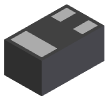
Features

- IEC 61000-4-2 (ESD): Level 4, Air – 16kV, Contact – 8kV
- MIL STD 883C (ESD) HBM – 16kV
- Low Leakage < 1µA @ 5.25V
- Low Capacitance (40pF typical)
- Surface Mount Package Ideally Suited for Automated Insertion
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

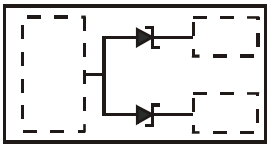
Mechanical Data

- 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
- Terminals: Finish — NiPdAu over Copper Leadframe. Solderable per MIL-STD-202, Method 208 e4
- Weight: 0.0009 grams (Approximate)

X1-DFN1006-3



Bottom View



Top View
Internal Schematic

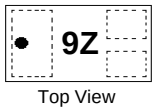
Ordering Information (Note 4)

Part Number	Case	Packaging
DESD6V8DLP-7	X1- DFN1006-3	3,000/Tape & Reel
DESD6V8DLP-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.

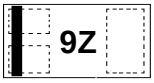
Marking Information

DESD6V8DLP-7

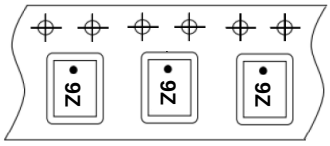


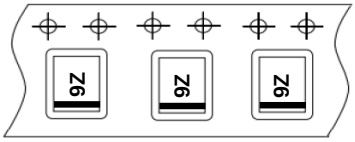
Top View
Dot Denotes Cathode Side

From date code 1527 (YYWW), this changes to:

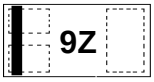


Top View
Bar Denotes Cathode Side

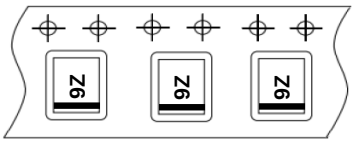




DESD6V8DLP-7B



Top View
Bar Denotes Cathode Side



9Z = Product Type Marking Code

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

Characteristic	Symbol	Value	Unit
Forward Voltage @ I_F = 10mA	V_F	1.25	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Peak Pulse Power (tp = 8x20µs) (Note 5) T_A = +25°C	P_{pk}	70	W
Power Dissipation (Note 5)	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)	Maximum Dynamic Impedance f = 1kHz			Typical Total Capacitance C_T V_R = 0V, f = 1MHz
V_{RWM} (V)	Min (V)	Typ (V)	Max (V)	I_T (mA)	I_R (µA)	Z_{ZT} @ I_T (Ω)	Z_{ZK} @ I_{ZK} (Ω)	I_{ZK} (mA)	(pF)
5.25	6.4	6.8	7.2	5.0	1.0	30	300	0.5	40

Notes: 5. Device mounted on FR-5 PC board of size 1.0 x 0.75 x 0.62 inches.
6. Short duration pulse test used to minimize self-heating effect.
7. Clamping voltage value is based on an 8 x 20µs peak pulse current (I_{pp}) waveform.

