LOW CAPACITANCE SURFACE MOUNT DUAL TVS

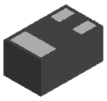
Features

- 25 Watts Peak Pulse Power (tp = 8x20µs)
- IEC 61000-4-2 (ESD): Air – 15kV, Contact – 8kV
- IEC61000-4-4 (EFT): 40A 5/50ns
- Dual TVS for protection of up to two data lines
- Low Capacitance (9pF typ), suitable for USB2.0 dataline protection
- Subminiature, low-profile package suitable for portable applications - case outline of only 1.0 * 0.6 * 0.5mm
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

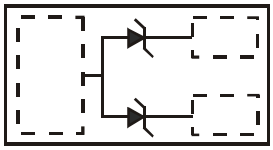
Mechanical Data

- Case: X1-DFN1006-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections Indicator: Cathode Bar
- Terminals: Finish — NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208 e4
- Weight: 0.0009 grams

X1-DFN1006-3



Bottom View



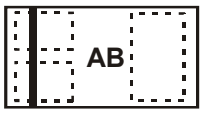
Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
T5V0DLP-7B	X1-DFN1006-3	10,000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



Bar Denotes
Cathode Side

AB = Product Type Marking Code

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Peak Pulse Power (tp = 8x20μs)	(Note 5) T_A = +25°C	P_{pk}	25	W
Power dissipation	(Note 5) T_A = +25°C	P_D	385	mW
Thermal Resistance, Junction to Ambient	(Note 5) T_A = +25°C	$R_{\theta JA}$	325	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

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

Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Reverse Leakage @ V_{RWM} (Note 6)	Max. Clamping Voltage V_C @ I_{PP} (Note 7)		Max Total Capacitance C_T (Note 8) V_R = 0V	Typical Total Capacitance C_T (Note 8) V_R = 3.3V
V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	I_R (μA)	V_C (V)	I_{PP} (A)	(pF)	(pF)
5	6.1	8	1.0	0.25	12.5	2	9	4.5

Notes:
5. Device mounted on FR-4 PC board with suggested pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
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. f = 1MHz

