

Features

- Trench MV MOSFET Technology
- Low Input Capacitance
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

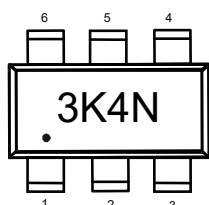
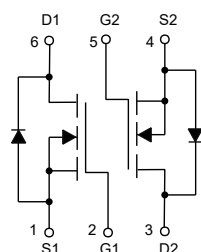
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 350°C/W Junction to Ambient (Note 2)

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	0.2	A
	T _A =70°C		0.125	
Drain Current-Pulsed ^(Note 3)		I _{DM}	0.8	A
Power Dissipation ^(Note 4)		P _D	0.35	W

Note:

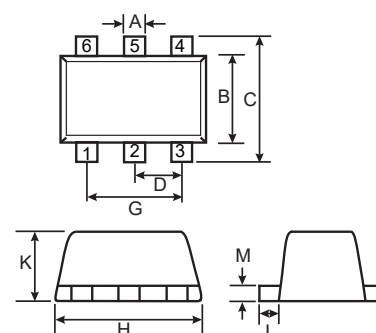
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.
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



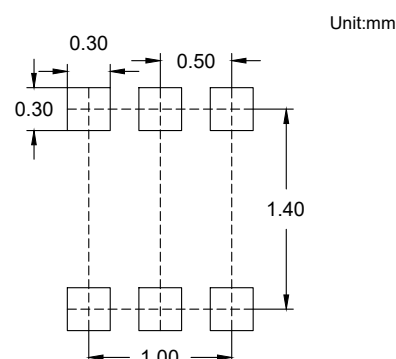
Dual N-Channel MOSFET

SOT-563



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.006	0.011	0.15	0.30	
B	0.043	0.051	1.10	1.30	
C	0.059	0.067	1.50	1.70	
D	0.020		0.50		TYP.
G	0.035	0.043	0.90	1.10	
H	0.059	0.067	1.50	1.70	
K	0.022	0.026	0.55	0.65	
L	0.004	0.011	0.10	0.30	
M	0.004	0.007	0.10	0.18	

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS (Ta=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-Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	1.8	2.5	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
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =0.2A		2.6	3.4	Ω
		V _{GS} =4.5V, I _D =0.2A		2.8	3.6	
Gate Resistance	R _g	f=1 MHz, Open drain		5.5		Ω
Diode Characteristics						
Continuous Body Diode Current	I _S				0.2	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =0.2A			1.2	V
Reverse Recovery Time	t _{rr}	I _F =0.2A, dI _F /dt=100A/μs		20		ns
Reverse Recovery Charge	Q _{rr}			6		nC
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1MHz		34		pF
Output Capacitance	C _{oss}			3.5		
Reverse Transfer Capacitance	C _{rss}			1		
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =50V, I _D =0.2A		1.8		nC
Gate-Source Charge	Q _{gs}			0.6		
Gate-Drain Charge	Q _{gd}			0.3		
Turn-On Delay Time	t _{d(on)}	V _{GS} =50V, V _{DS} =10V I _D =0.2A, R _G =3Ω		4		ns
Turn-On Rise Time	t _r			20		
Turn-Off Delay Time	t _{d(off)}			7		
Turn-Off Fall Time	t _f			31		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

