

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V <sub>DSS</sub>	30	V
Gate-Source Voltage	V <sub>GSS</sub>	±8	V
Drain Current (Note 5)	I <sub>D</sub>	2.2	A
Pulsed Drain Current (Note 5)	I <sub>DM</sub>	9	A

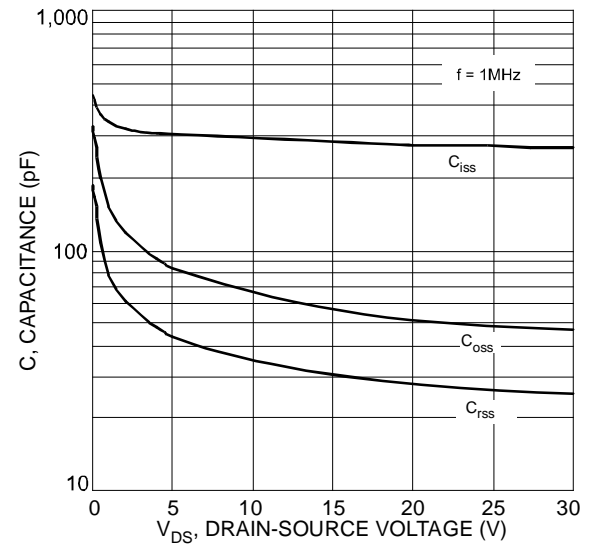
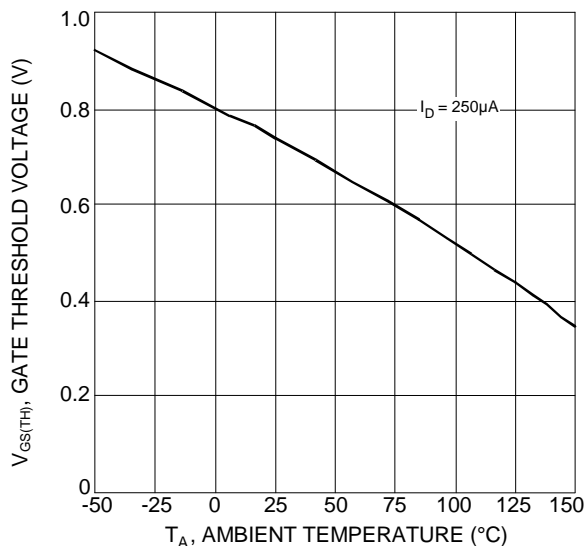
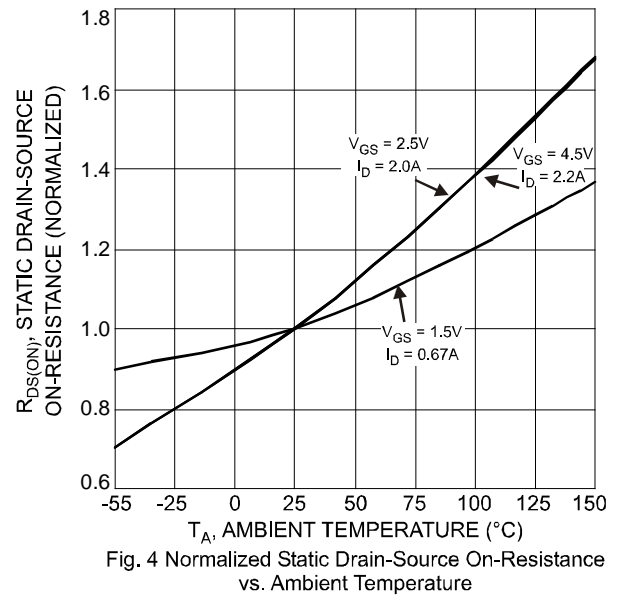
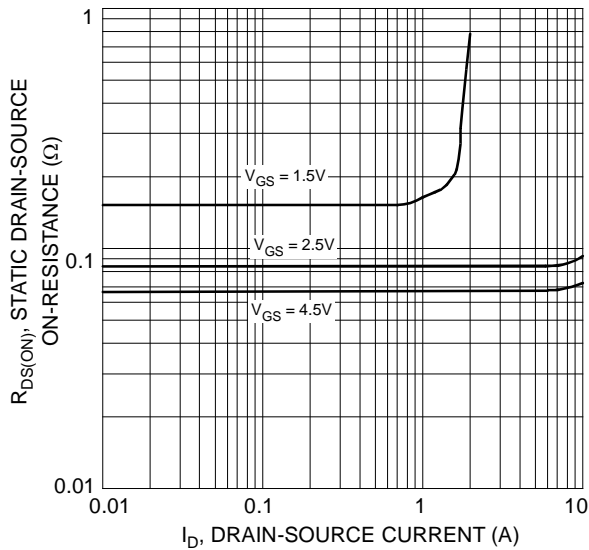
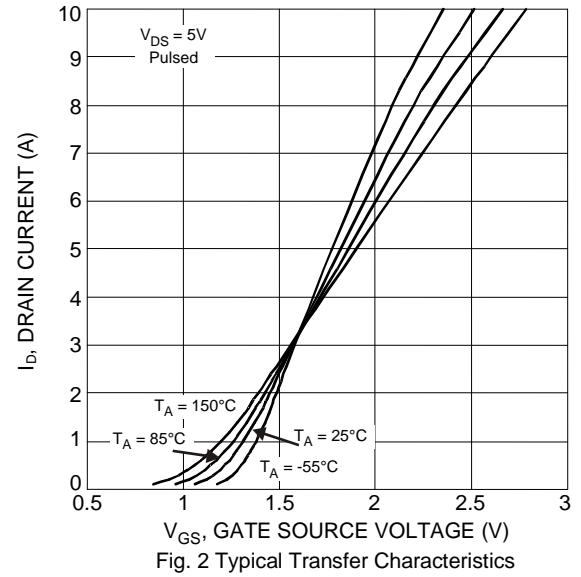
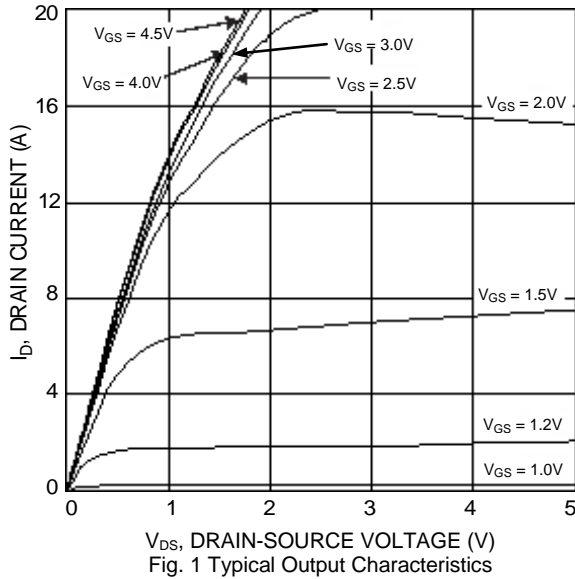
**Thermal Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 5)	P <sub>D</sub>	650	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	192	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 6)</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	30	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	—	—	1	μA	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V
Gate-Source Leakage	I <sub>GSS</sub>	—	—	±5	μA	V <sub>GS</sub> = ±8V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS (Note 6)</b>						
