

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

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V <sub>DSS</sub>	-50	V
Gate-Source Voltage			V <sub>GSS</sub>	±30	V
Continuous Drain Current (Note 6) V <sub>GS</sub> = -5V	Steady State	T <sub>A</sub> = +25°C T <sub>A</sub> = +70°C	I <sub>D</sub>	-180 -130	mA
Maximum Continuous Body Diode Forward Current (Note 6)			I <sub>S</sub>	-180	mA
Pulsed Drain Current (10μs Pulse, Duty Cycle = 1%)			I <sub>DM</sub>	-1.2	A

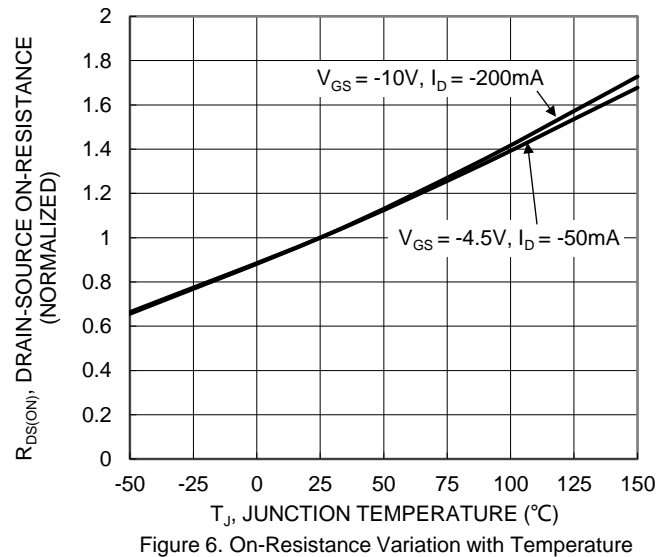
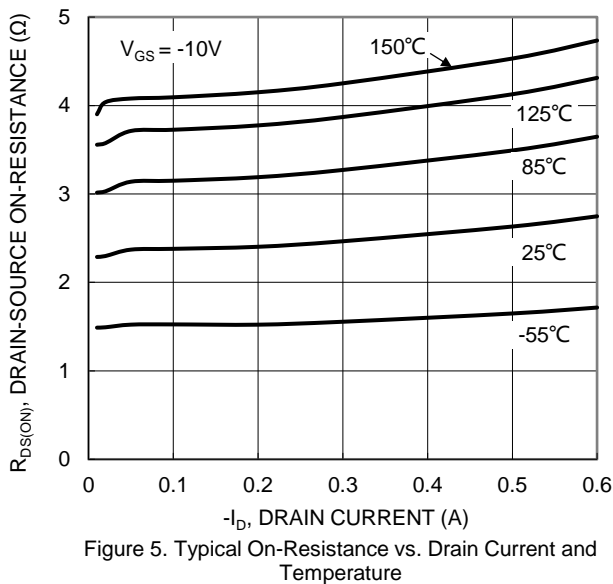
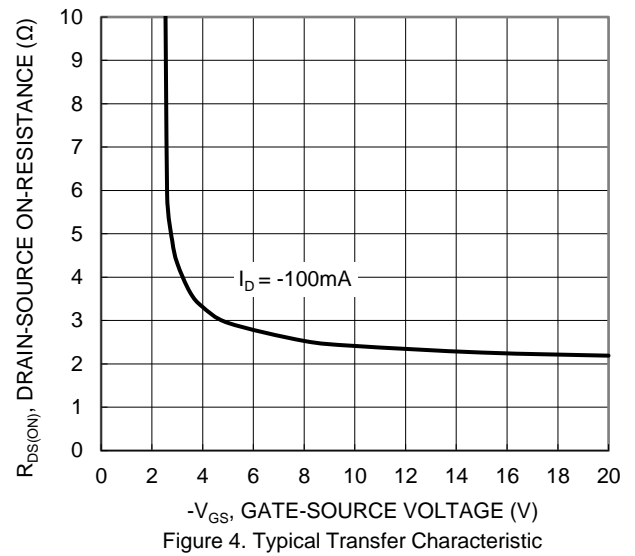
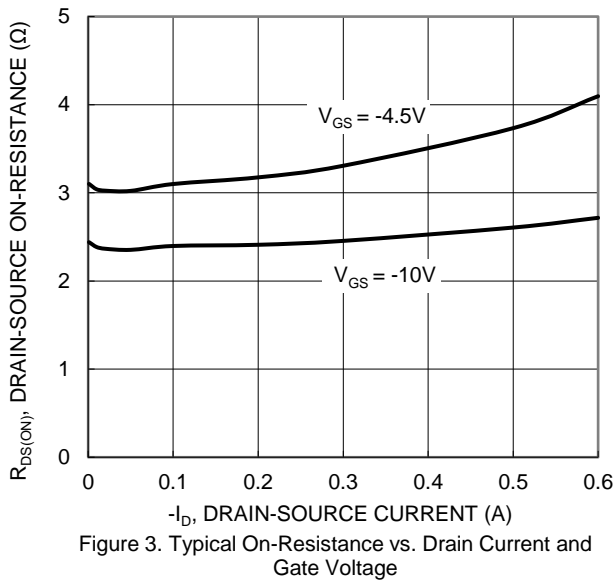
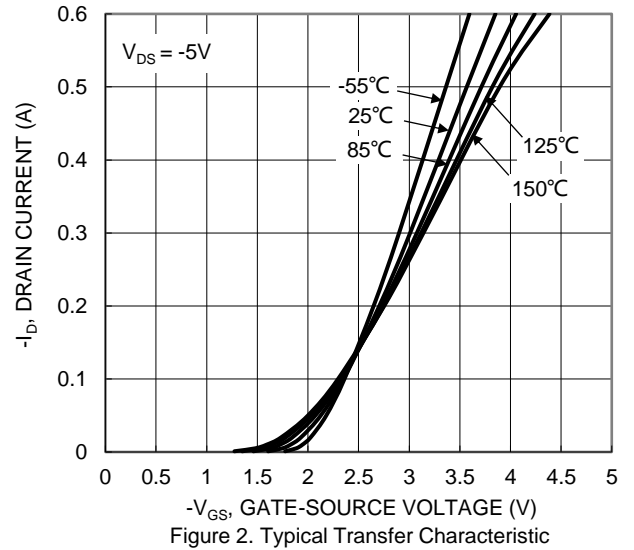
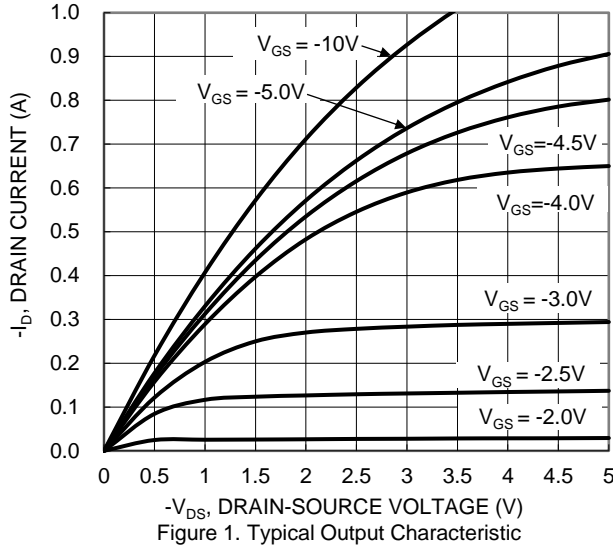
**Thermal Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