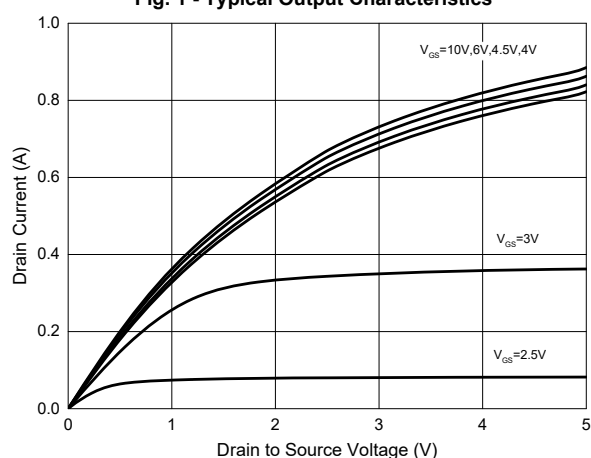


Fig. 2 - Transfer Characteristics

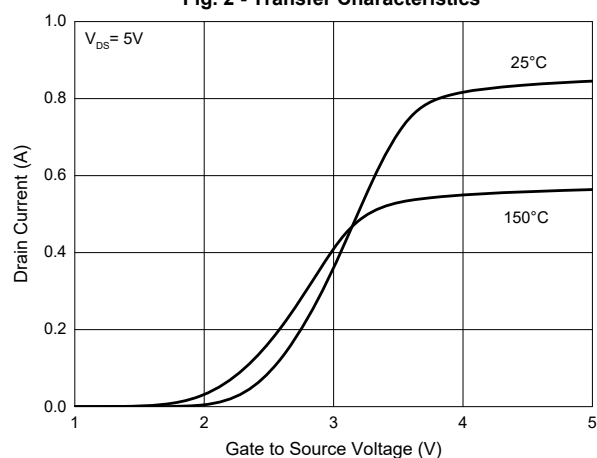


Fig. 3 - $R_{DS(ON)}$ - V_{GS}

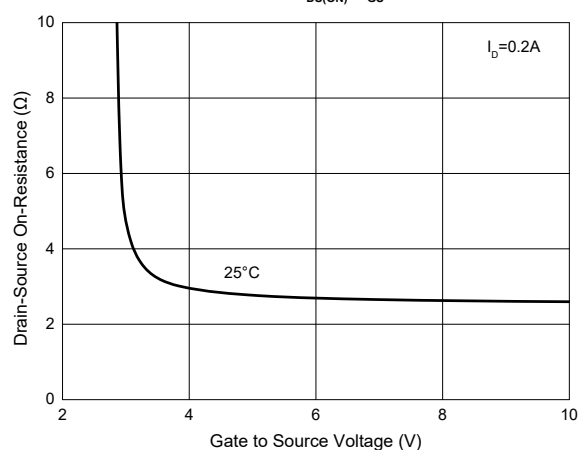


Fig. 4 - $R_{DS(ON)}$ - I_D

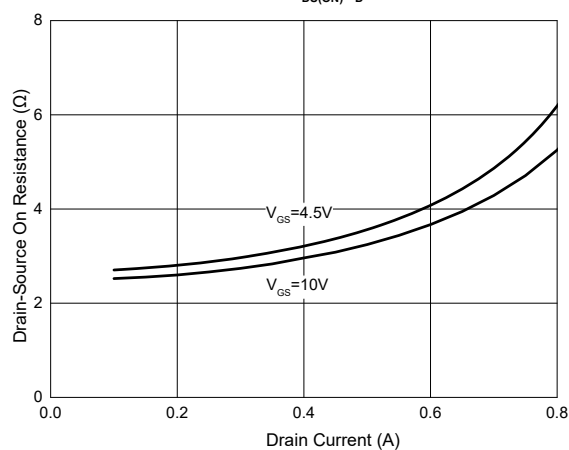


Fig. 5 - Capacitance Characteristics

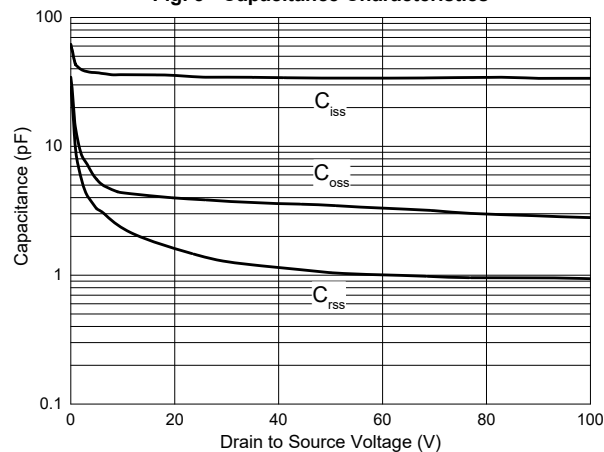
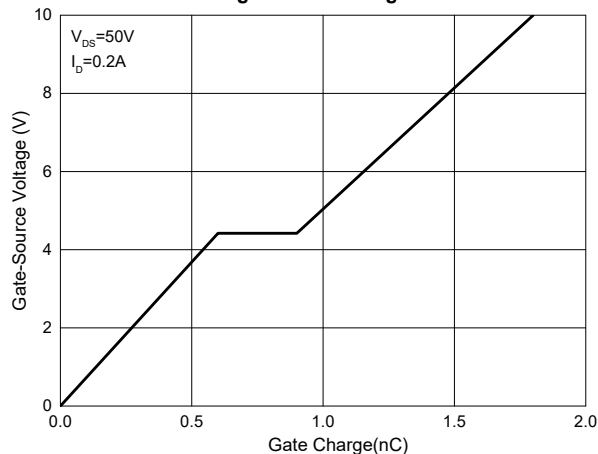


