Features

- Split Gate Trench MOSFET Technology
- Low $R_{DS(on)}$ & FOM
- Excellent Stability and Uniformity
- Extremely Low Switching Loss
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 3
- Halogen Free. “Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

P-CHANNEL MOSFET

Maximum Ratings

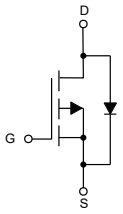
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 56.8°C/W Junction to Ambient(Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Volltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-8	A
Pulsed Drain Current (Note 3)	I_{DM}	-32	A
Total Power Dissipation	P_D	2.2	W

Note:

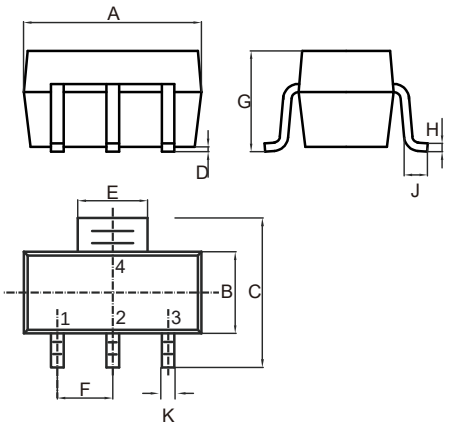
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Surface mounted on FR4 board , t≤10s.
3. Repetitive rating : Pulse width limited by junction temperature.

Internal Structure and Marking Code



1.GATE
2.DRAIN
3.SOURCE
4.DRAIN

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} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-100V, V_{GS}=0V			-1	μA
		V_{DS}=-100V, V_{GS}=0V, T_J=55°C			-5	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-1	-1.8	-2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-8A		95	110	mΩ
		V_{GS}=-4.5V, I_D=-5A		103	130	mΩ
Diode Characteristics						
Continuous Body Diode Current	I_S				-8	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=-8A		-0.9	-1.3	V
Reverse Recovery Time	t_{rr}	I_S=-5A,di/dt=100A/μs		70		ns
Reverse Recovery Charge	Q_{rr}			140		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-80V,V_{GS}=0V,f=1MHz		1050		pF
Output Capacitance	C_{oss}			97		
Reverse Transfer Capacitance	C_{rss}			18		
Total Gate Charge	Q_g	V_{DS}=-50V,V_{GS}=-10V,I_D=-5A		20		nC
Gate-Source Charge	Q_{gs}			3.9		
Gate-Drain Charge	Q_{gd}			4.3		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-10V,V_{DD}=-50V,R_L=2.5Ω R_{GEN}=6Ω		10		ns
Turn-On Rise Time	t_r			30		
Turn-Off Delay Time	$t_{d(off)}$			77		
Turn-Off Fall Time	t_f			81		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