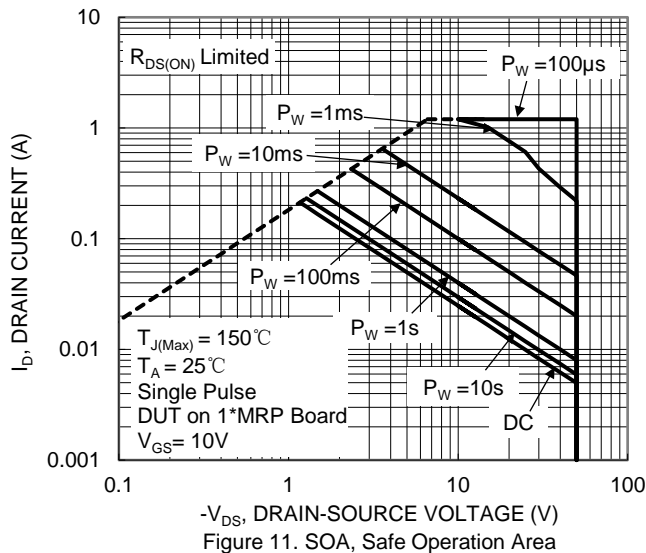
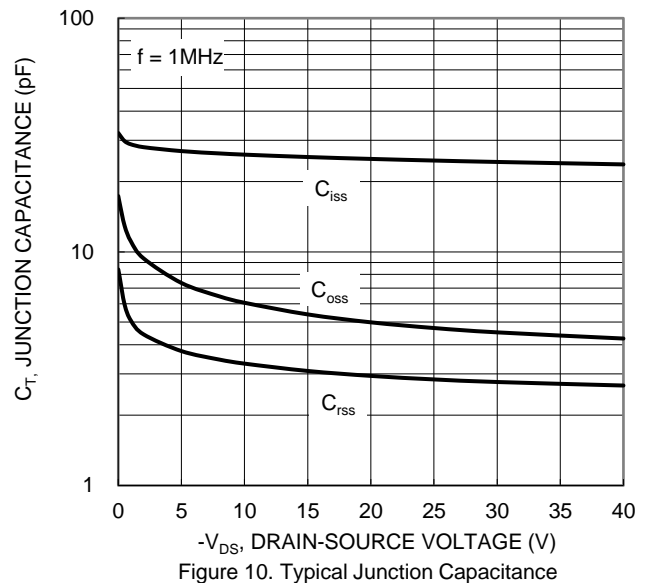
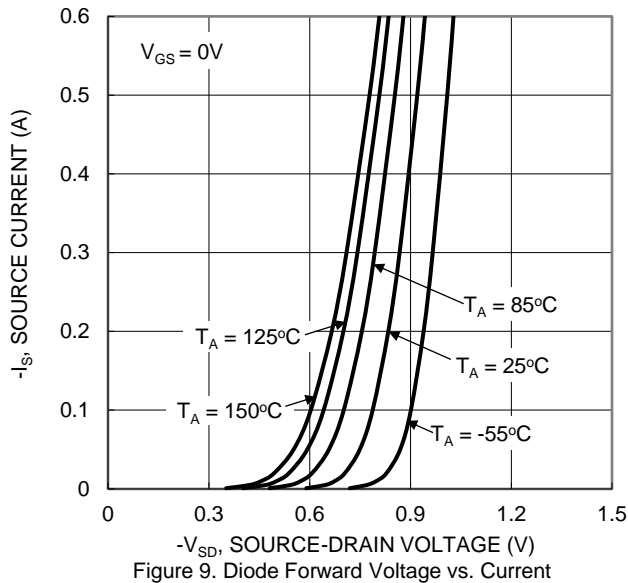
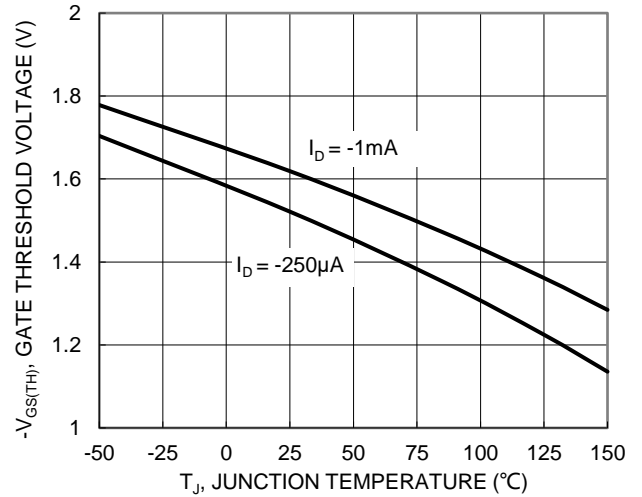
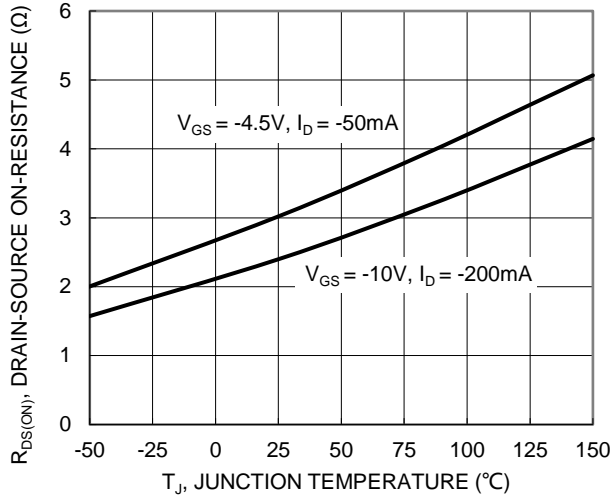
Characteristic			Symbol	Value	Unit
Total Power Dissipation (Note 5)			P <sub>D</sub>	310	mW
Thermal Resistance, Junction to Ambient (Note 5)	Steady State		R <sub>θJA</sub>	405	°C/W
Total Power Dissipation (Note 6)			P <sub>D</sub>	500	mW
Thermal Resistance, Junction to Ambient (Note 6)	Steady State		R <sub>θJA</sub>	251	°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 7)</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	-50	—	—	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> = -50V, V <sub>GS</sub> = 0V
Gate-Source Leakage	I <sub>GSS</sub>	—	—	±100	nA	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS (Note 7)</b>						