Fig. 6 - Gate Charge



Curve Characteristics

Fig. 7 - Normalized Threshold Voltage

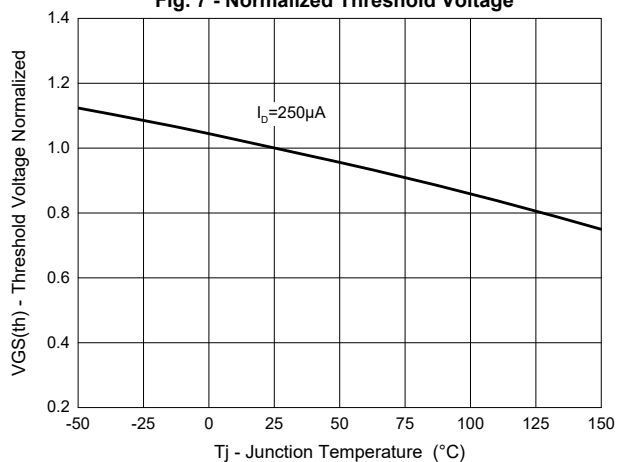


Fig. 8 - Normalized On Resistance Characteristics

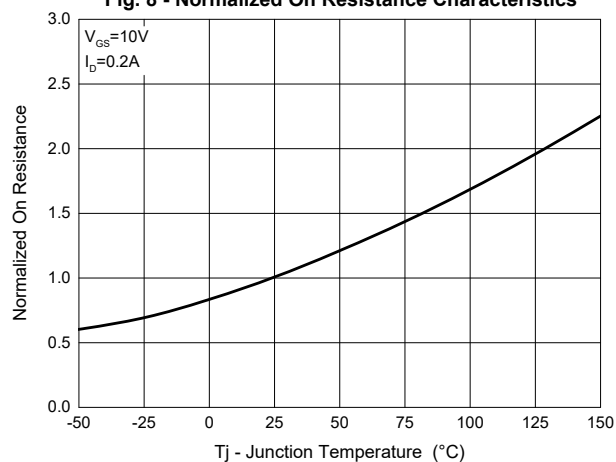


Fig. 9 - I_S - V_{SD}

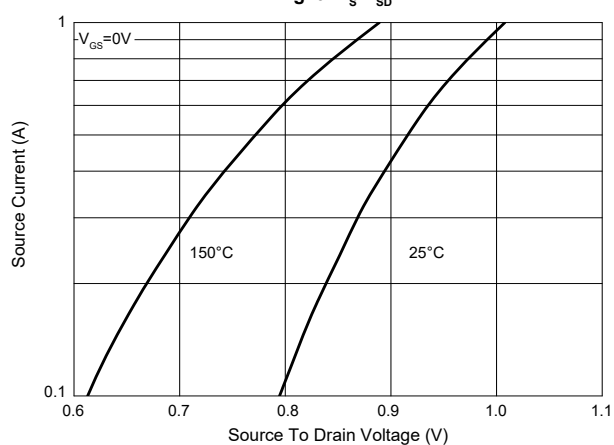


Fig. 10 - Drain Current

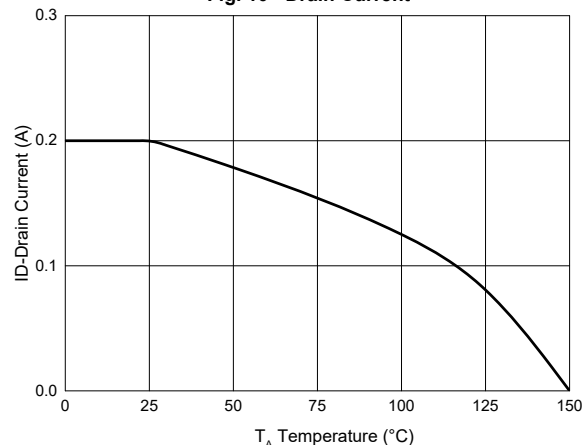
