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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current ,per IEC 61000-4-5	$I_{PP\_I/O}$	4.7	A	I/O to V_{SS}, 8/20µs
Operating Voltage (DC)	V_{DC}	6	V	V_{CC} to V_{SS}
ESD Protection – Contact Discharge	$V_{ESD\_I/O}$	±16	kV	I/O to V_{SS}, per IEC 61000-4-2
	V_{ESD_VCC}	±30	kV	Vcc to V_{SS}, per IEC 61000-4-2
ESD Protection – Air Discharge, per IEC 61000-4-2	$V_{ESD\_I/O}$	±19	kV	I/O to V_{SS}, per IEC 61000-4-2
	V_{ESD_VCC}	±30	kV	V_{CC} to V_{SS}, per IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation Typical (Note 5)	P_D	380	mW
Thermal Resistance, Junction to Ambient Typical (Note 5)	$R\theta_{JA}$	327	°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 Conditions
Reverse Working Voltage	V_{RWM}	—	—	5.5	V	V_{CC} to V_{SS}
Reverse Current (Note 6)	$I_{R(VCC\ to\ VSS)}$	—	—	5.0	µA	V_R = 5V, V_{CC} to V_{SS}
Reverse Current (Note 6)	$I_{R(IO\ to\ VSS)}$	—	—	1.0	µA	V_R = 5V, any I/O to V_{SS}
Reverse Breakdown Voltage	V_{BR}	6.0	—	9.0	V	I_R = 1mA, V_{CC} to V_{SS}
Forward Clamping Voltage	V_F	—	0.8	1.0	V	I_F = 15mA, V_{SS} to V_{CC}
Reverse Clamping Voltage (Note 7)	$V_{C\_I/O}$	—	8.5	—	V	I_{PP} = 4.7A, I/O to V_{SS}, 8/20µs
ESD Clamping Voltage	V_{ESD_VCC}	—	10	—	V	TLP, 20A, tp = 100 ns, V_{CC} to V_{SS}
	$V_{ESD\_I/O}$	—	12	—	V	TLP, 20A, tp = 100 ns, I/O to V_{SS}
Dynamic Resistance	R_{DIF_VCC}	—	0.2	—	Ω	TLP, 20A, tp = 100 ns, V_{CC} to V_{SS}
	$R_{DIF\_I/O}$	—	0.3	—	Ω	TLP, 20A, tp = 100 ns, I/O to V_{SS}
Channel Input Capacitance	$C_{I/O\ to\ VSS}$	—	0.55	0.65	pF	V_R = 2.5V, V_{CC} = 5V, f = 1MHz
Channel Input Capacitance	$C_{I/O\ to\ VSS}$	—	0.65	—	pF	V_R = 2.5V, V_{CC} = floating, f = 1MHz
Variation of Channel Input Capacitance	$C_{I/OMAX}$-$C_{I/OMIN}$	—	0.03	—	pF	V_{CC} = 5V, V_{SS} = 0V, I/O = 2.5V, f =1MHz, T=25 °C , $C_{I/OMAX}$-$C_{I/OMIN}$
Variation of Channel Input Capacitance	$C_{I/OMAX}$-$C_{I/OMIN}$	—	0.05	—	pF	V_{CC} = floating , V_{SS} = 0V, I/O = 2.5V, f =1MHz, T = +25°C , $C_{I/OMAX}$-$C_{I/OMIN}$

Notes:
5. 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.
6. Short duration pulse test used to minimize self-heating effect.
7. Clamping voltage value is based on an 8x20µs peak pulse current (I_{pp}) waveform.

