Features

- Trench MOSFET Technology
- ESD Protected Up To 2KV (HBM)
- Voltage Controlled Small Signal Switch
- 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)

DUAL N-Channel MOSFET

Maximum Ratings

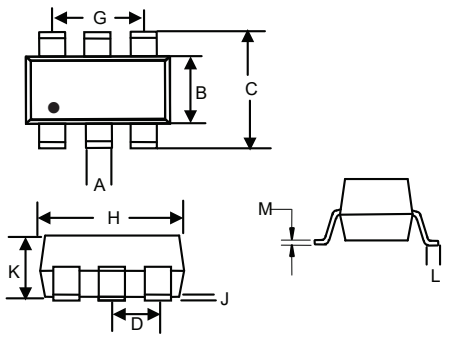
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 410°C/W Junction to Ambient(Note2)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Volltage		V_{GS}	±12	V
Continuous Drain Current	T_A=25°C	I_D	0.5	A
	T_A=100°C		0.3	
Pulsed Drain Current (Note3)		I_{DM}	2	A
Total Power Dissipation (Note4)		P_D	0.3	W

Note:

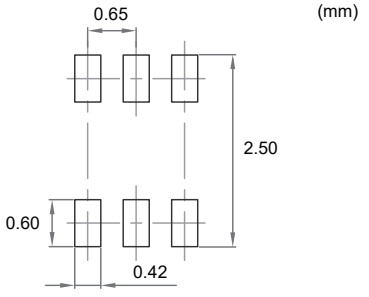
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on the minimum recommend pad size, in a still air environment with T_A =25°C.
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-363S

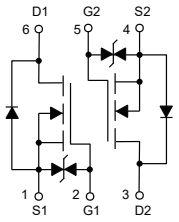


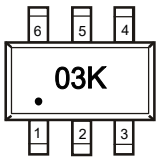
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.014	0.15	0.35	
B	0.045	0.053	1.15	1.35	
C	0.079	0.087	2.00	2.20	
D	0.026		0.65		TYP.
G	0.047	0.055	1.20	1.40	
H	0.071	0.087	1.80	2.20	
J	-----	0.004	-----	0.10	
K	0.031	0.043	0.80	1.10	
L	0.008	0.016	0.20	0.40	
M	0.003	0.006	0.08	0.15	

Suggested Solder Pad Layout



Internal Structure and Marking Code





Dot denotes Pin1

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-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±12V			±10	μA
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	0.6	1.0	1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=500mA		330	500	mΩ
		V_{GS}=2.5V, I_D=300mA		440	700	
		V_{GS}=1.8V, I_D=100mA		700	1100	
Forward Transconductance	g_{fs}	V_{DS} =5V, I_D =0.5A		1.6		S
Gate Resistance	R_g	f=1 MHz, Open drain		205		Ω
Diode Characteristics						
Continuous Body Diode Current	I_S				0.5	A
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=250mA			1.2	V
Reverse Recovery Time	t_{rr}	I_F=0.5A, dI_F/dt=100A/μs		11		ns
Reverse Recovery Charge	Q_{rr}			1.5		nC
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		34		pF
Output Capacitance	C_{oss}			4.8		
Reverse Transfer Capacitance	C_{rss}			3		
Total Gate Charge	Q_g	V_{DS}=5V,V_{GS}=4.5V,I_D=0.5A		0.55		nC
Gate-Source Charge	Q_{gs}			0.12		
Gate-Drain Charge	Q_{gd}			0.11		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=5V, V_{GS}=4.5V, R_{GEN}=50Ω, I_{DS}=0.5A		4.1		ns
Turn-On Rise Time	t_r			3.2		
Turn-Off Delay Time	$t_{d(off)}$			28		
Turn-Off Fall Time	t_f			9		

