

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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	I <sub>PP_I/O</sub>	12	A	I/O to V <sub>SS</sub> , 8/20μs
ESD Protection – Contact Discharge	V <sub>ESD_I/O_Contact</sub>	±16	kV	I/O to V <sub>SS</sub> , per IEC 61000-4-2
ESD Protection – Air Discharge	V <sub>ESD_I/O_Air</sub>	±16	kV	I/O to V <sub>SS</sub> , per IEC 61000-4-2

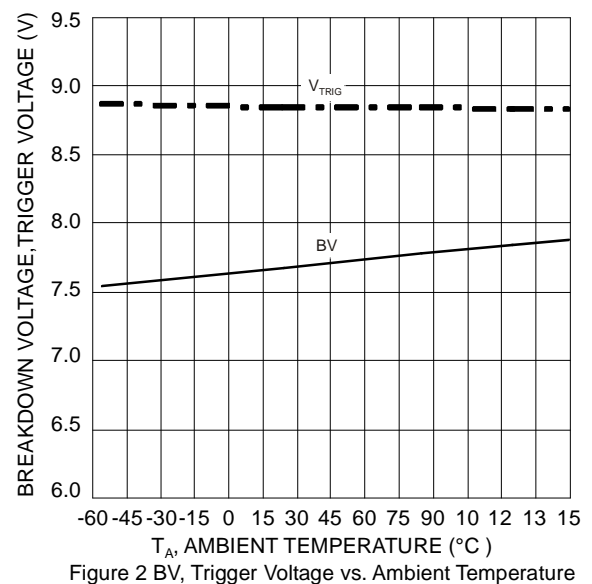
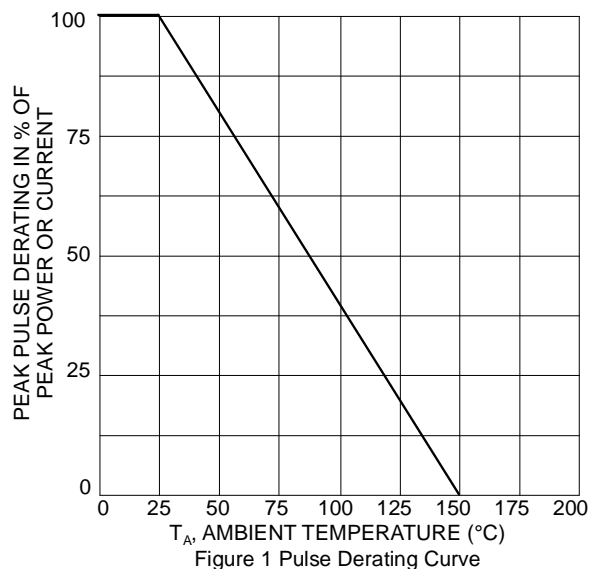
**Thermal Characteristics**