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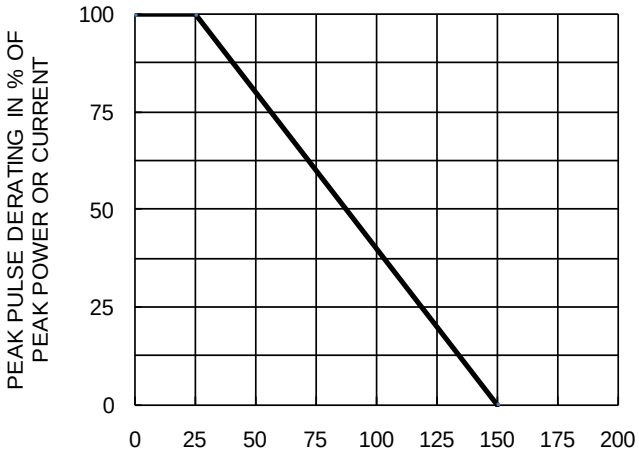

Figure1. Pulse Derating Curve

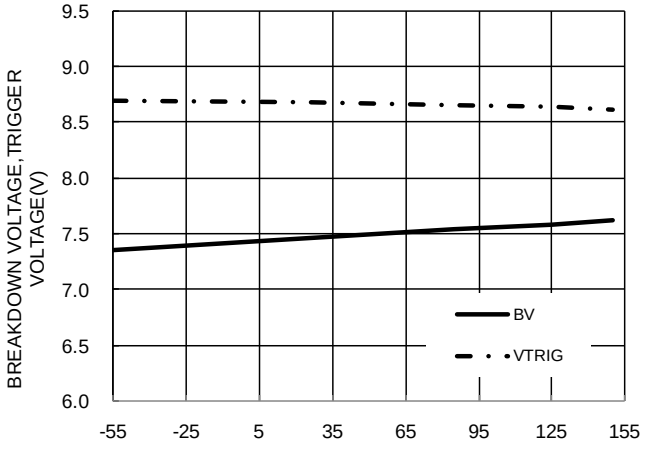

Figure 2. BV, Trigger Voltage vs. Ambient Temperature

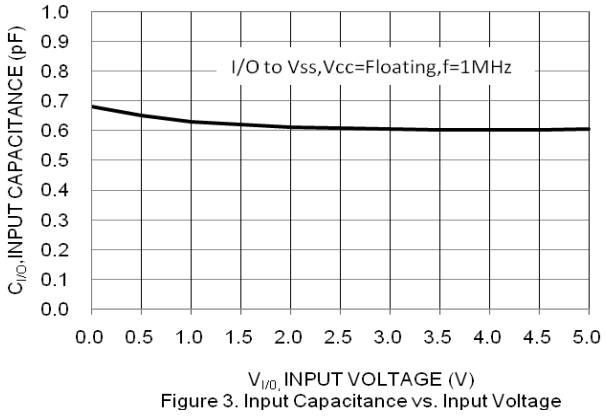

Figure 3. Input Capacitance vs. Input Voltage

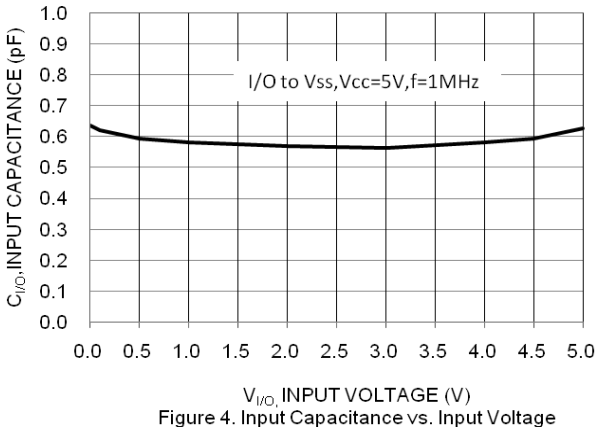

Figure 4. Input Capacitance vs. Input Voltage

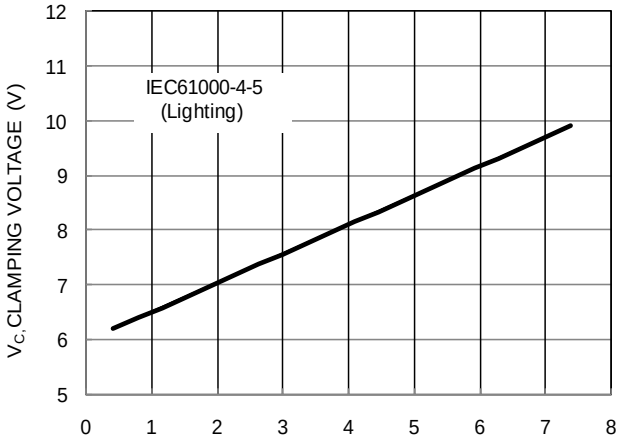

Figure 5. Clamping Voltage Characteristic

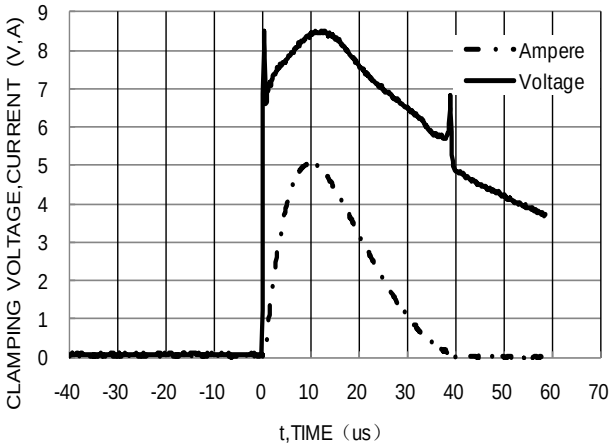

Figure 6. Waveform of Clamping Voltage,Current vs. Time(8/20us,I/O to Vss)