Gate Threshold Voltage	V <sub>GS(TH)</sub>	0.45	—	1.0	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	62	90	mΩ	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 2.2A
			70	110		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 2A
			150	200		V <sub>GS</sub> = 1.5V, I <sub>D</sub> = 0.67A
Forward Transfer Admittance	Y <sub>fs</sub>	—	5	—	S	V <sub>DS</sub> = 5V, I <sub>D</sub> = 2.2A
Diode Forward Voltage (Note 6)	V <sub>SD</sub>	—	—	0.9	V	V <sub>GS</sub> = 0V, I <sub>S</sub> = 1A
<b>DYNAMIC CHARACTERISTICS (Note 7)</b>						
Input Capacitance	C <sub>iss</sub>	—	290	—	pF	V <sub>DS</sub> = 10V, V <sub>GS</sub> = 0V f = 1.0MHz
Output Capacitance	C <sub>oss</sub>	—	66	—	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>	—	35	—	pF	
Turn-On Delay Time	t <sub>D(ON)</sub>	—	40.2	—	ns	V <sub>DD</sub> = 10V, I <sub>D</sub> = 2A, V <sub>GEN</sub> = 4.5V, R <sub>L</sub> = 5Ω, R <sub>GEN</sub> = 6Ω
Turn-On Rise Time	t <sub>R</sub>	—	43.1	—	ns	
Turn-Off Delay Time	t <sub>D(OFF)</sub>	—	471	—	ns	
Turn-Off Fall Time	t <sub>F</sub>	—	104	—	ns	

