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

Characteristic	Symbol	Value	Unit	Conditions
Operating Supply Voltage	V_P - V_N	6.0	V	-
DC Voltage at any Channel Input	-	(V_N – 0.5) to (V_P + 0.5)	V	-
Peak Pulse Current	I_{PP}	5.0	A	8/20μs, Per Fig. 3
ESD Protection – Contact Discharge	$V_{ESD\_Contact}$	±8	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_Air}	±15	kV	Standard IEC 61000-4-2

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	380	mW
Thermal Resistance, Junction to Ambient (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
Operating Supply Voltage	V_P	-	3.3	5.5	V	–
Operating Supply Current (Note 6)	I_P	-	-	8.0	μA	(V_P – V_N) = 3.3V
Channel Leakage Current (Note 6)	I_R	-	0.1	1.0	μA	V_P = 5V, V_N = 0V
Reverse breakdown voltage	V_{BR}	6.0	-	-	V	I_R = 1mA
Clamping Voltage, Positive Transients	V_{CL1}	-	10.0	-	V	I_{PP} = 1A (Note 7)
Clamping Voltage, Negative Transients	V_{CL2}	-	-1.7	-	V	I_{PP} = -1A (Note 7)
Forward Voltage for Top Diode	V_{FD1}	0.60	0.80	0.95	V	I_F = 8mA, any channel to V_P
Forward Voltage for Bottom Diode	V_{FD2}	0.60	0.80	0.95	V	I_F = 8mA, V_N to and channel
Dynamic Resistance	R_{DYN}	-	0.9	-	Ω	I_{PP} = 1A (Note 7)
Channel Input Capacitance	C_T	-	0.85	1.2	pF	V_{IN} = 1.65V, V_P = 3.3V, V_N = 0V, f = 1MHz

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.
8. Measured from any channel to V_N
9. Measured from V_P to V_N.
10. For information on the impact of Diodes' USB 2.0 compatible ESD protectors on signal integrity including eye diagram plots, please refer to AN77 at the following URL: http://www.diodes.com/destools/appnote_dnote.html.

