

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

Characteristic	Symbol	Value	Unit
Drain Source Voltage	V <sub>DSS</sub>	28	V
Gate-Source Voltage	V <sub>GSS</sub>	±12	V
Drain Current (Note 5)	I <sub>D</sub>	T <sub>A</sub> = +25°C 1.6	A
		T <sub>A</sub> = +70°C 1.2	
Drain Current (Note 5)	I <sub>DM</sub>	6.4	A
Body-Diode Continuous Current (Note 5)	I <sub>S</sub>	1.5	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P <sub>D</sub>	350	mW
Thermal Resistance, Junction to Ambient @T <sub>A</sub> = +25°C (Note 5)	R <sub>θJA</sub>	357	°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>	28	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	—	—	800	nA	V <sub>DS</sub> = 28V, V <sub>GS</sub> = 0V
Gate-Body Leakage	I <sub>GSS</sub>	—	—	±80 ±800	nA	V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0V V <sub>GS</sub> = ±19V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS (Note 6)</b>						
Gate Threshold Voltage	V <sub>GS(TH)</sub>	0.62	0.94	1.4	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	73 115	88 138	mΩ	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 1.6A V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 1.2A
Forward Transconductance	Y <sub>fs</sub>	—	5.4	—	S	V <sub>DS</sub> = 5V, I <sub>D</sub> = 2.7A
Source-Drain Diode Forward Voltage	V <sub>SD</sub>	—	—	1.16	V	V <sub>GS</sub> = 0V, I <sub>S</sub> = 1.5A
<b>DYNAMIC CHARACTERISTICS (Note 7)</b>						
Input Capacitance	C <sub>iss</sub>	—	305	—	pF	V <sub>DS</sub> = 5V, V <sub>GS</sub> = 0V f = 1.0MHz
Output Capacitance	C <sub>oss</sub>	—	74	—	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>	—	48	—	pF	

- Notes: 5. Device mounted on 1in<sup>2</sup> FR-4 PCB on 2oz. Copper. t ≤ 10 sec.  
6. Short duration pulse test used to minimize self-heating effect.  
7. Guaranteed by design. Not subject to product testing.

