



D5V0F1U2LP

1 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY

Features

- IEC 61000-4-2 (ESD): Air ±20kV, Contact ±15kV
- 1 Channel of ESD Protection
- Low Channel Input Capacitance of 0.5pF Typical
- Low Profile Package (0.53mm max) and Ultra-small PCB Footprint Area (1.08 * 0.68mm max) Suitable for Compact Portable Electronics
- Typically Used at High Speed Ports such as USB 2.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

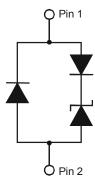
Mechanical Data

- Case: X1-DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- \bullet Terminals: NiPdAu over Copper leadframe. Solderable per MILSTD-202, Method 208 @
- Weight: 0.001 grams (Approximate)





Bottom View



Device Schematic

Ordering Information (Note 4)

Product	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
D5V0F1U2LP-7B	Standard	U7	7	8	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



U7 = Product Type Marking Code Line Denotes Pin 1



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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	IPP	1.5	Α	8/20µs, Per Figure 3
ESD Protection – Contact Discharge	V _{ESD} Contact	±15	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V _{ESD Air}	±20	kV	Standard IEC 61000-4-2

Thermal Characteristics

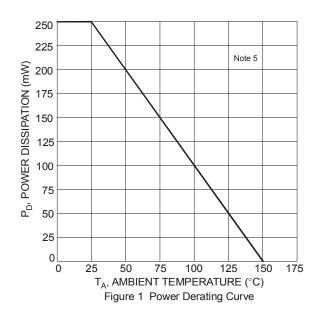
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P_{D}	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{ hetaJA}$	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

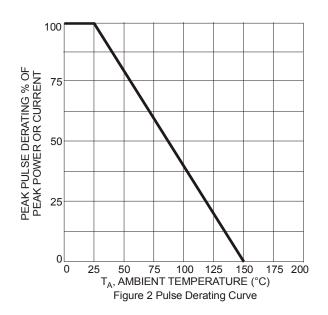
Electrical Characteristics (@T_A = +25°C unless otherwise specified)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Working Voltage	V_{RWM}	_	_	5.5	V	_
Reverse Current (Note 6)	I _R	_	_	100	nA	V _R = 5.0V
Reverse Breakdown Voltage	V_{BR}	6.0	_	_	V	I _R = 1mA
Reverse Clamping Voltage, Positive Transients (Note 7)	V _{CL}	_	10	12	V	$I_{PP} = 1A$, $t_p = 8/20 \mu s$
Dynamic Resistance	R_{DYN}	-	0.9	-	Ω	$I_R = 1A, t_p = 8/20 \mu s$
Canacitanae (Nata 9)		_	0.4	0.65	pF	V _R = 2.5V, f = 1MHz
Capacitance (Note 8)	Ст	_	0.5	_	pF	V _R = 0V, f = 1MHz

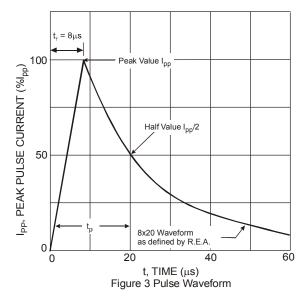
Notes:

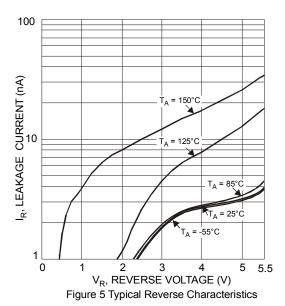
- 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.
- 6. Short duration pulse test used to minimize self-heating effect.
- 7. Clamping voltage value is based on an $8x20\mu s$ peak pulse current (I_{pp}) waveform.
- 8. Measured from any I/O to GND.
- 9. 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.

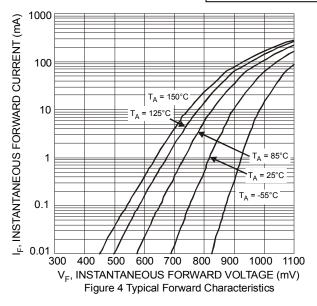


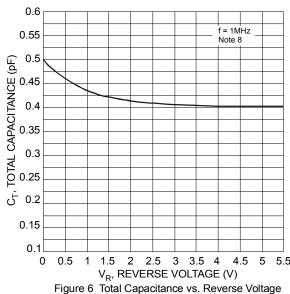






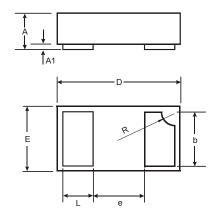






Package Outline Dimensions

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

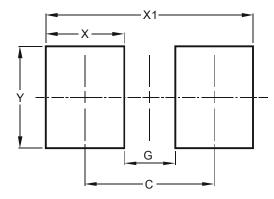


X1-DFN1006-2					
Dim	Min	Max	Тур		
Α	0.47	0.53	0.50		
A1	0	0.05	0.03		
b	0.45	0.55	0.50		
D	0.95	1.075	1.00		
Е	0.55	0.675	0.60		
е	-	-	0.40		
L	0.20	0.30	0.25		
R	0.05	0.15	0.10		
All Dimensions in mm					



Suggested Pad Layout

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



Dimensions	Value (in mm)
С	0.70
G	0.30
Х	0.40
X1	1.10
Υ	0.70

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