



DESD5V0U1BL

LOW CAPACITANCE BIDIRECTIONAL TVS DIODE

Features

- Provides ESD Protection per IEC 61000-4-2 Standard: Contact ±10kV
- 1 Channel of ESD Protection
- High Peak Pulse Current per IEC 61000-4-5 Standard
- Low Channel Input Capacitance
- Typically used in Cellular Handsets, Portable Electronics, Communication Systems, Computers and Peripherals
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

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
- Terminals: NiPdAu over Copper Leadframe. Solderable per MIL-STD-202, Method 208 @
- Polarity: Cathode Band
- 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
DESD5V0U1BL-7B	Standard	RK	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

X1-DFN1006-2



RK = Product Type Marking Code Line Denotes Cathode Side



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

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Current	I _{PP}	3	А	8/20µs, per Figure 3
ESD Protection – Contact Discharge	$V_{ESD_Contact}$	±10	kV	IEC 61000-4-2 Standard

Thermal Characteristics

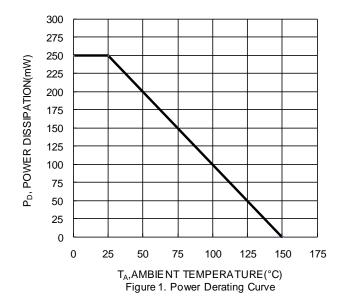
Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	PD	250	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{0JA}	522	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	С°

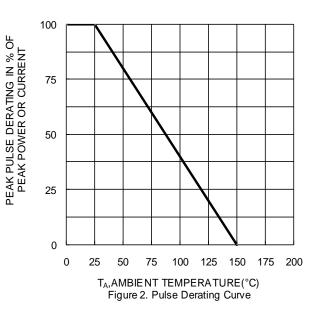
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	-	5	V	_
Channel Leakage Current (Note 6)	I _{RM}	—	5	100	nA	V _{RWM} = 5V
Clamping Voltage	V _{CL}	—	7.2	—	V	I _{PP} = 3A, t _p = 8/20μs
Breakdown Voltage	V _{BR}	5.5	7	9.5	V	$I_R = 5mA$
Differential Resistance	R _{DIF}	—	—	100	Ω	I _R = 1mA
Channel Input Capacitance	Ст	—	2.9	_		$V_R = 0V, f = 1MHz$
			1.9	_		$V_R = 5V, f = 1MHz$

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.

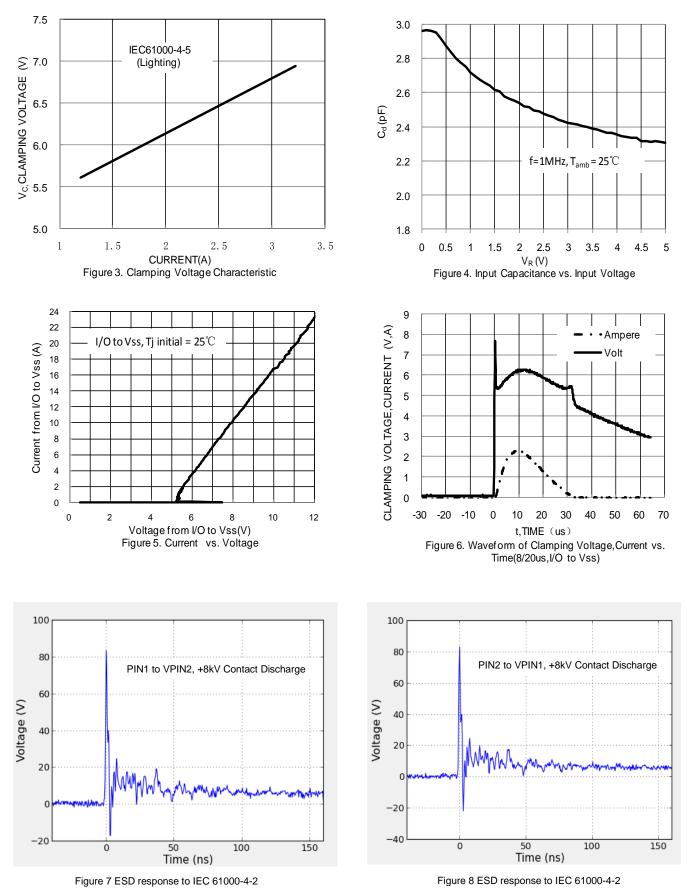
6. Short duration pulse test used to minimize self-heating effect.







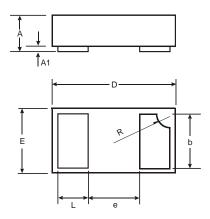
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Package Outline Dimensions

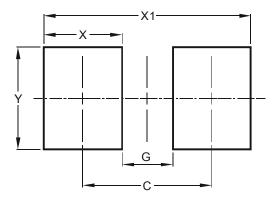
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



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		
E	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
Y	0.70



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