Features

- Trench LV MOSFET Technology
- 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)

P-CHANNEL MOSFET

Maximum Ratings

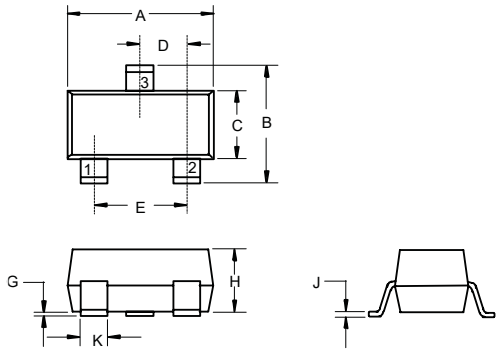
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 100°C/W Junction to Ambient(Note 2)

Parameter		Symbol	Rating	Unit
Drain -source Voltage		V_{DS}	-30	V
Gate -Source Voltage		V_{GS}	±12	V
Continuous Drain Current	T_A=25°C	I_D	-4.4	A
	T_A=100°C		-2.8	
Pulsed Drain Current(Note 3)		I_{DM}	-17.6	A
Power Dissipation(Note 4)		P_D	1.25	W

Note:

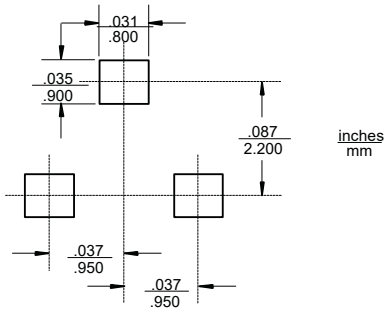
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =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-23-3L

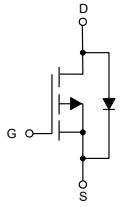


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.113	0.117	2.87	2.97	
B	0.108	0.112	2.75	2.85	
C	0.061	0.065	1.55	1.65	
D	0.036	0.038	0.914	0.965	
E	0.073	0.077	1.85	1.95	
G	0.0016	0.0039	0.04	0.100	
H	0.041	0.045	1.05	1.15	
J	0.006	0.007	0.14	0.17	
K	0.012	0.020	0.30	0.50	

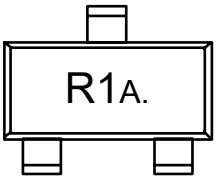
Suggested Solder Pad Layout



Internal Structure and Marking Code



1. GATE
2. SOURCE
3. DRAIN



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	-30			V
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V, V_{GS}=0V			-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	-0.7	-0.9	-1.3	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-4.2A		41	60	mΩ
		V_{GS}=-4.5V, I_D=-4A		47	70	
		V_{GS}=-2.5V, I_D=-1A		66	85	
Forward Transconductance	g_{fs}	V_{DS}=-5V, I_D=-5A		14		S
Gate Resistance	R_g	f=1 MHz, Open drain		7.4		Ω
Diode Characteristics						
Continuous Body Diode Current	I_S				-4.4	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_s=-1A			-1	V
Reverse Recovery Time	t_{rr}	I_F=-2.2A,di/dt=100A/us		12		nS
Reverse Recovery Charge	Q_{rr}			3.4		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-15V,V_{GS}=0V, f=1MHz		806		pF
Output Capacitance	C_{oss}			66		
Reverse Transfer Capacitance	C_{rss}			58		
Total Gate Charge	Q_g	V_{DS}=-15V,V_{GS}=-10V,I_D=-4.2A		18.4		nC
Gate-Source Charge	Q_{gs}			1.6		
Gate-Drain Charge	Q_{gd}			2.2		
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=-15V,V_{GS}=-10V I_D=-4.2A,R_G =6Ω		5.8		ns
Turn-on Rise Time	t_r			3.7		
Turn-off Delay Time	$t_{d(off)}$			49		
Turn-off Fall Time	t_f			20.6		