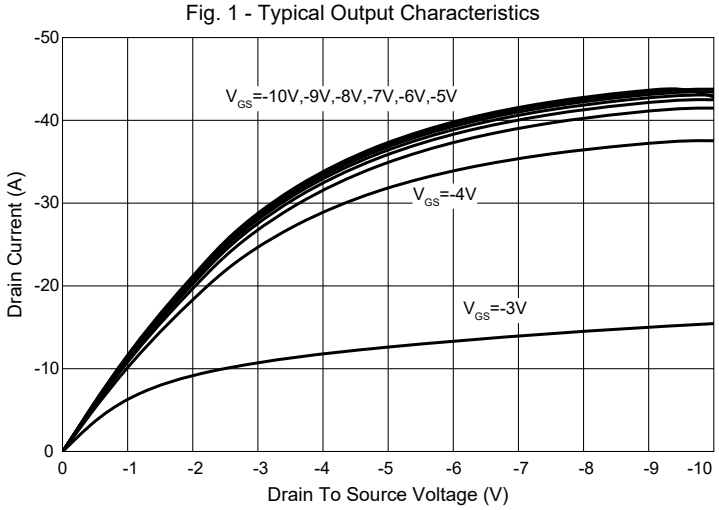


Fig. 2 - Transfer Characteristics

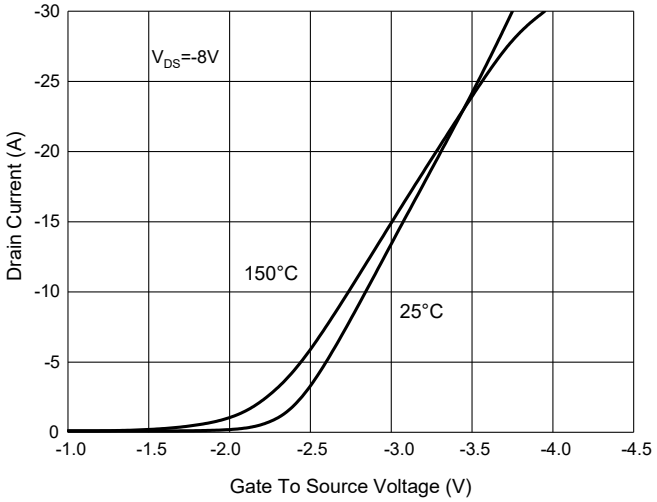


Fig. 3 - $R_{DS(ON)}$—V_{GS}

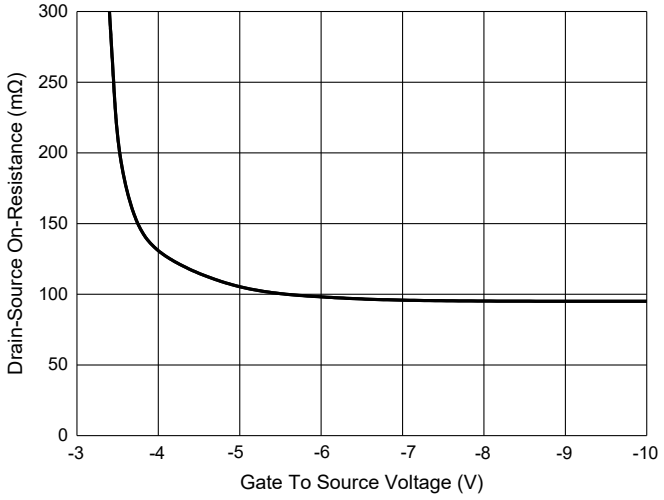


Fig. 4 - Normalized On Resistance Characteristics

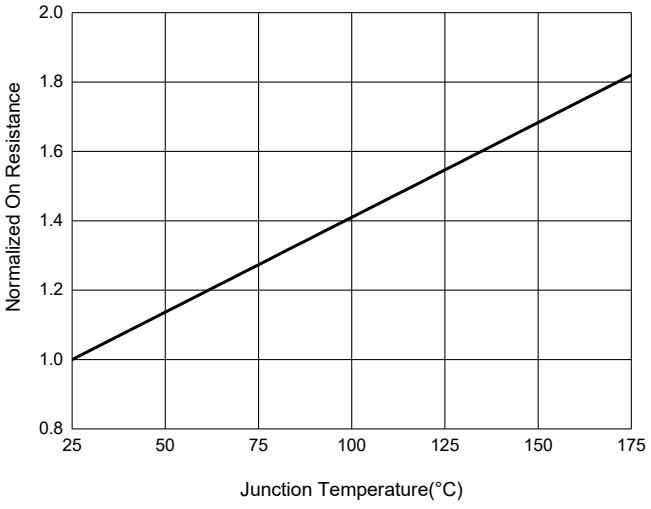


Fig. 5 - Capacitance Characteristics