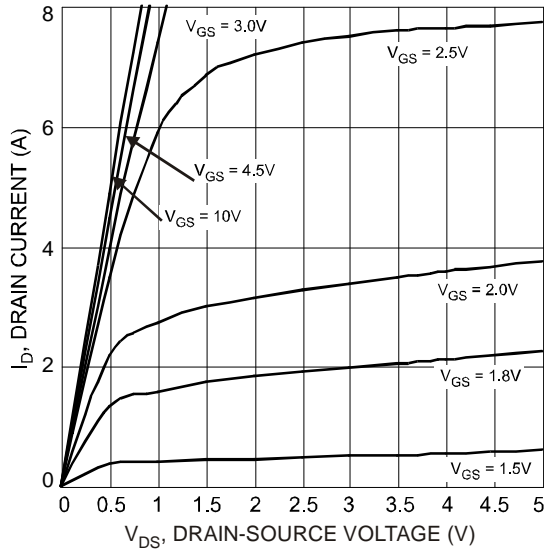


Fig. 1 Typical Output Characteristics

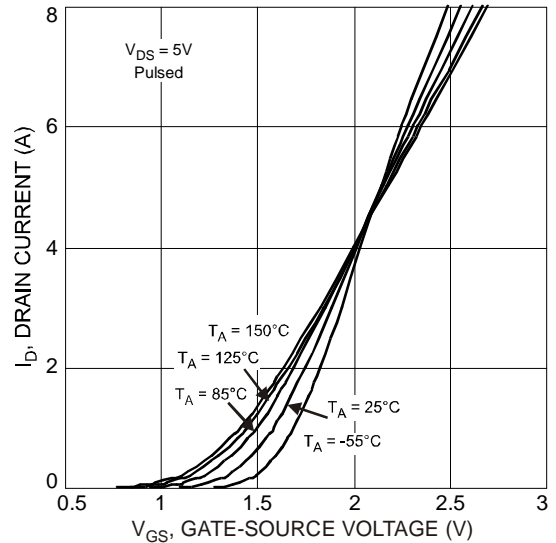


Fig. 2 Typical Transfer Characteristics

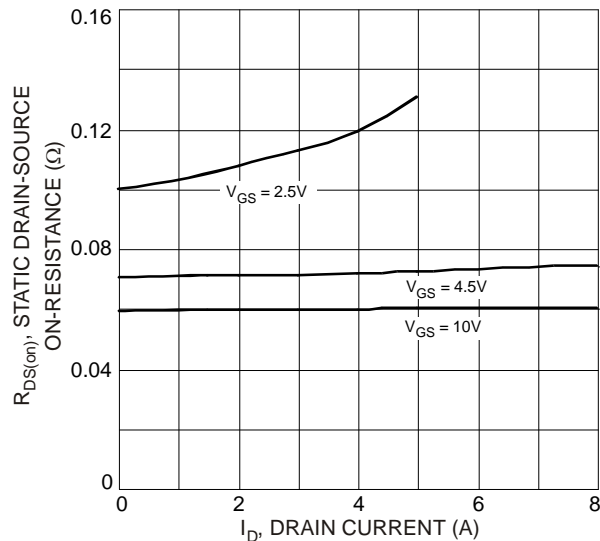


Fig. 3 On-Resistance  
vs. Drain Current and Gate Voltage

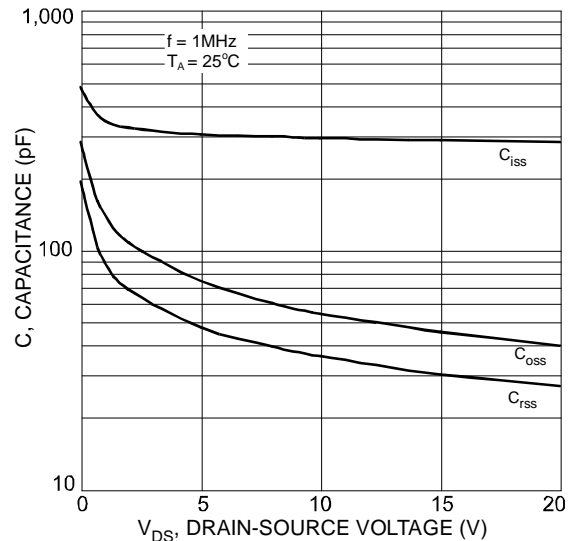


Fig. 4 Typical Total Capacitance

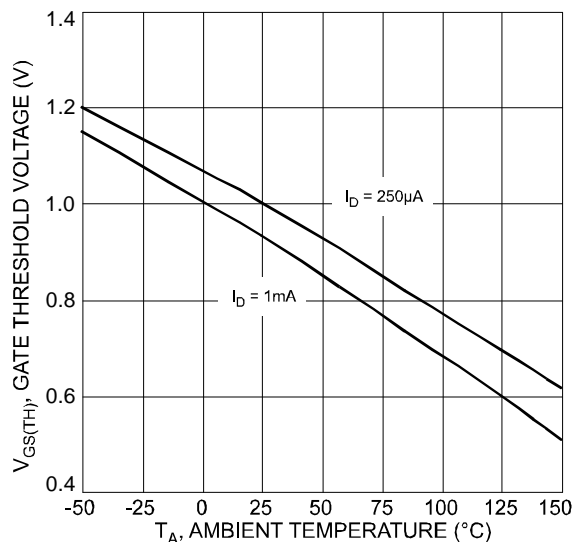


Fig. 5 Gate Threshold Voltage vs. Ambient Temperature

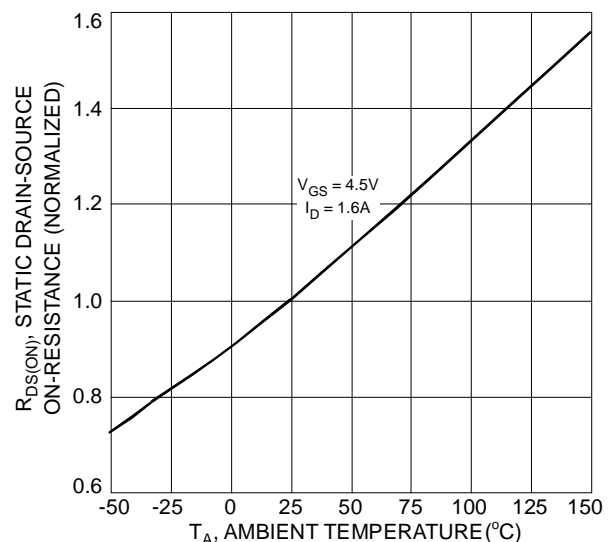


Fig. 6 Normalized Static Drain-Source On-Resistance  
vs. Ambient Temperature