- Notes:
- Device mounted on FR-4 PCB, on minimum recommended pad layout on 2oz. Copper pads.
  - Short duration pulse test used to minimize self-heating effect.
  - Guaranteed by design. Not subject to product testing.



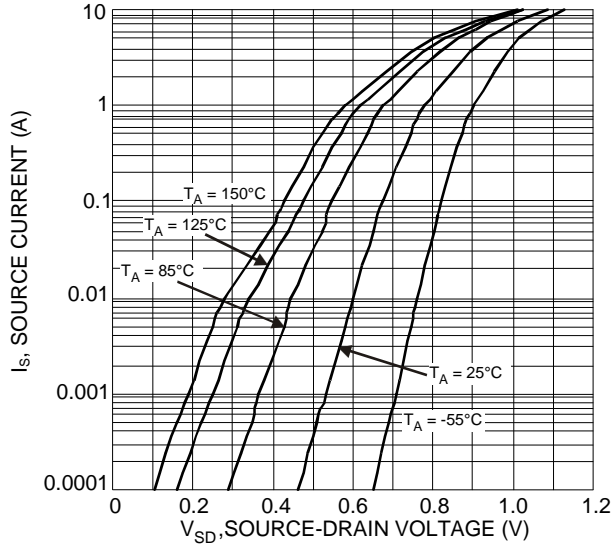


Fig. 7 Reverse Drain Current vs. Source-Drain Voltage

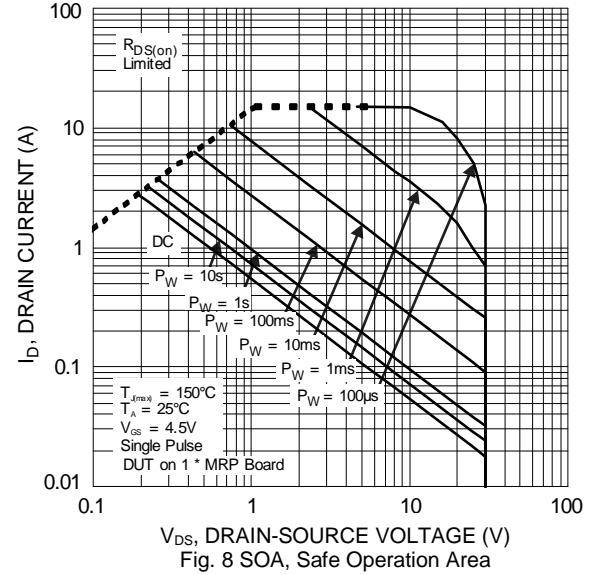