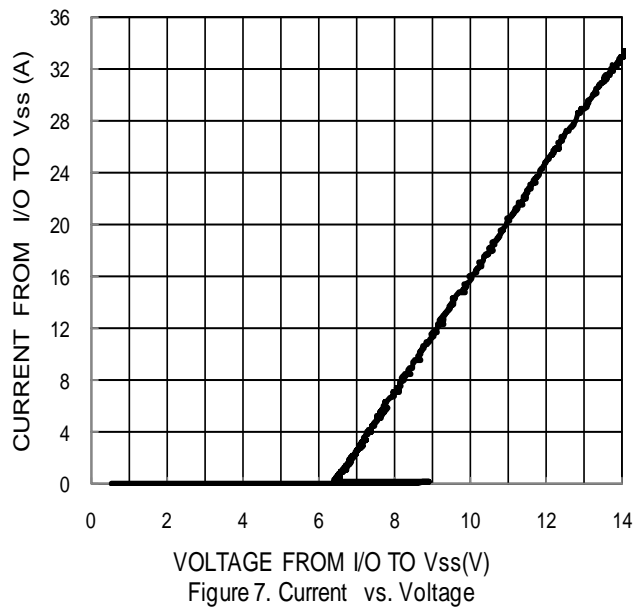
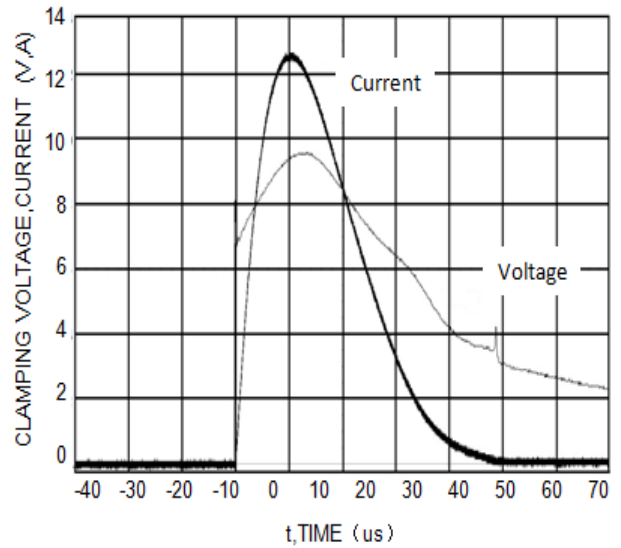
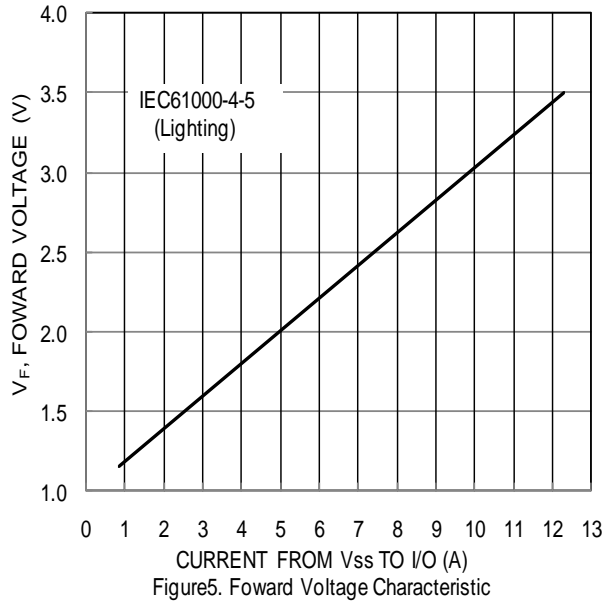
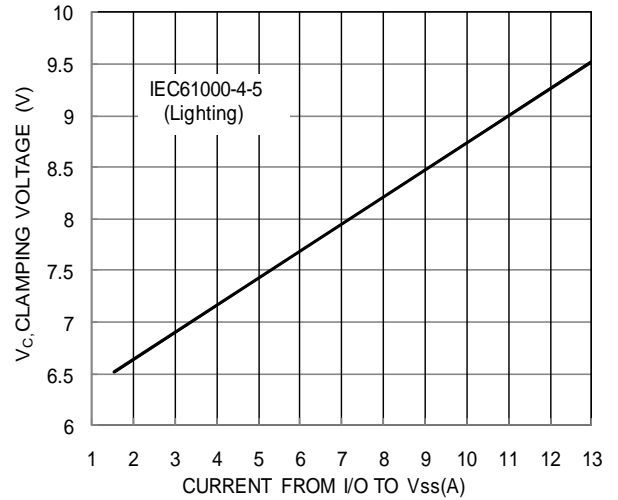
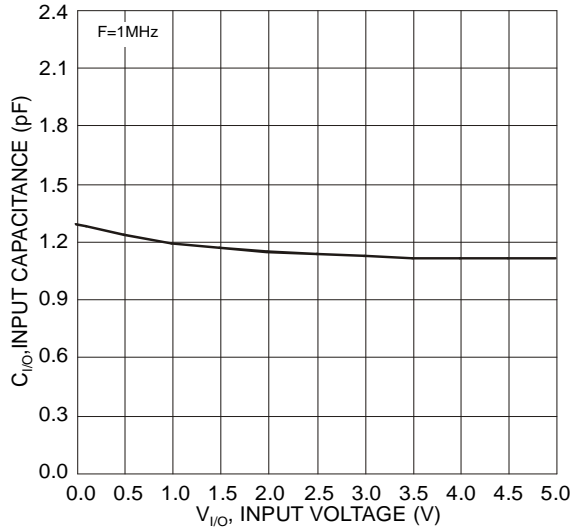
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	300	mW
Thermal Resistance, Junction to Ambient (Note 5)	R <sub>θJA</sub>	417	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Working Voltage	V <sub>RWM</sub>	—	—	5.5	V	—
Reverse Leakage Current (Note 6)	I <sub>R</sub>	—	—	1.0	μA	V <sub>R</sub> = 5V, I/O to V <sub>SS</sub>
Reverse Breakdown Voltage	V <sub>BR</sub>	7	—	10	V	I <sub>R</sub> = 1mA, I/O to V <sub>SS</sub>
Forward Voltage	V <sub>F</sub>	—	0.85	1.1	V	I <sub>F</sub> = 15mA, V <sub>SS</sub> to I/O
Reverse Clamping Voltage (Note 7)	V <sub>C</sub>	—	7.5	—	V	I <sub>PP</sub> = 5A, I/O to V <sub>SS</sub> , 8/20μs
Reverse Clamping Voltage (Note 7)	V <sub>C</sub>	—	9.5	—	V	I <sub>PP</sub> = 12A, I/O to V <sub>SS</sub> , 8/20μs
ESD Clamping Voltage	V <sub>ESD</sub>	—	11	—	V	TLP, 20A, tp = 100 ns, I/O to V <sub>SS</sub> , per Figure 7
Dynamic Resistance	R <sub>DIF</sub>	—	0.22	—	Ω	TLP, 20A, tp = 100 ns, I/O to V <sub>SS</sub> , per Figure 7
Channel Input Capacitance	C <sub>I/O</sub>	—	1.2	1.7	pF	V <sub>R</sub> = 2.5V, f = 1MHz
Variation of Channel Input Capacitance	ΔC <sub>I/O</sub>	—	0.03	—	pF	V <sub>SS</sub> = 0V, I/O = 2.5V, f = 1MHz, T = +25°C, I/O <sub>x</sub> to V <sub>SS</sub> – I/O <sub>y</sub> to V <sub>SS</sub>

