Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Drain Source Voltage		V_{DSS}	28	V
Gate-Source Voltage		V_{GSS}	±12	V
Drain Current (Note 5)	T_A = +25°C T_A = +70°C	I_D	1.6 1.2	A
Drain Current (Note 5)	Pulsed	I_{DM}	6.4	A
Body-Diode Continuous Current (Note 5)		I_S	1.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_D	350	mW
Thermal Resistance, Junction to Ambient @T_A = +25°C (Note 5)	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 6)						
Drain-Source Breakdown Voltage	BV_{DSS}	28	—	—	V	V_{GS} = 0V, I_D = 250μA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	800	nA	V_{DS} = 28V, V_{GS} = 0V
Gate-Body Leakage	I_{GSS}	—	—	±80 ±800	nA	V_{GS} = ±12V, V_{DS} = 0V V_{GS} = ±19V, V_{DS} = 0V
ON CHARACTERISTICS (Note 6)						
Gate Threshold Voltage	$V_{GS(TH)}$	0.62	0.94	1.4	V	V_{DS} = V_{GS}, I_D = 250μA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	— —	73 115	88 138	mΩ	V_{GS} = 4.5V, I_D = 1.6A V_{GS} = 2.5V, I_D = 1.2A
Forward Transconductance	$\|Y_{fs}\|$	—	5.4	—	S	V_{DS} = 5V, I_D = 2.7A
Source-Drain Diode Forward Voltage	V_{SD}	—	—	1.16	V	V_{GS} = 0V, I_S = 1.5A
DYNAMIC CHARACTERISTICS (Note 7)						
Input Capacitance	C_{iss}	—	305	—	pF	V_{DS} = 5V, V_{GS} = 0V f = 1.0MHz
Output Capacitance	C_{oss}	—	74	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	48	—	pF	

Notes: 5. Device mounted on 1in^2 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.

