

Features

- Trench MV MOSFET Technology
- ESD Protected Up To 2KV (HBM)
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

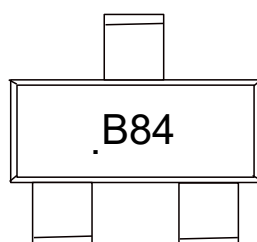
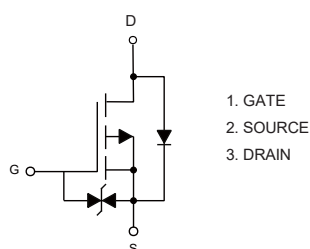
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 355°C/W Junction to Ambient (Note2)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	-60	V
Gate-Source Voltlage		V _{GS}	±20	V
Continuous Drain Current	T _A =25°C	I _D	-0.26	A
	T _A =100°C		-0.16	
Pulsed Drain Current ^(Note3)		I _{DM}	-1.04	A
Total Power Dissipation ^(Note4)		P _D	0.35	W

Note:

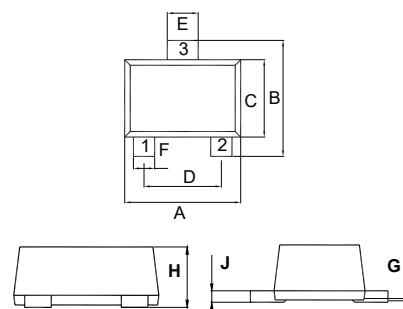
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A=25^{\circ}\text{C}$.
3. Repetitive rating; pulse width limited by max. junction temperature.
4. P_D is based on max. junction temperature, using junction-ambient thermal resistance.

Internal Structure and Marking Code



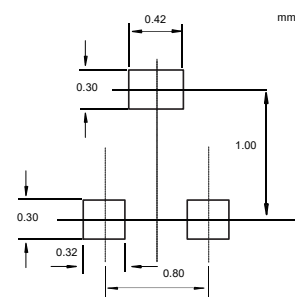
P-CHANNEL MOSFET

SOT-723



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

Suggested Solder Pad Layout



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	-60			V
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±10	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-48V, V _{GS} =0V			-1	
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.8	-1.4	-2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-0.5A		2.2	6	Ω
		V _{GS} =-4.5V, I _D =-0.2A		2.6	7	
Forward Tranconductance	g _{FS}	V _{DS} =-5V, I _S =-0.5A		0.5		S
Gate Resistance	R _g	f=1 MHz, Open drain		1100		Ω
Diode Characteristics						
Continuous Body Diode Current	I _S				-0.26	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-0.5A			-1.3	V
Reverse Recovery Time	t _{rr}	I _F =-0.2A, dI _F /dt=100A/μs		11		ns
Reverse Recovery Charge	Q _{rr}			4.5		nC
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-25V, V _{GS} =0V, f=1MHz		36		pF
Output Capacitance	C _{oss}			3.9		
Reverse Transfer Capacitance	C _{rss}			2.6		
Total Gate Charge	Q _g	V _{DS} =-15V, V _{GS} =-10V, I _D =-0.2A		2		nC
Gate-Source Charge	Q _{gs}			0.3		
Gate-Drain Charge	Q _{gd}			0.3		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, V _{GS} =-10V, R _{GEN} =6Ω, I _D =-0.2A		8		ns
Turn-On Rise Time	t _r			3.2		
Turn-Off Delay Time	t _{d(off)}			36		
Turn-Off Fall Time	t _f			16		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