Gate Threshold Voltage	V <sub>GS(TH)</sub>	-0.8	—	-2.0	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -1mA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	—	10	Ω	V <sub>GS</sub> = -5V, I <sub>D</sub> = -0.1A
Forward Transconductance	g <sub>FS</sub>	—	0.25	—	S	V <sub>DS</sub> = -25V, I <sub>D</sub> = -0.1A
<b>DYNAMIC CHARACTERISTICS (Note 8)</b>						
Input Capacitance	C <sub>iss</sub>	—	24.6	—	pF	V <sub>DS</sub> = -25V, V <sub>GS</sub> = 0V, f = 1.0MHz
Output Capacitance	C <sub>oss</sub>	—	4.8	—	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>	—	2.8	—	pF	
Turn-On Delay Time	t <sub>D(ON)</sub>	—	2.8	—	ns	V <sub>DD</sub> = -30V, I <sub>D</sub> = -0.27A, R <sub>GEN</sub> = 50Ω, V <sub>GS</sub> = -10V
Turn-On Rise Time	t <sub>R</sub>	—	2.6	—	ns	
Turn-Off Delay Time	t <sub>D(OFF)</sub>	—	11.1	—	ns	
Turn-Off Fall Time	t <sub>F</sub>	—	7.2	—	ns	