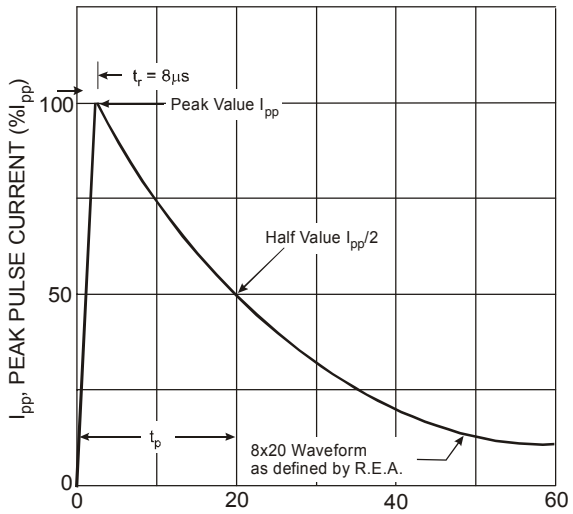


Figure 1 Pulse Waveform

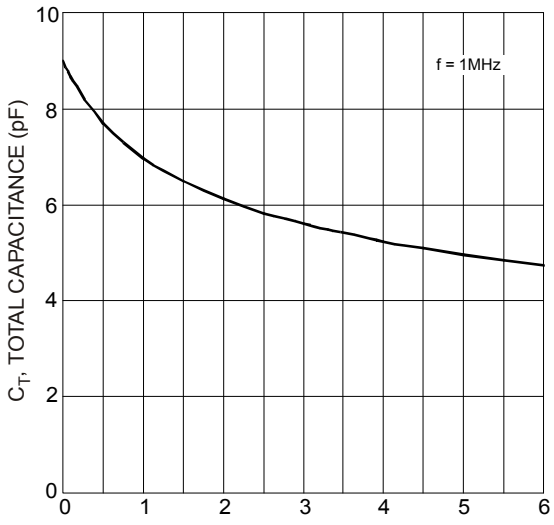


Figure 2 Total Capacitance

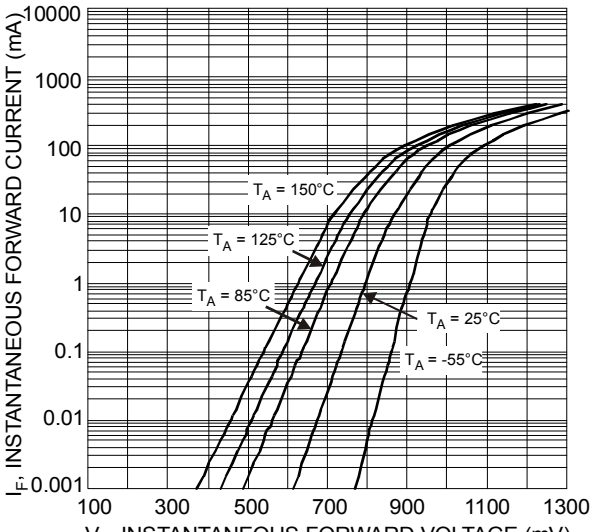


Figure 3 Typical Forward Characteristics

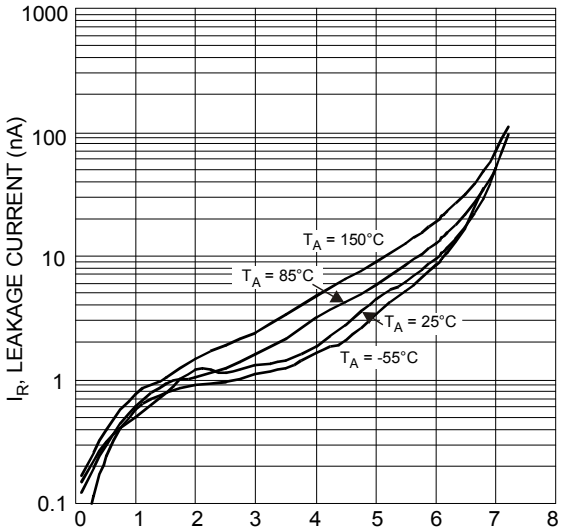


Figure 4 Typical Reverse Characteristics

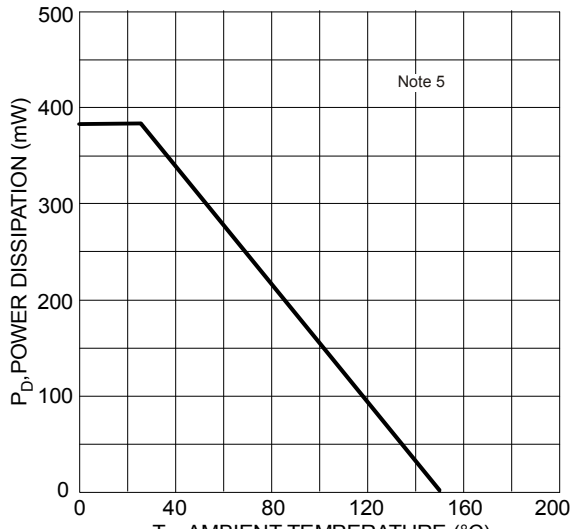
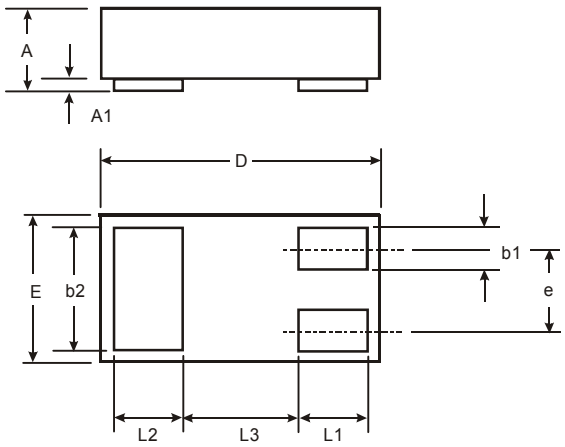


Figure 5 Power Derating Curve

Package Outline Dimensions

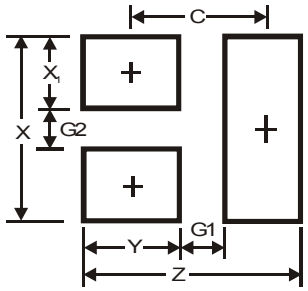
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



X1-DFN1006-3			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0	0.05	0.03
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40
All Dimensions in mm			

Suggested Pad Layout

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



Dimensions	Value (in mm)
Z	1.1
G1	0.3
G2	0.2
X	0.7
X1	0.25
Y	0.4
C	0.7

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