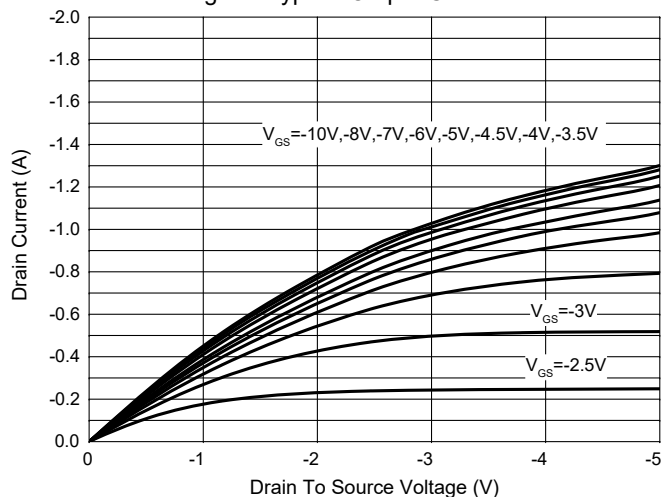


Fig. 2 - Transfer Characteristics

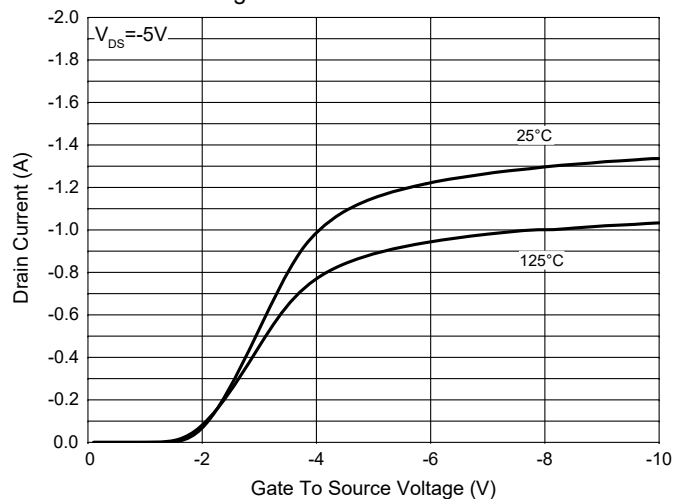


Fig. 3- $R_{DS(ON)} - V_{GS}$

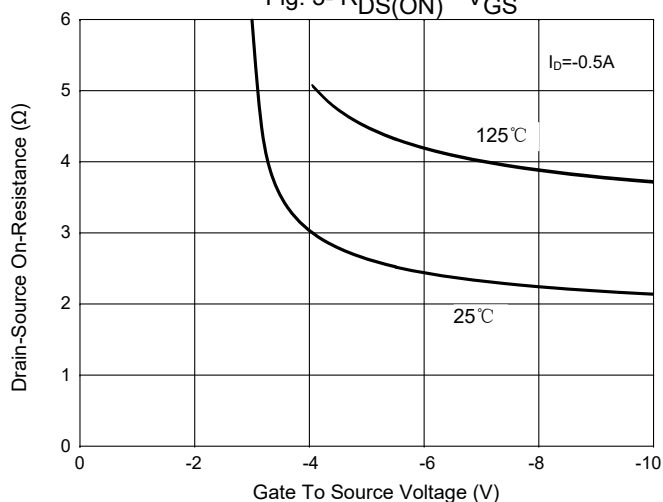


Fig. 4 - $R_{DS(ON)} - I_D$