- Notes:
- Device mounted on FR-4 PCB, with minimum recommended pad layout.
  - Device mounted on 1" x 1" FR-4 PCB with high coverage 2oz. Copper, single sided.
  - Short duration pulse test used to minimize self-heating effect.
  - Guaranteed by design. Not subject to product testing.





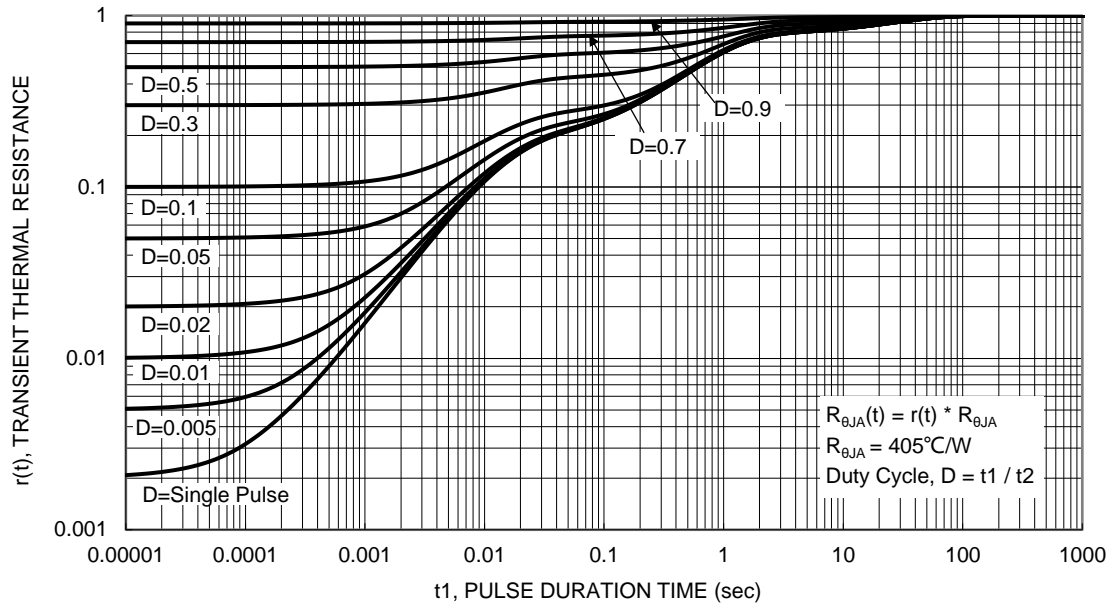
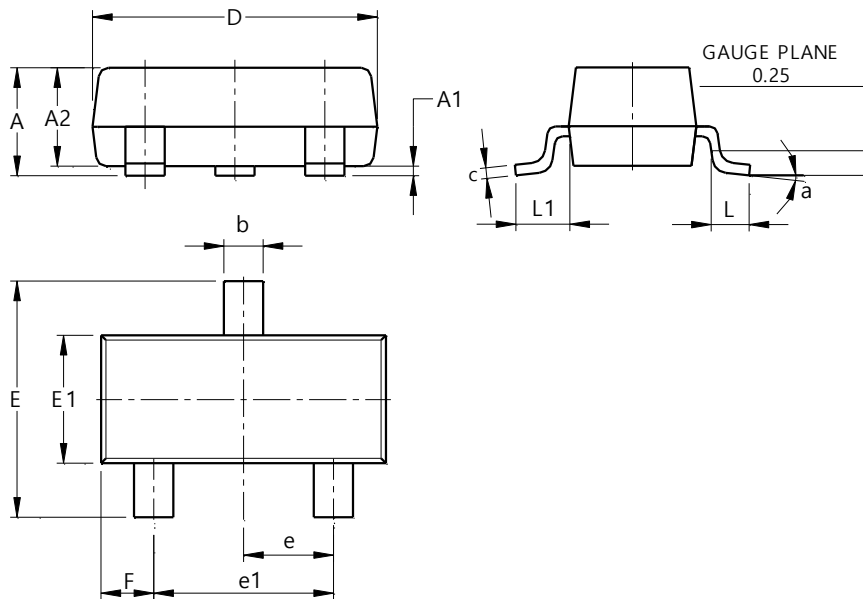


Figure 12. Transient Thermal Resistance

## Package Outline Dimensions

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

### SOT23 (Standard)

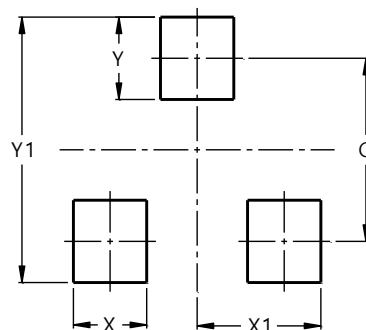


SOT23 (Standard)			
Dim	Min	Max	Typ
A	0.90	1.15	1.025
A1	0.00	0.10	0.05
A2	0.85	1.10	0.975
b	0.30	0.51	0.40
c	0.080	0.202	0.11
D	2.80	3.00	2.90
E	2.25	2.55	2.40
E1	1.20	1.40	1.30
e	0.89	1.03	0.915
e1	1.78	2.05	1.83
F	0.40	0.60	0.535
L1	0.45	0.61	0.55
L	0.25	0.55	0.40
a	0°	8°	--
All Dimensions in mm			

## Suggested Pad Layout

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

### SOT23 (Standard)



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

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