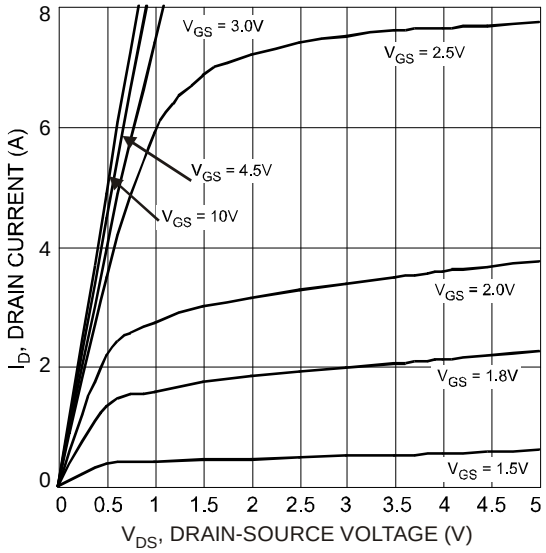


Fig. 1 Typical Output Characteristics

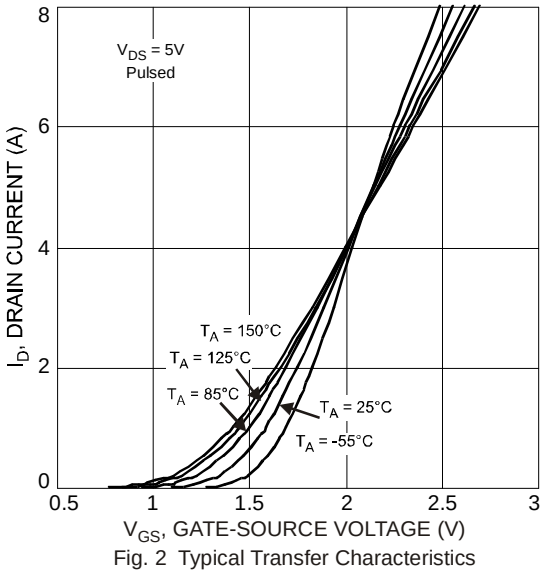


Fig. 2 Typical Transfer Characteristics

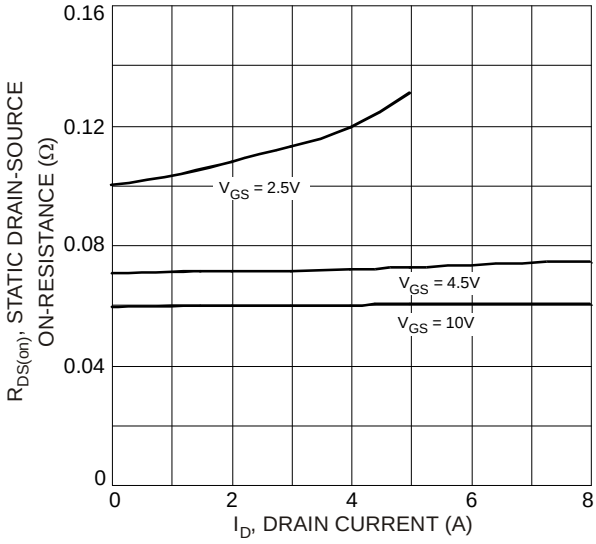


Fig. 3 On-Resistance vs. Drain Current and Gate Voltage

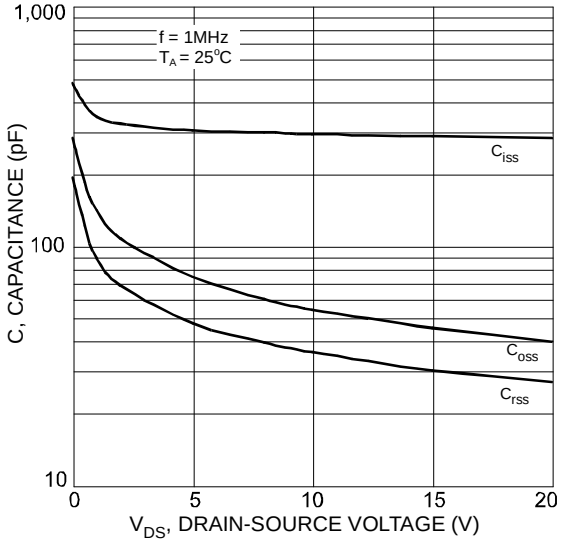


Fig. 4 Typical Total Capacitance

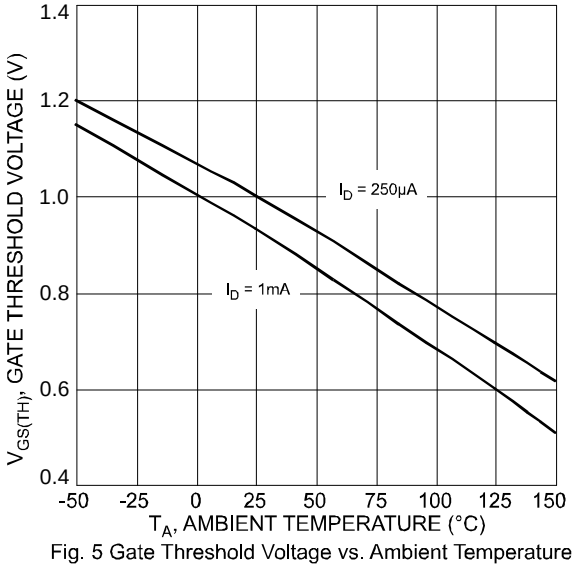


Fig. 5 Gate Threshold Voltage vs. Ambient Temperature

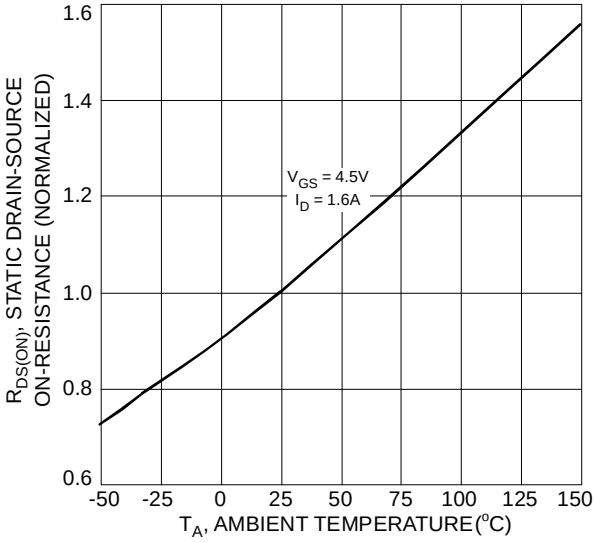


Fig. 6 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