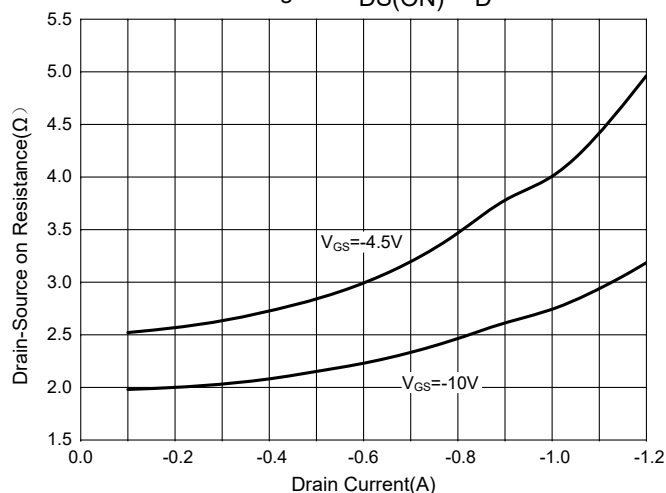


Fig. 5 - Capacitance Characteristics

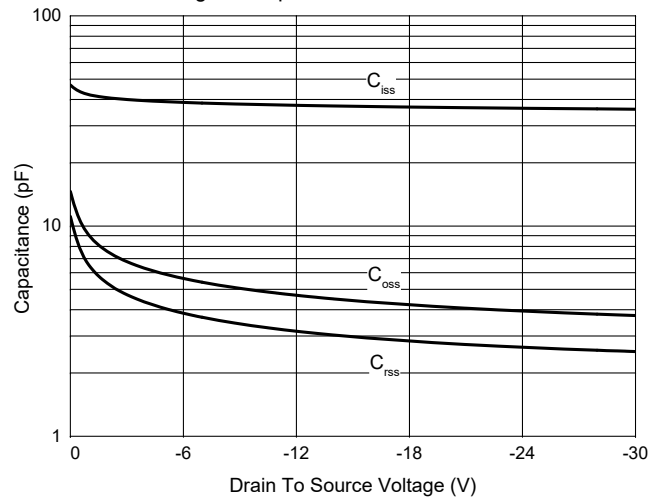
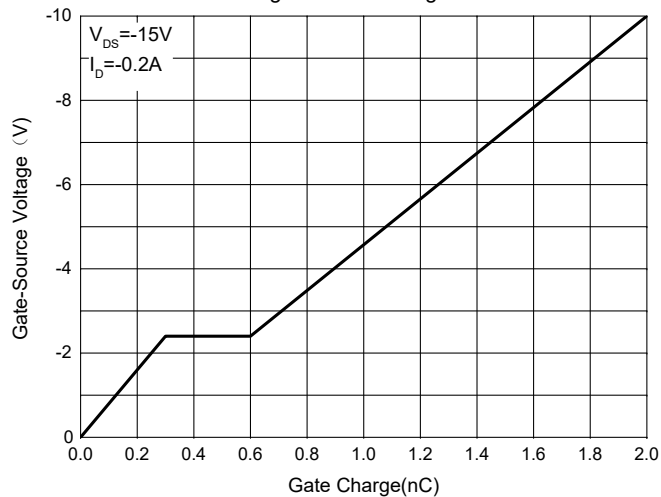


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Normalized Threshold Voltage

