Features

- Trench MV MOSFET Technology
- Excellent Package For Good Heat Dissipation
- Moisture Sensitivity Level 1
- Halogen Free. “Green” Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-CHANNEL MOSFET

Maximum Ratings

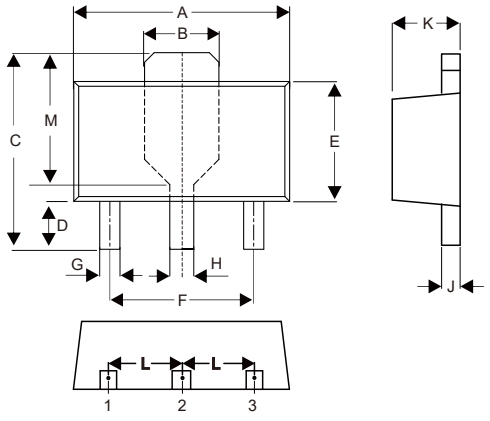
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 66°C/W Junction to Ambient(Note 2)

Parameter		Symbol	Rating	Unit
Drain -source Voltage		V_{DS}	100	V
Gate -Source Voltage		V_{GS}	±20	V
Drain Current-Continuous	T_A=25°C	I_D	3	A
	T_A=100°C		1.9	
Pulsed Drain Current(Note 3)		I_{DM}	12	A
Power Dissipation(Note 4)		P_D	1.9	W

Note:

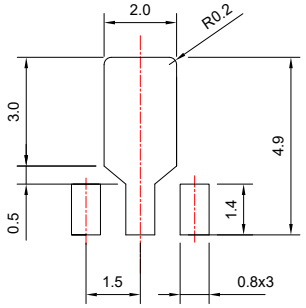
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°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.

SOT-89



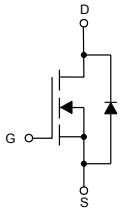
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.
M	0.108		2.75		TYP.

Suggested Solder Pad Layout

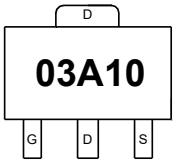


Unit:mm

Internal Structure and Marking Code



1. Gate
2. Drain
3. Source



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-Body Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V			±100	nA
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	1.5	2	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=5A		113	140	mΩ
Forward Transconductance	g_{FS}	V_{DS}=10V, I_D=5A		14.8		S
Gate Resistance	R_g	f=1 MHz, Open drain		1.5		Ω
Diode Characteristics						
Continuous Body Diode Current	I_S				3	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=3A			1.2	V
Reverse Recovery Time	t_{rr}	I_F=3A, dI_F/dt=100A/μs		22		ns
Reverse Recovery Charge	Q_{rr}			24		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=50V,V_{GS}=0V,f=1MHz		573		pF
Output Capacitance	C_{oss}			24		
Reverse Transfer Capacitance	C_{rss}			12		
Total Gate Charge	Q_g	V_{DS}=30V,V_{GS}=10V,I_D=3A		10.5		nC
Gate-Source Charge	Q_{gs}			2.6		
Gate-Drain Charge	Q_{gd}			1.5		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=30V,V_{GS}=10V, R_G=2.4Ω, I_D=2A		6.7		ns
Turn-On Rise Time	t_r			2.3		
Turn-Off Delay Time	$t_{d(off)}$			15		
Turn-Off Fall Time	t_f			1.9		