Curve Characteristics

Fig.1 - Typical Output Characteristics

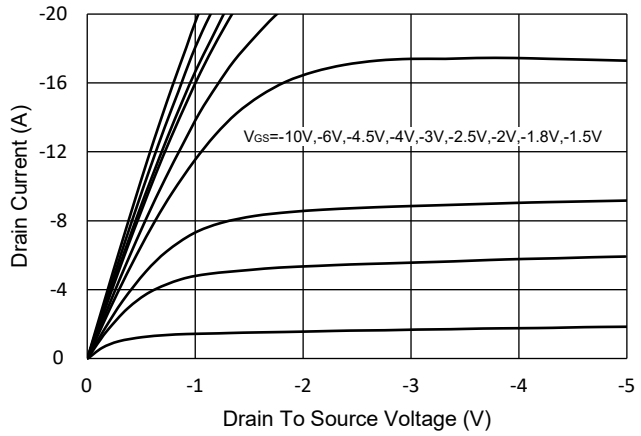


Fig.2 - Transfer Characteristic

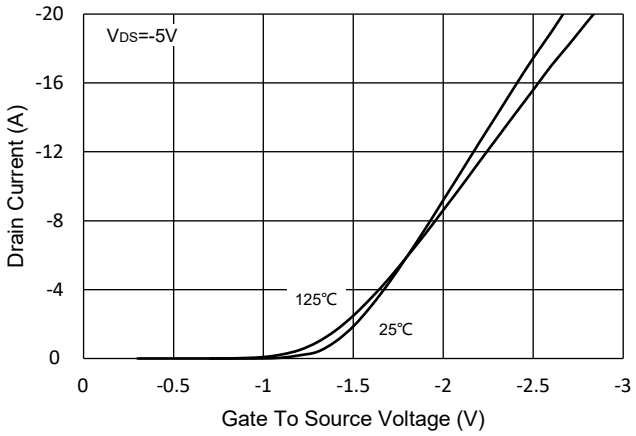


Fig.3 - $R_{DS(ON)}$ - V_{GS}

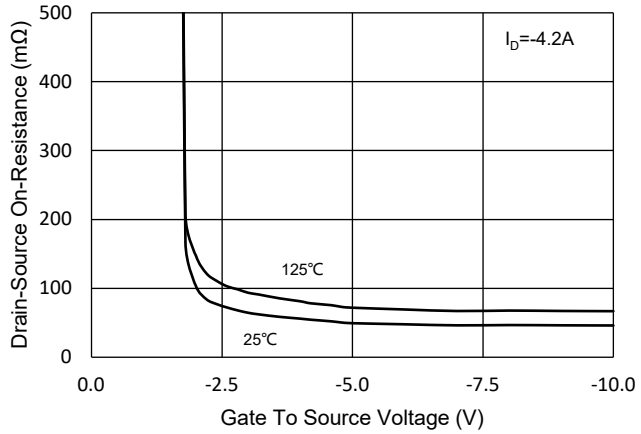


Fig.4 - $R_{DS(ON)}$ - I_D

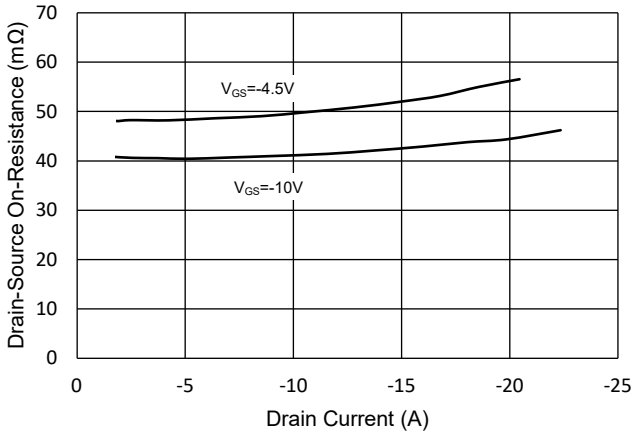


Fig.5 - Capacitance Characteristics

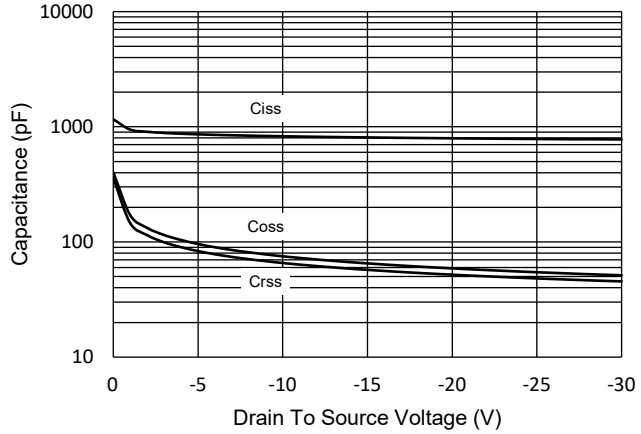
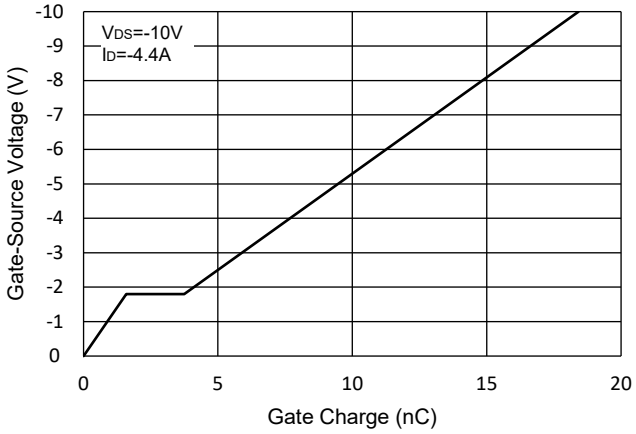