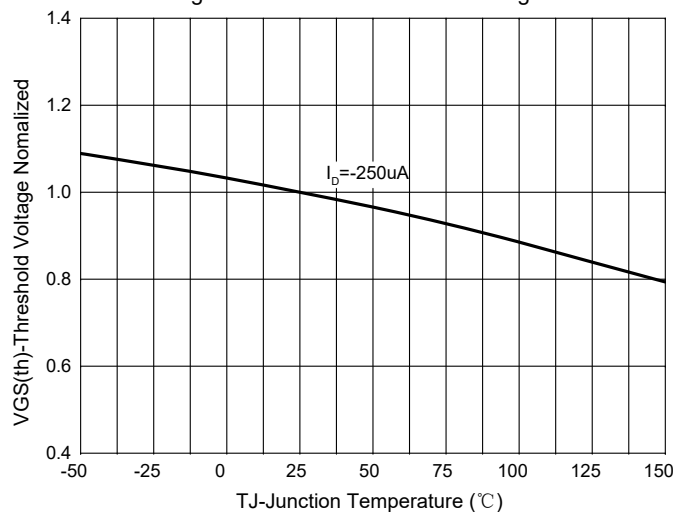


Fig.8-Normalized On Resistance Characteristics

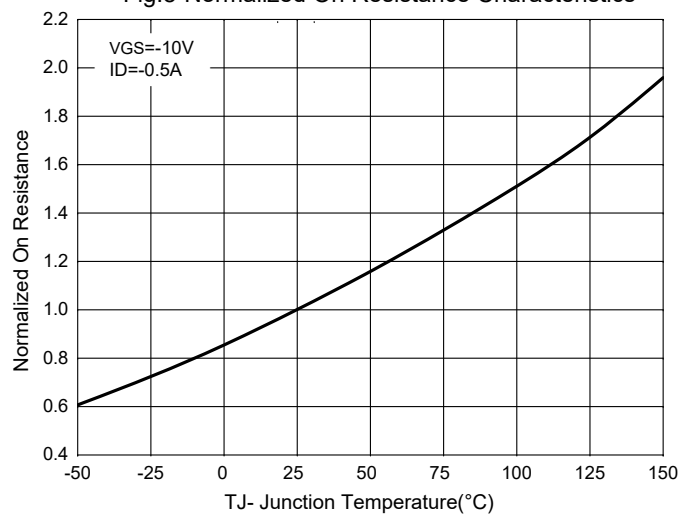


Fig. 9 - $I_S - V_{SD}$

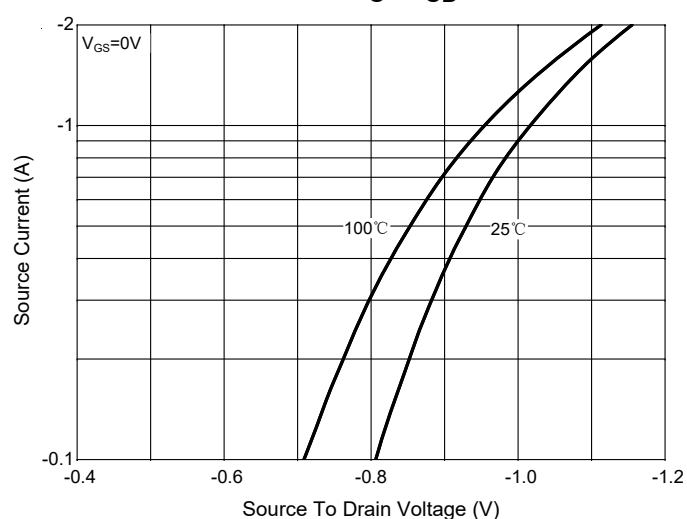


Fig. 10 - Drain Current

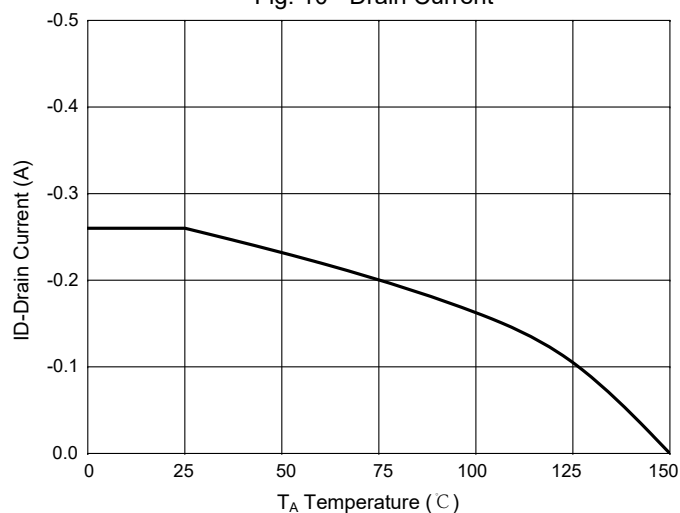
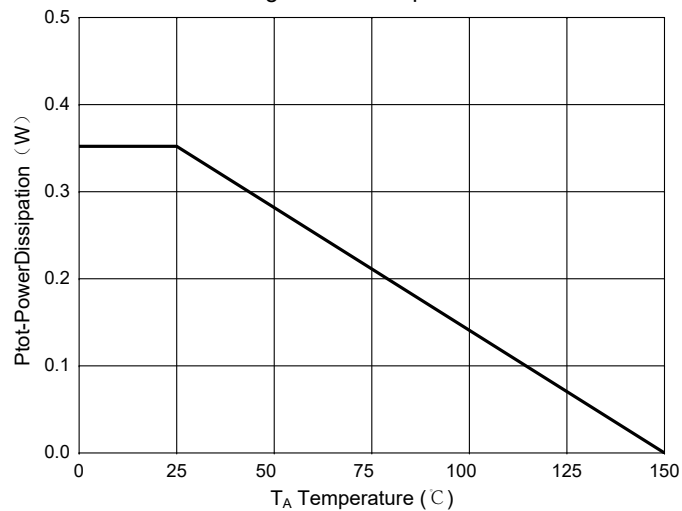