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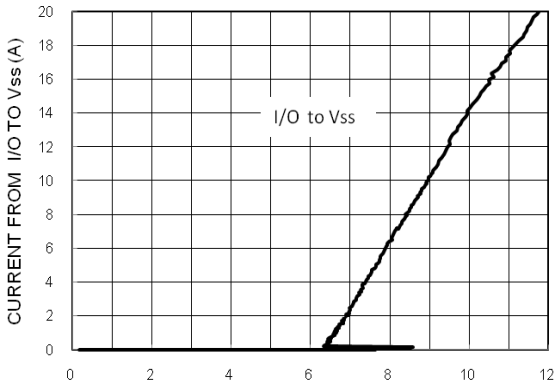


Figure 7. Transmission Line Pulsing (TLP) Measurement Current vs. Voltage

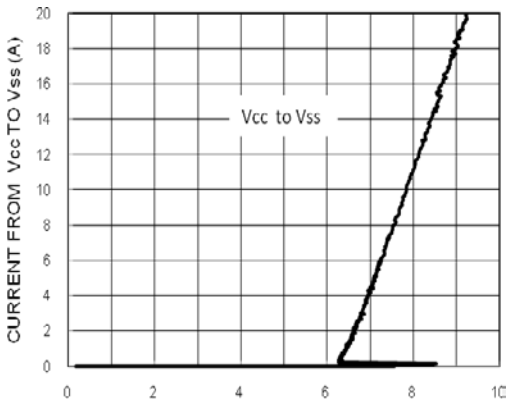
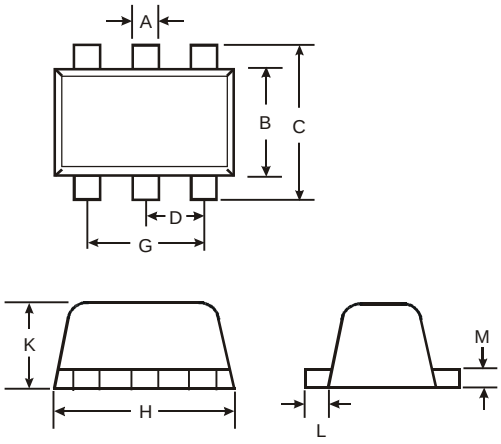


Figure 8. Transmission Line Pulsing (TLP) Measurement Current vs. Voltage

Package Outline Dimensions

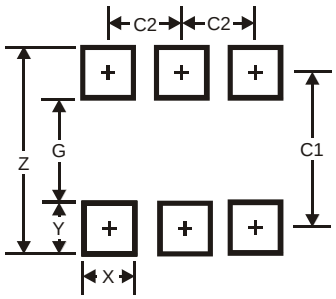
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



SOT563			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
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	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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