Fig.6 - Gate Charge



Curve Characteristics

Fig.7 - Normalized Threshold Voltage

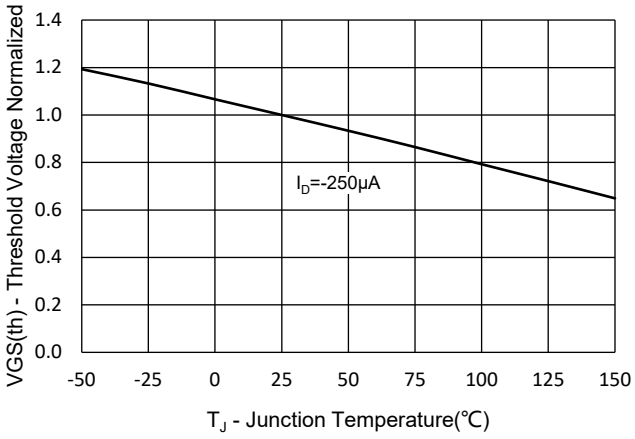


Fig.8 - Normalized On Resistance Characteristics

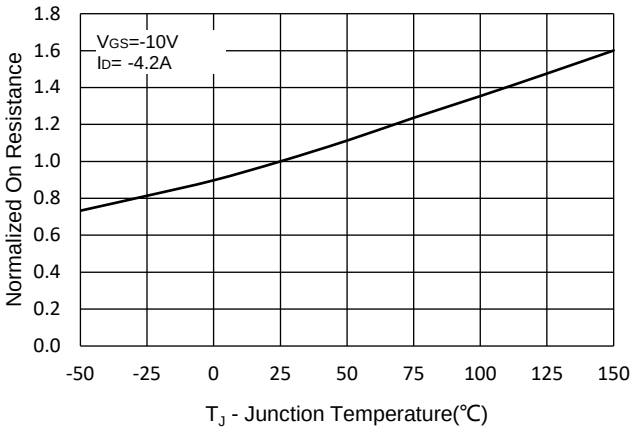


Fig.9 - I_S - V_{SD}

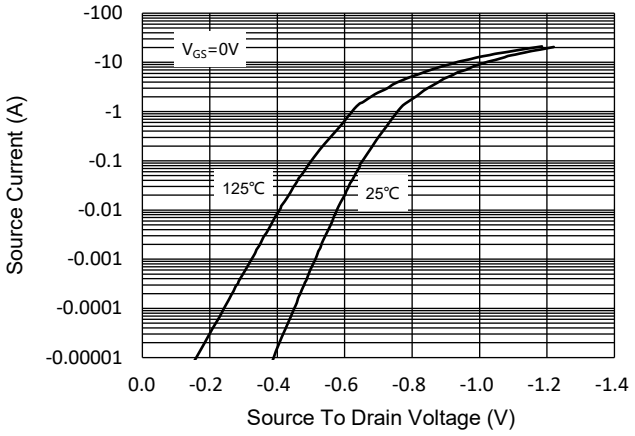


Fig.10 - Drain Current

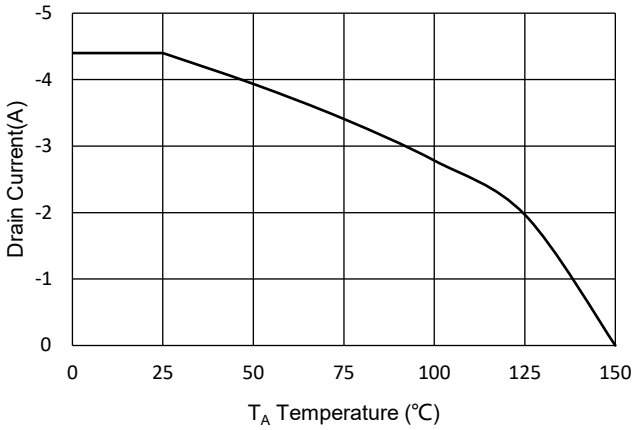