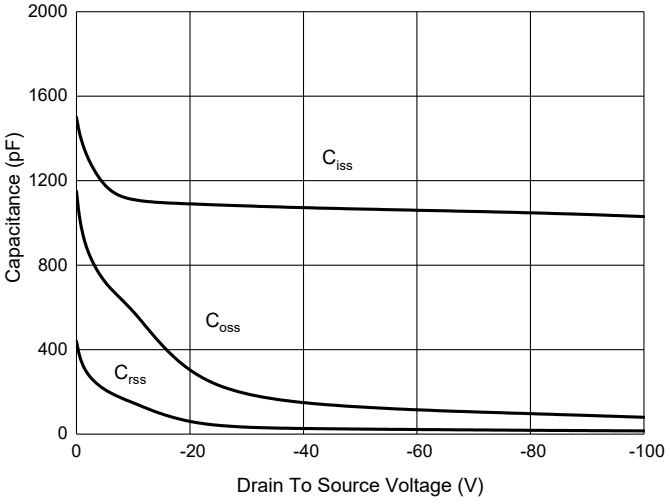
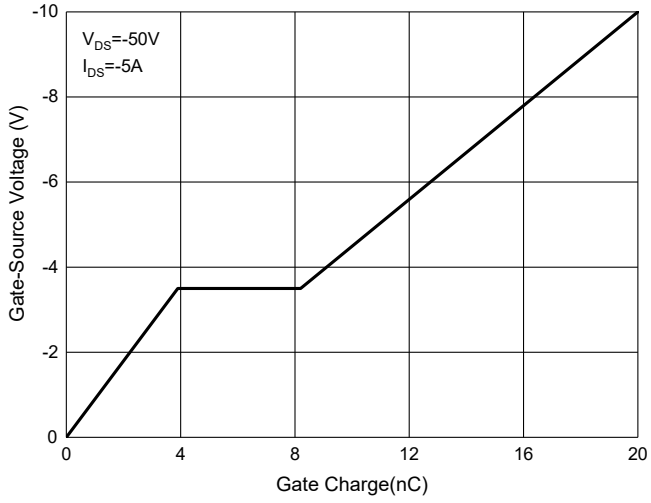


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - $R_{DS(ON)}$—I_D

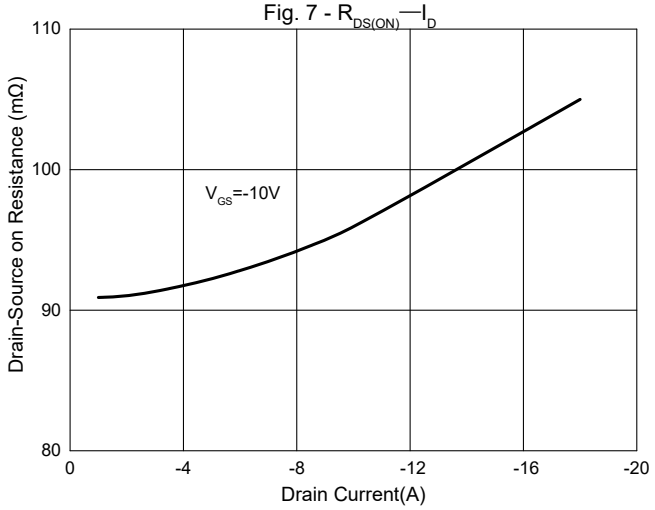
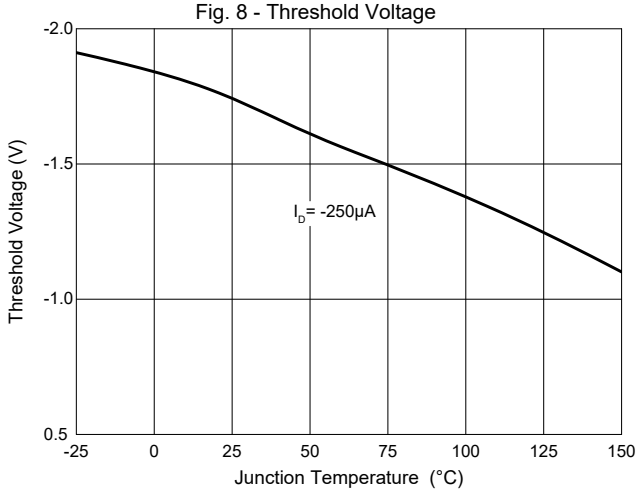


Fig. 8 - Threshold Voltage



Ordering Information

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