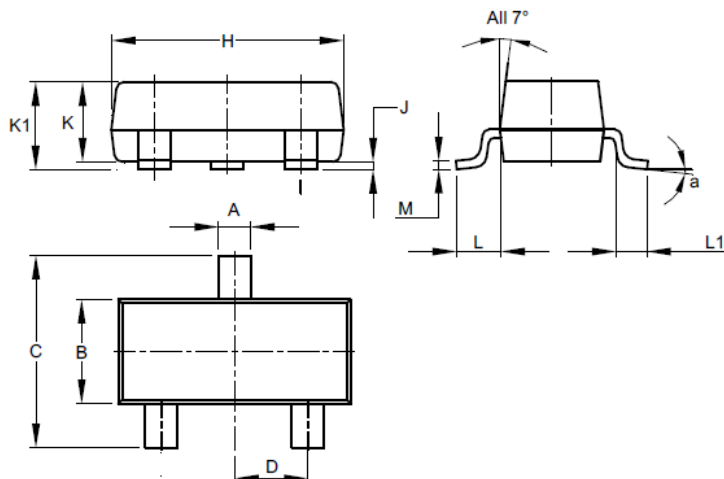
- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
  - Short duration pulse test used to minimize self-heating effect.
  - Clamping voltage value is based on an 8x20μs peak pulse current (I<sub>pp</sub>) waveform.





## Package Outline Dimensions

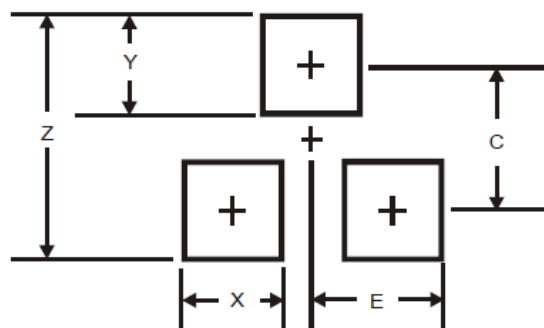
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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
α	8°		
All Dimensions in mm			

## Suggested Pad Layout

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



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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