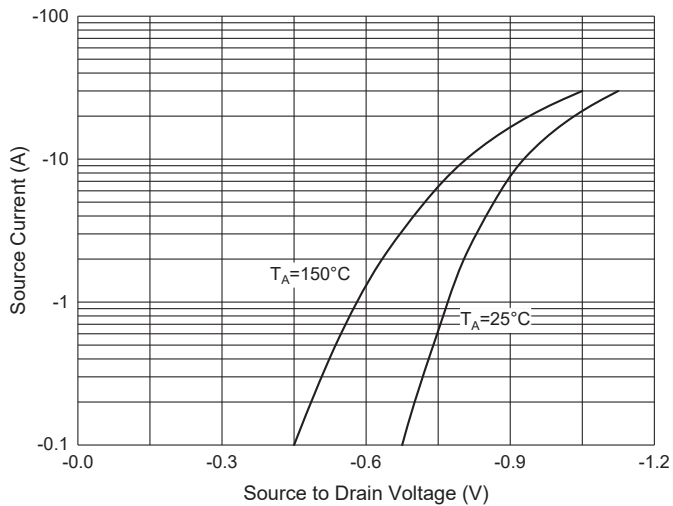


Fig. 6 - $R_{DS(ON)}$ — I_D

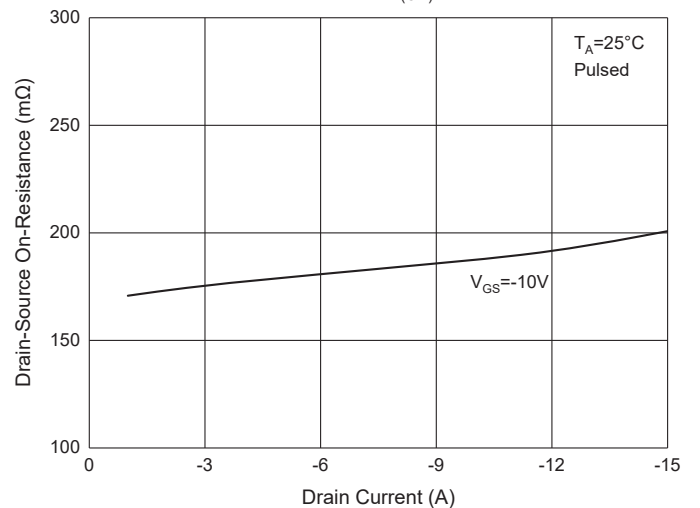
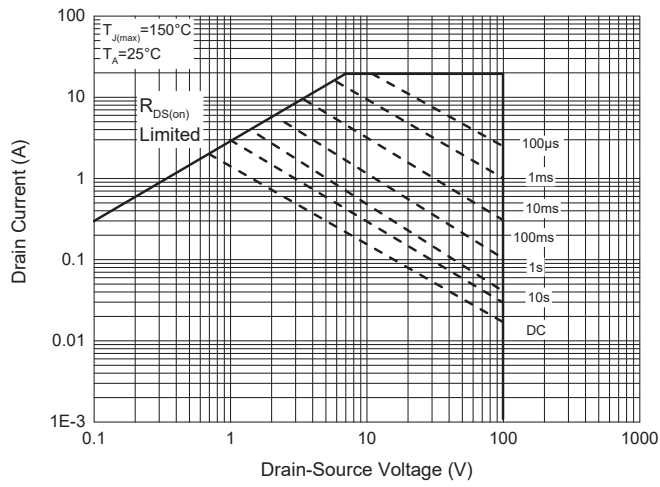


Fig. 7 - Safe Operation Area



Ordering Information

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

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