Curve Characteristics

Fig.1 - Typical Output Characteristics

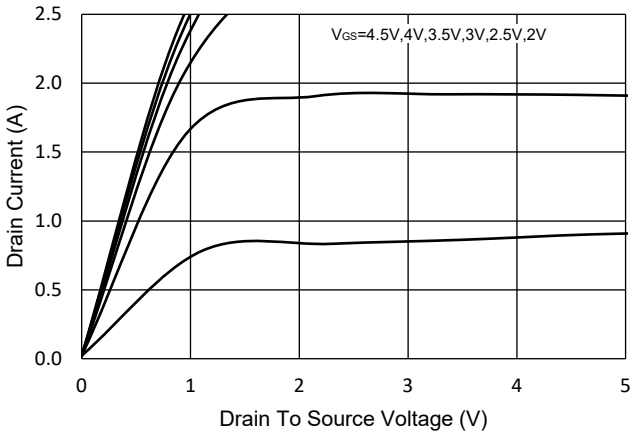


Fig.2 - Transfer Characteristic

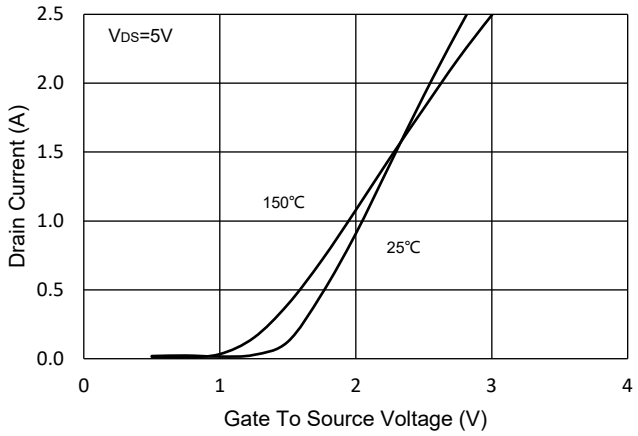


Fig.3 - $R_{DS(ON)}$ - V_{GS}

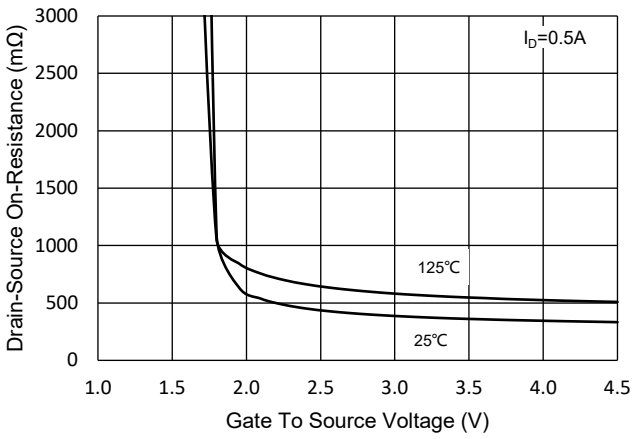


Fig.4 - $R_{DS(ON)}$ - I_D

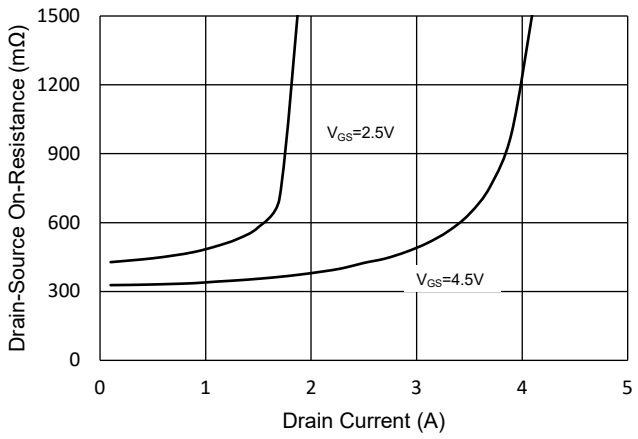


Fig.5 - Capacitance Characteristics

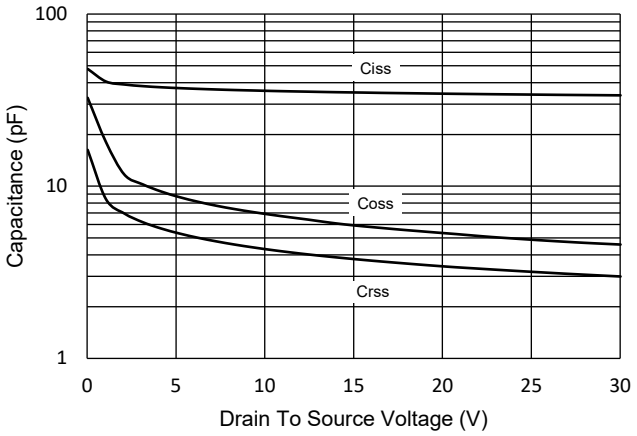
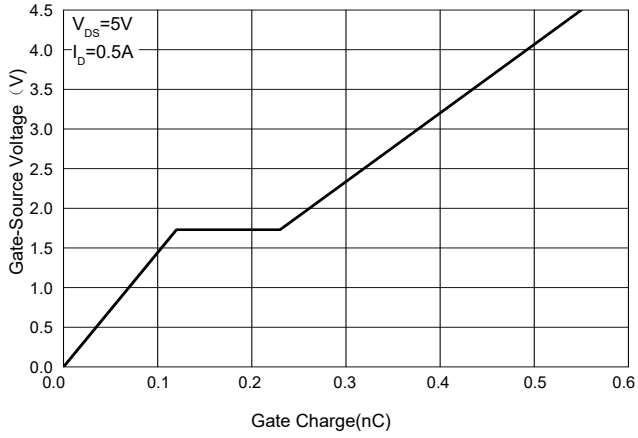