Fig. 8 SOA, Safe Operation Area

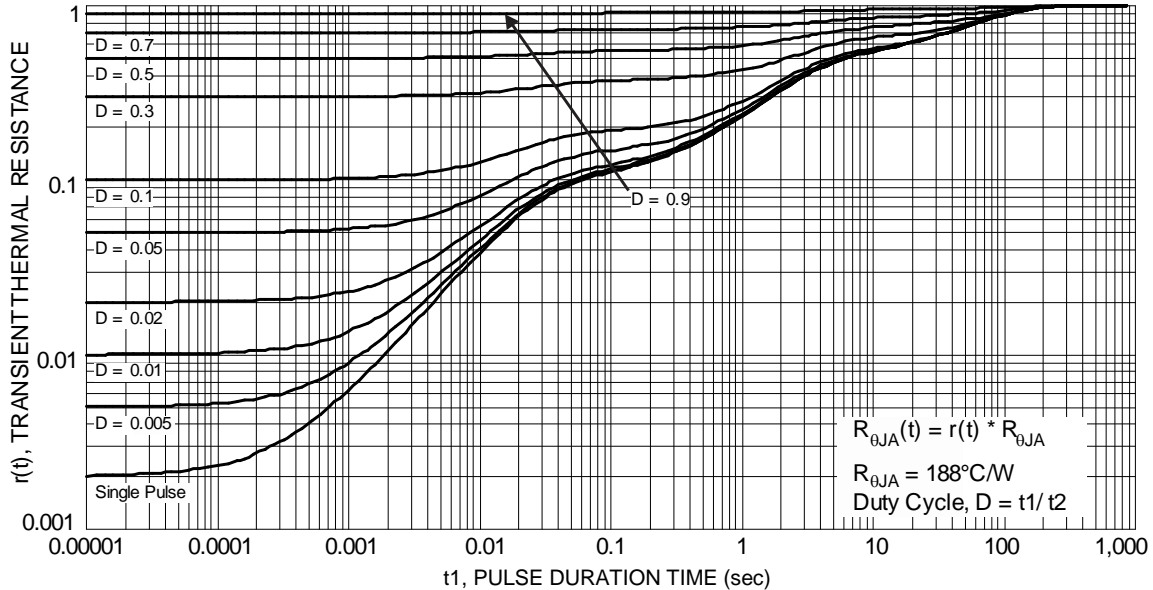
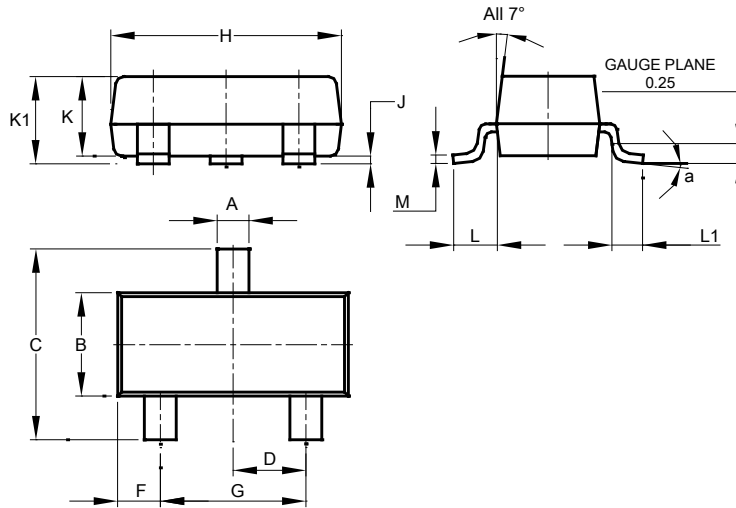


Fig. 9 Transient Thermal Resistance

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23

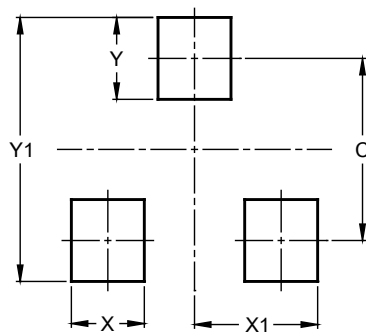


SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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