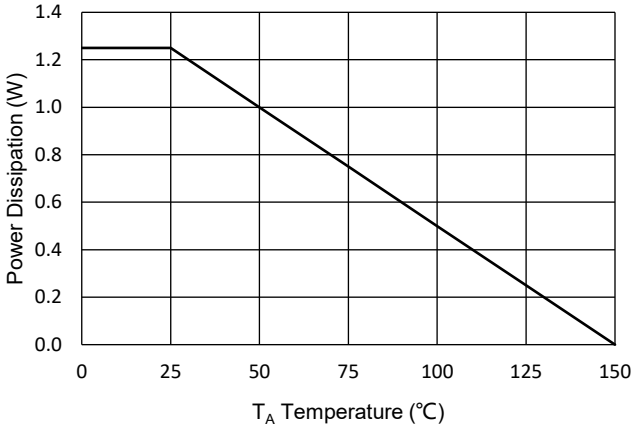


Fig.11 - PD Dissipation



Curve Characteristics

Fig.12 - Safe Operation Area

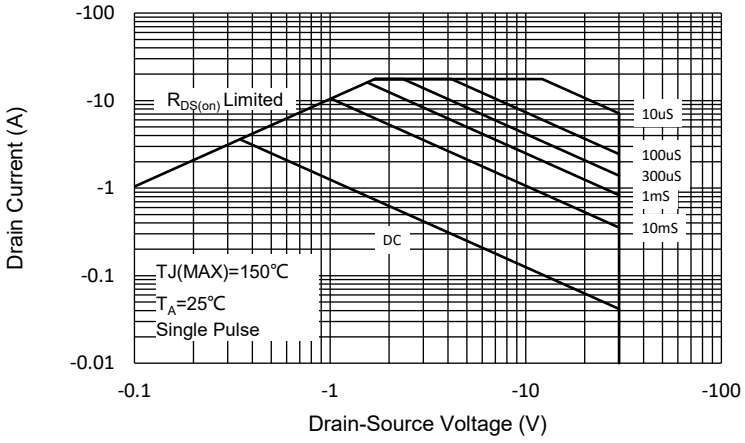
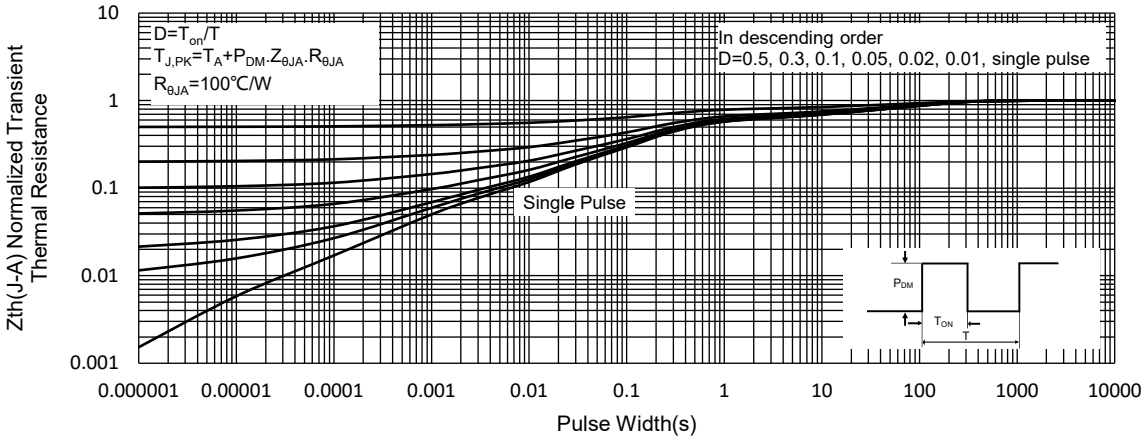


Fig.13 - Normalized Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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