Fig. 6 - Gate Charge



Curve Characteristics

Fig.7 - Normalized Threshold Voltage

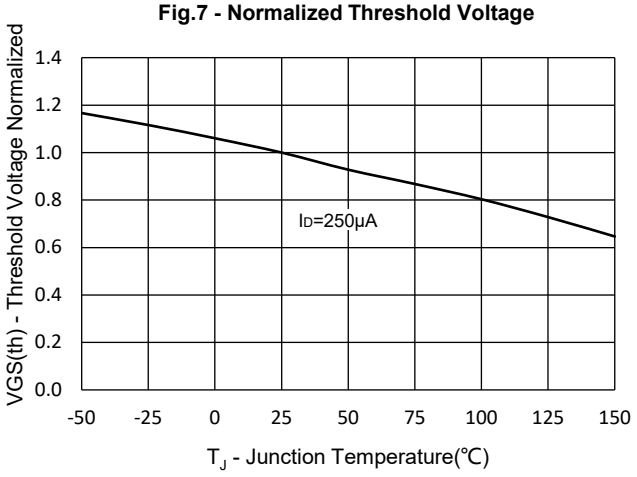


Fig.8 - Normalized On Resistance Characteristics

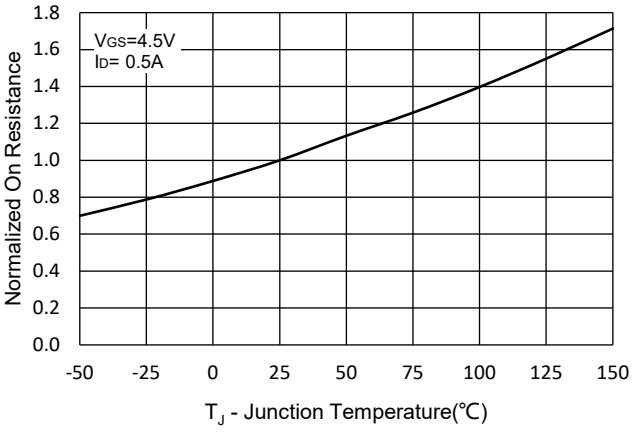


Fig.9 - I_S - V_{SD}

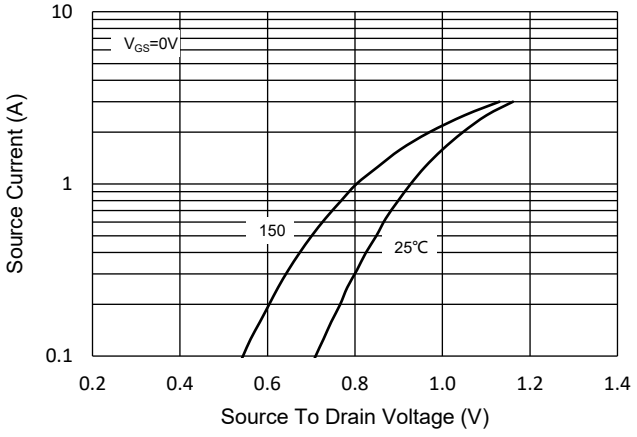


Fig. 10 - Drain Current

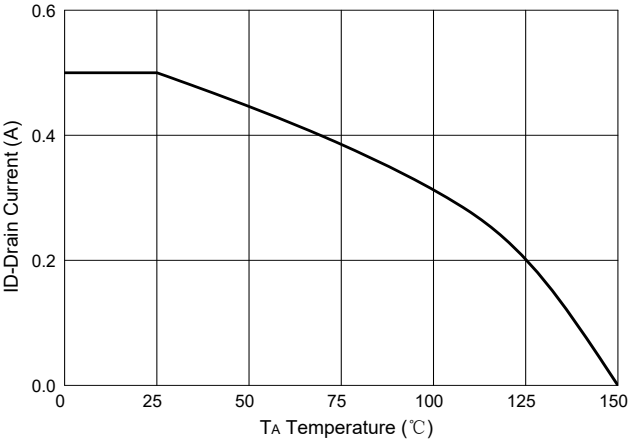
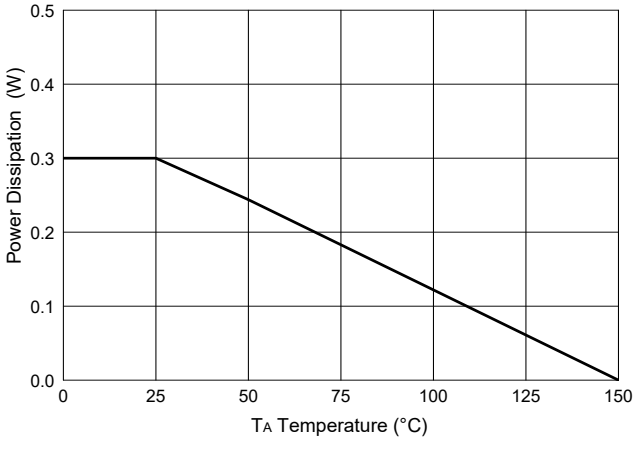