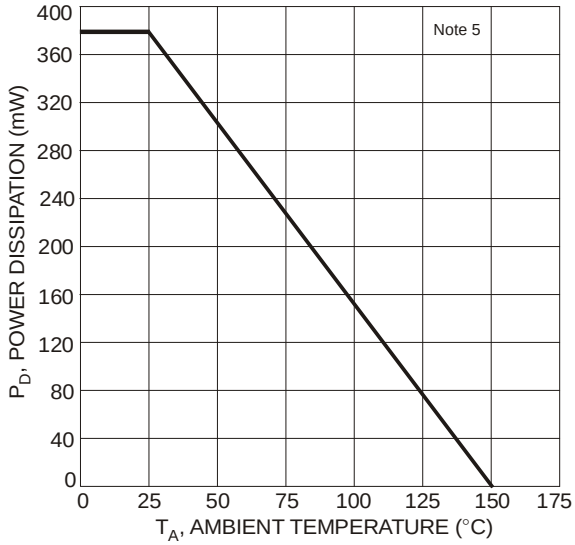


Figure 1 Power Derating Curve

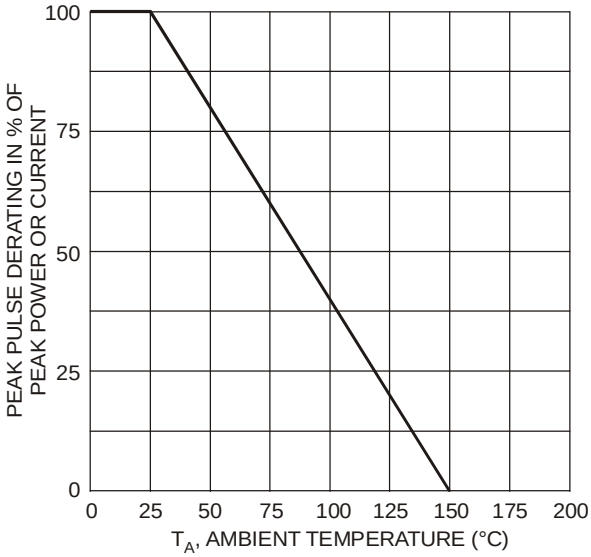


Figure 2 Pulse Derating Curve

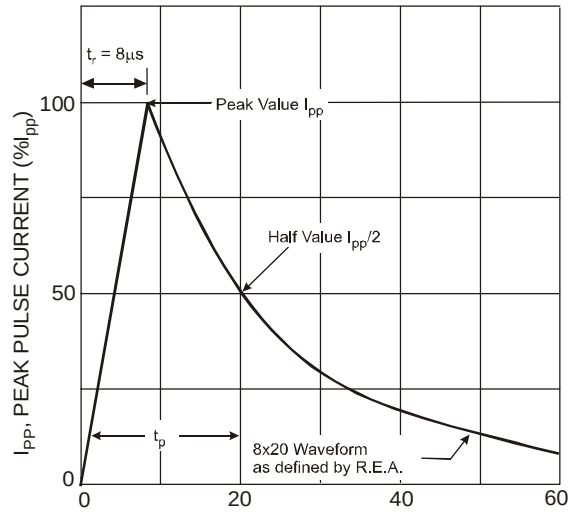


Figure 3 Pulse Waveform

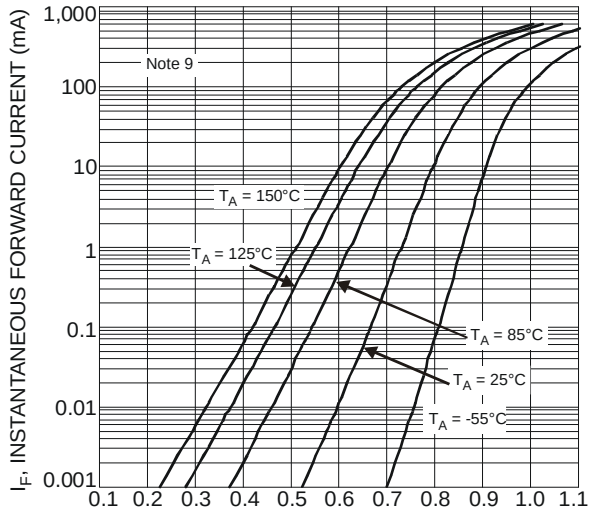


Figure 4 Typical Forward Characteristics

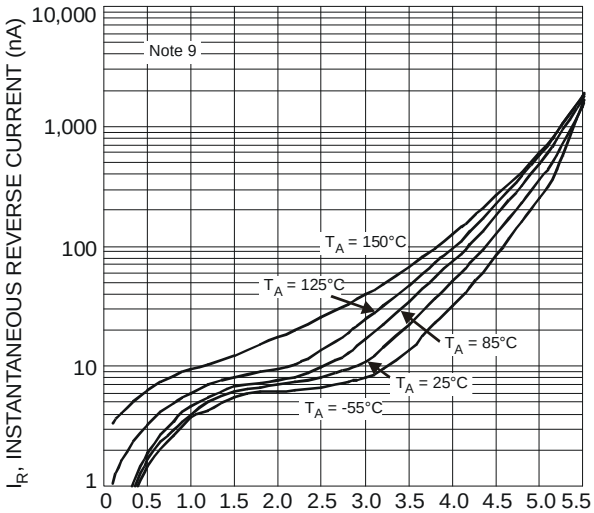


Figure 5 Typical Reverse Characteristics

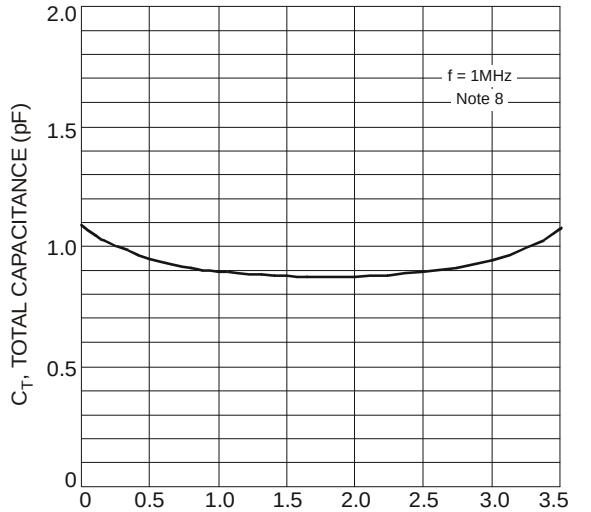
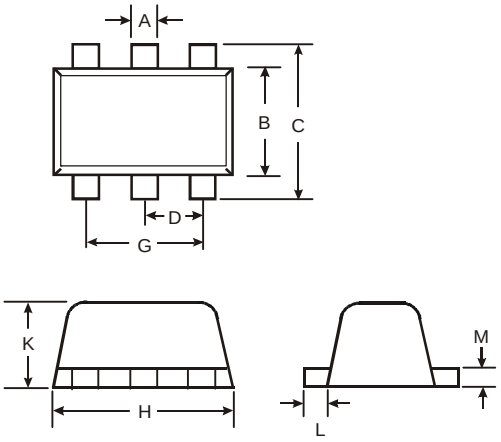


Figure 6 Typical Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

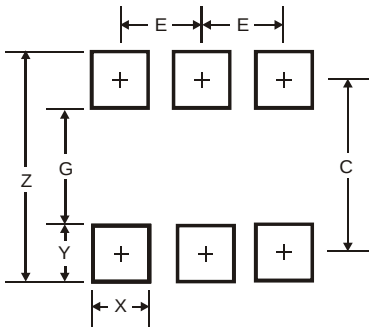
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



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
C	1.7
E	0.5

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