Fig.11-PD Dissipation



Curve Characteristics

Fig. 12 - Safe Operation Area

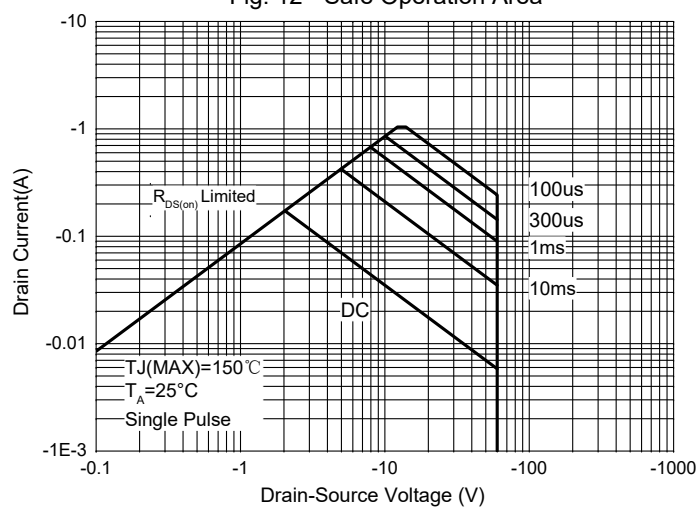
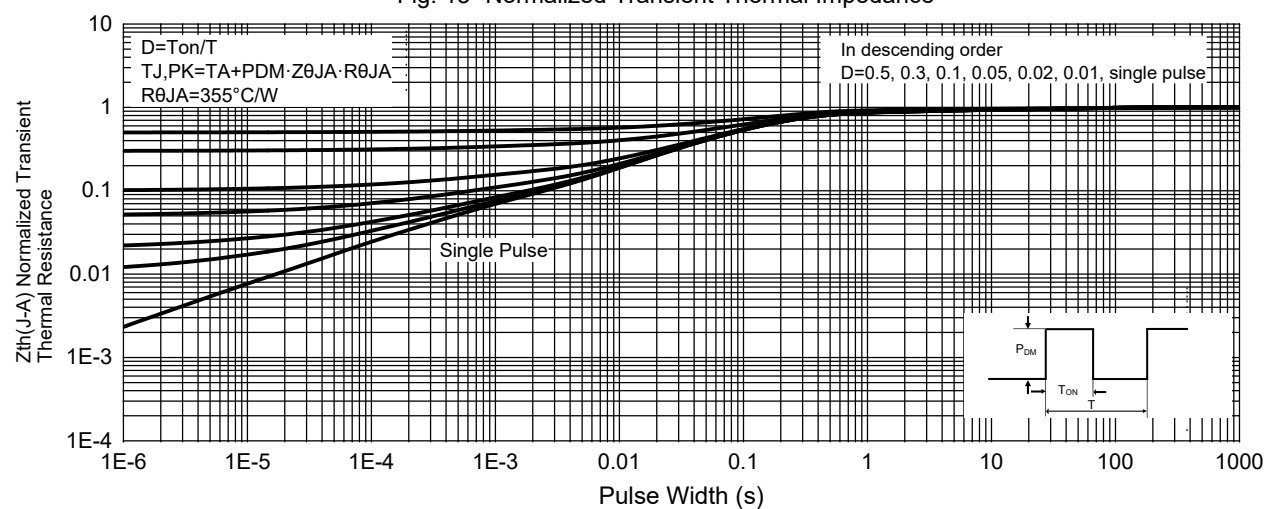


Fig. 13 - Normalized Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

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