Curve Characteristics

Fig.1 - Typical Output Characteristics

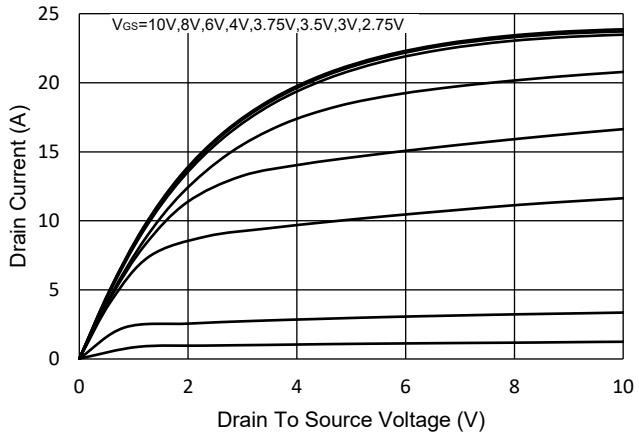


Fig.2 - Transfer Characteristics

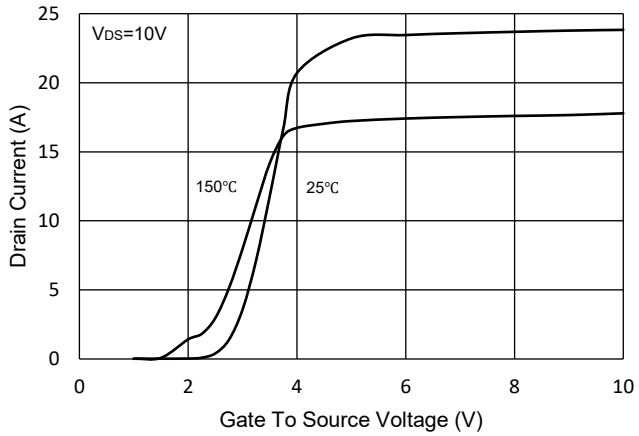


Fig.3 - $R_{DS(ON)}$ - V_{GS}

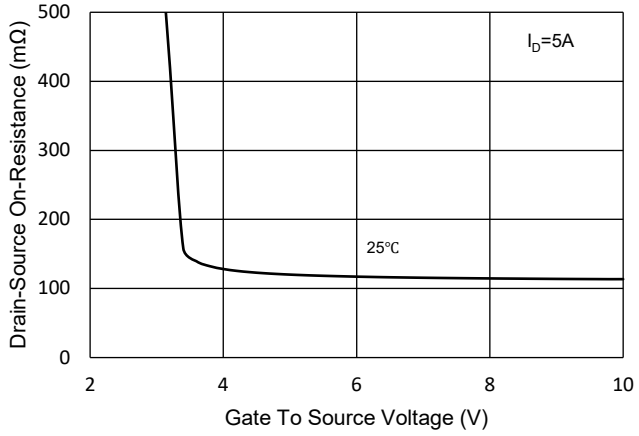


Fig.4 - $R_{DS(ON)}$ - I_D

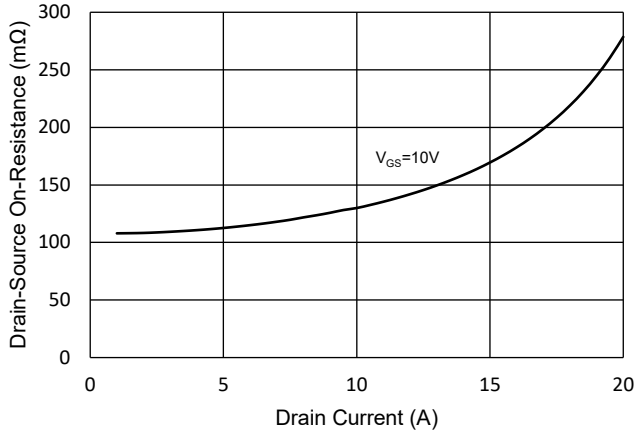


Fig.5 - Capacitance Characteristics

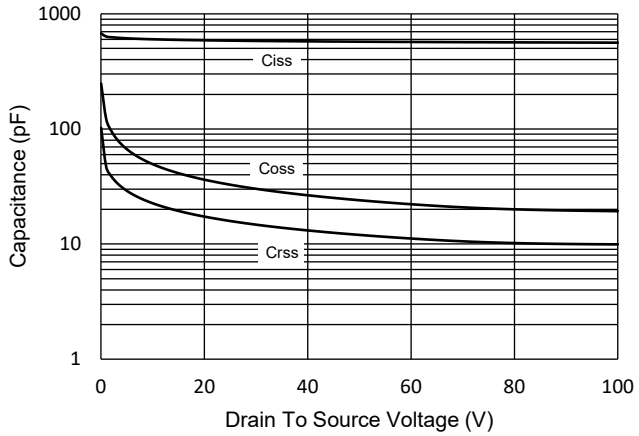
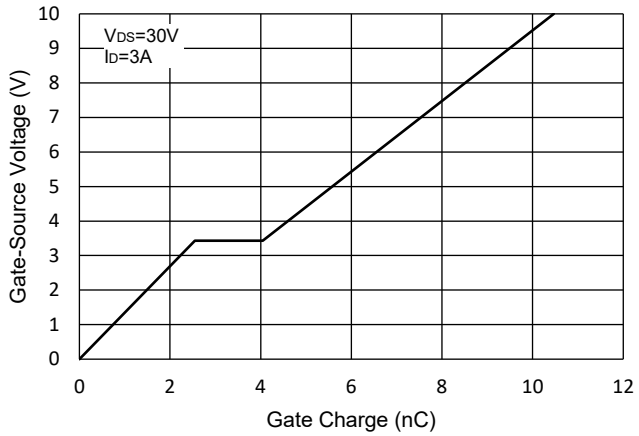