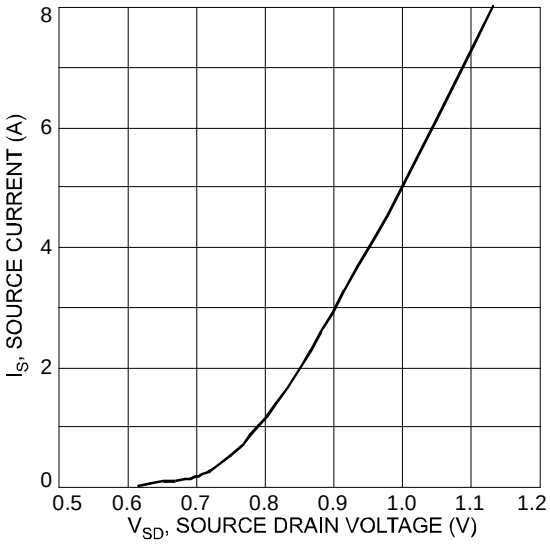
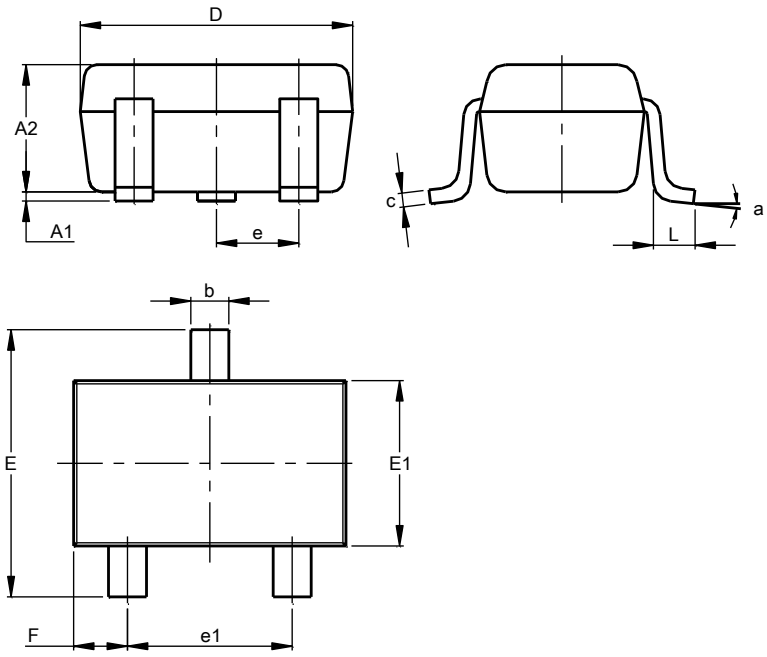


Fig. 7 Reverse Drain Current vs. Source-Drain Voltage

Package Outline Dimensions

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

SOT323

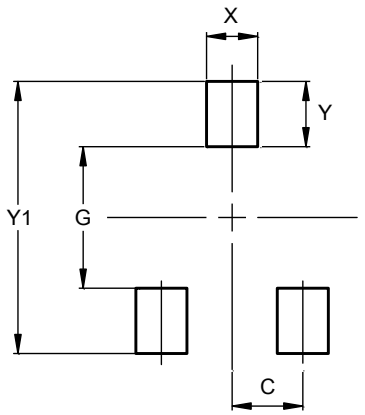


SOT323			
Dim	**Min**	**Max**	**Typ**
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	8°		
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

SOT323



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