Fig.11-PD Dissipation



Curve Characteristics

Fig. 12 - Safe Operation Area

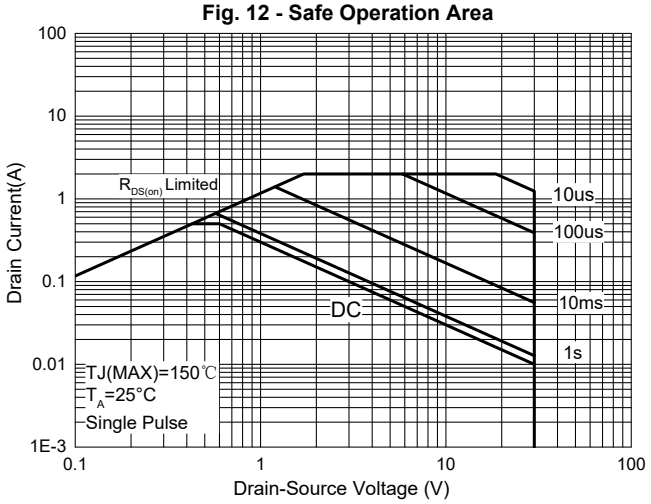
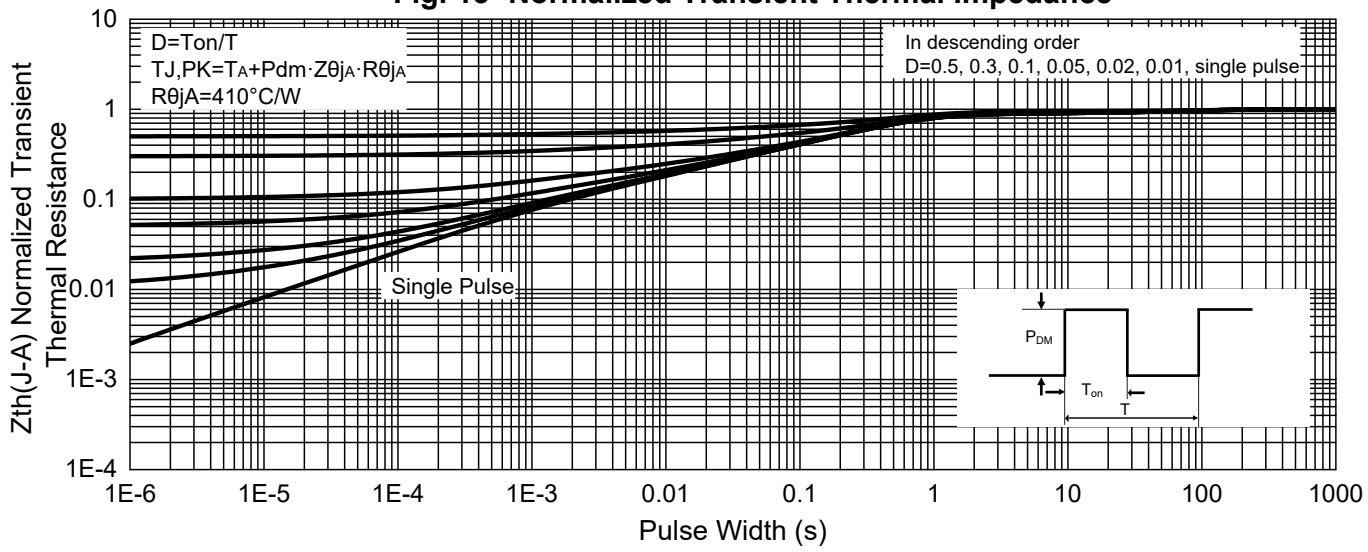


Fig. 13 -Normalized Transient Thermal Impedance



Ordering Information

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

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