Fig.6 - Gate Charge



Curve Characteristics

Fig.7 - Normalized Threshold Voltage

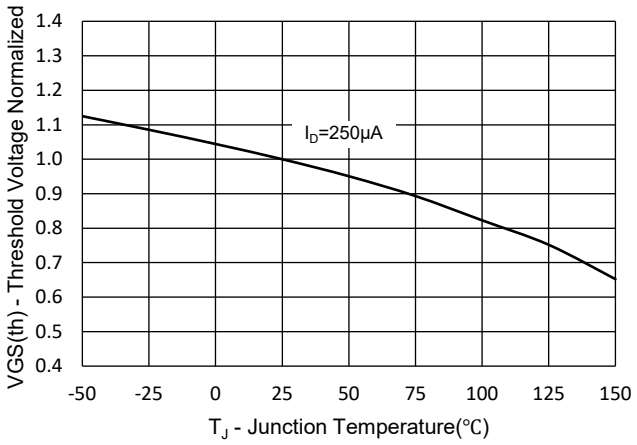


Fig.8 - Normalized On Resistance Characteristics

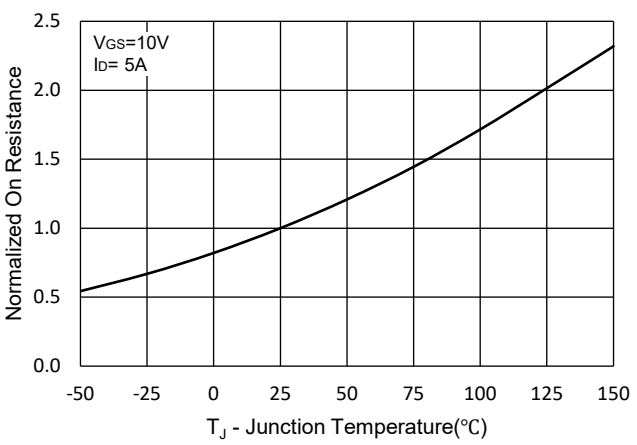


Fig.9 - I_S - V_{SD}

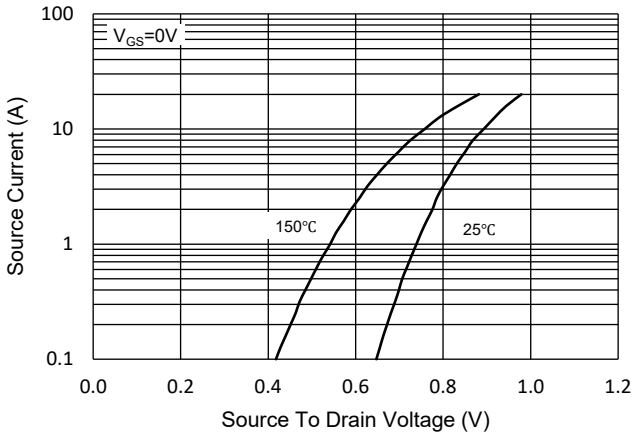


Fig.10 - Drain Current

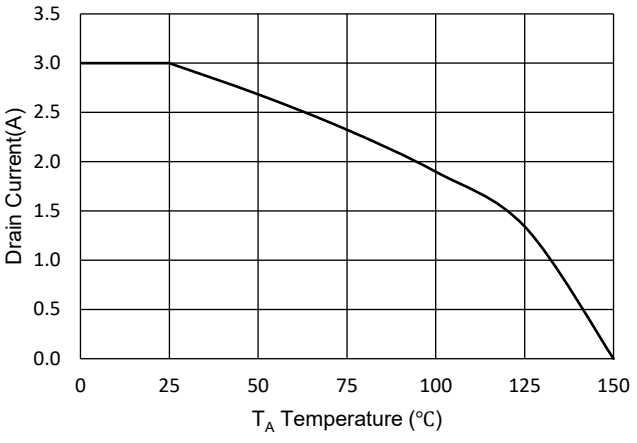