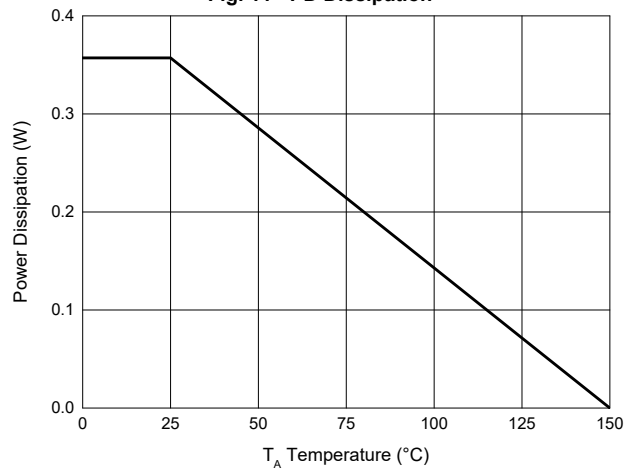


Fig. 11 - PD Dissipation



Curve Characteristics

Fig. 12 - Safe Operation Area

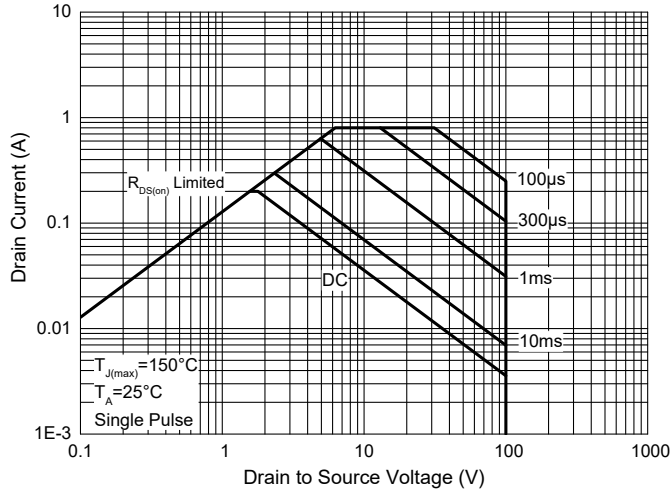
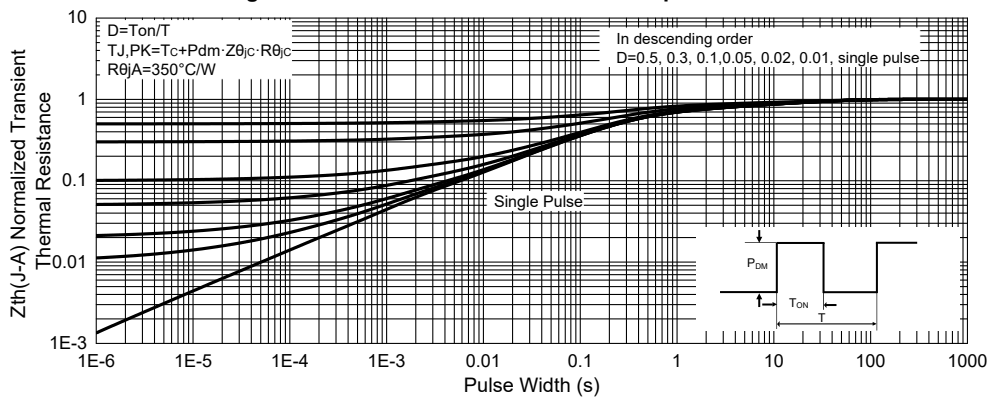


Fig. 13 - Normalized Transient Thermal Impedance



Ordering Information

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

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