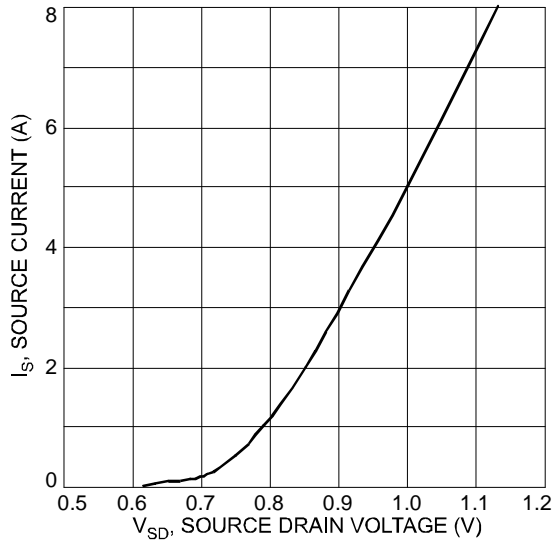
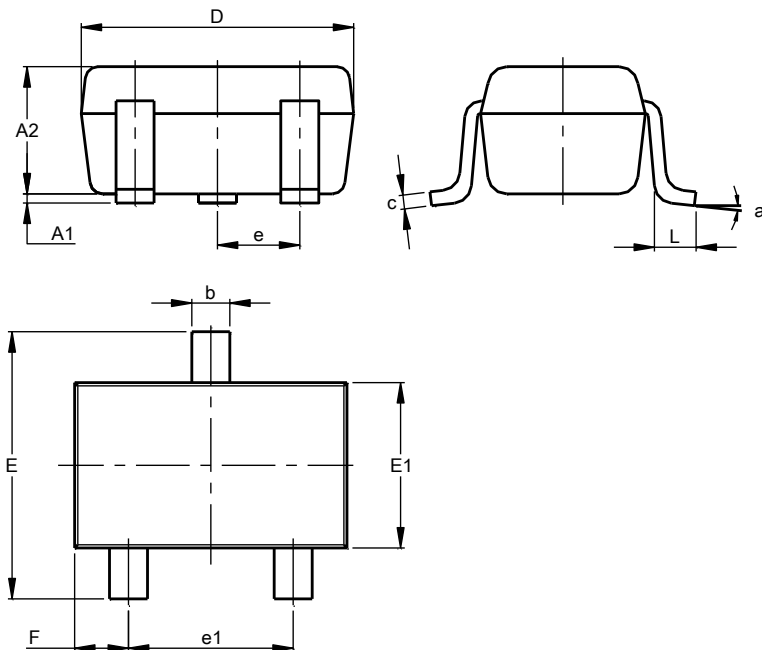


Fig. 7 Reverse Drain Current vs. Source-Drain Voltage

## Package Outline Dimensions

Please see AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.

### SOT323

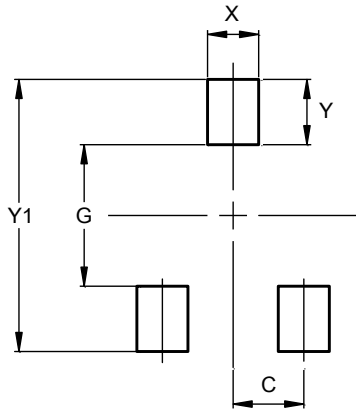


SOT323			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	8°		
All Dimensions in mm			

## Suggested Pad Layout

Please see AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.

**SOT323**



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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