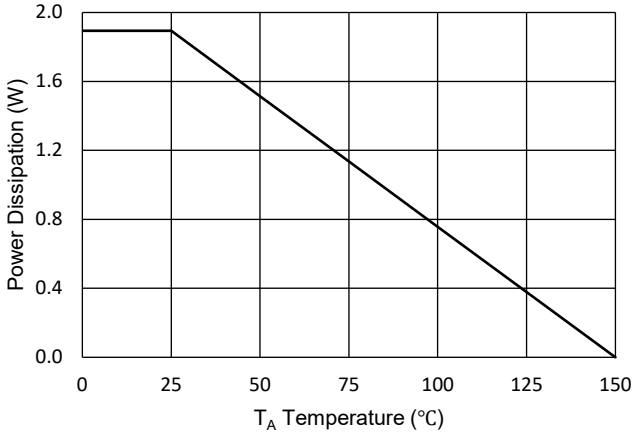


Fig.11 - PD Dissipation



Curve Characteristics

Fig.12 - Safe Operation Area

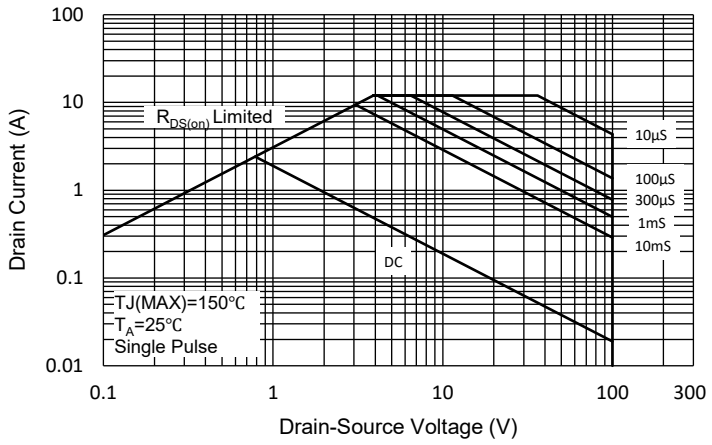
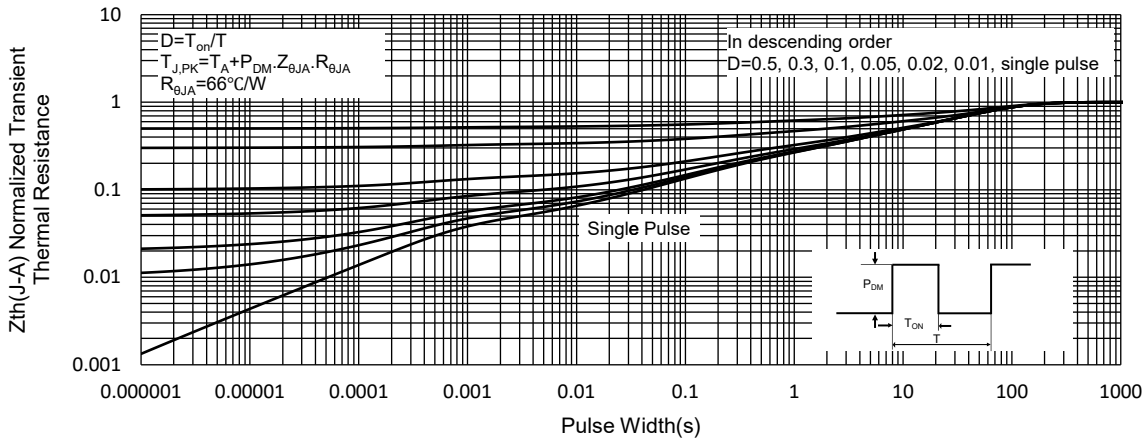


Fig.13 - Normalized Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 1Kpcs/Reel

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