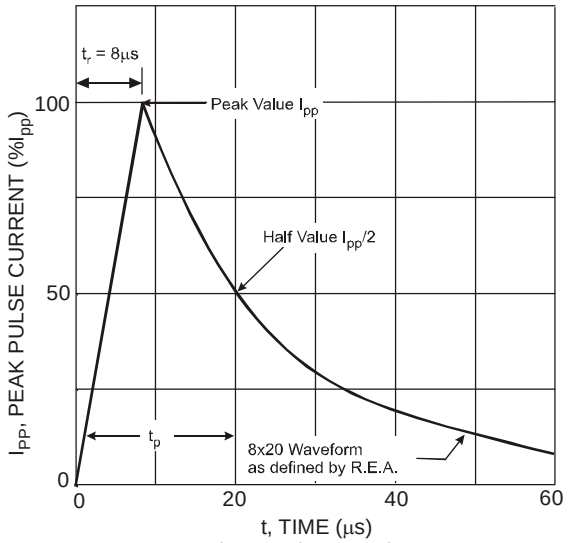


Fig. 1 Pulse Waveform

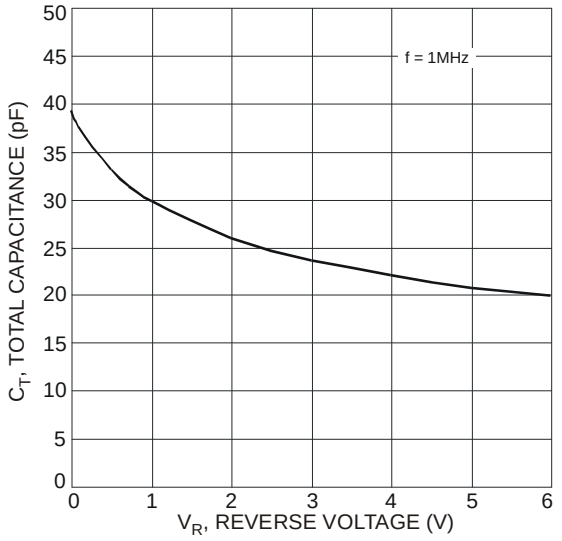


Fig. 2 Typical Total Capacitance vs. Reverse Voltage

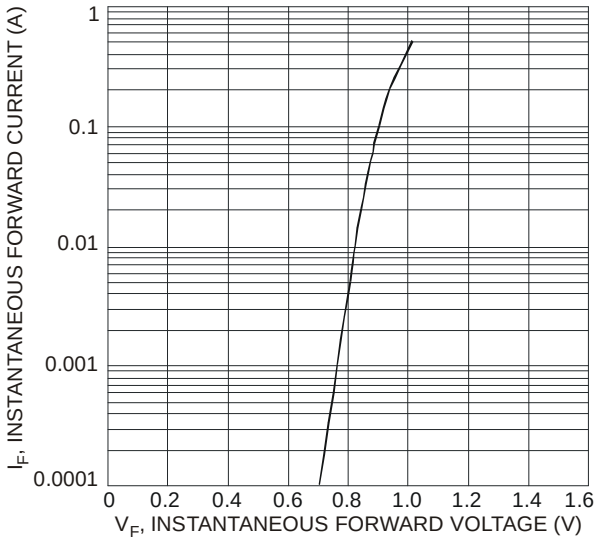


Fig. 3 Typical Forward Characteristics, Per Element

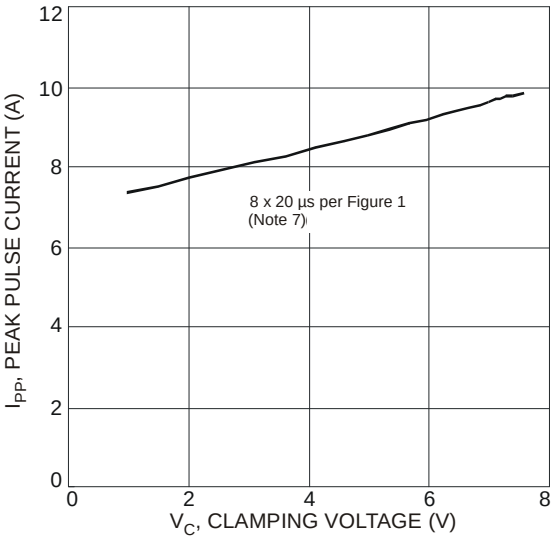
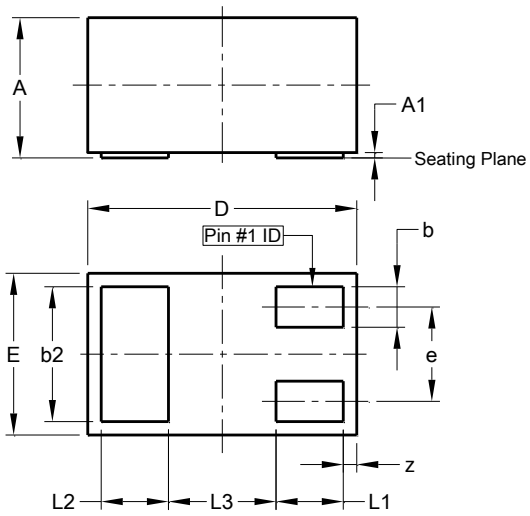


Fig. 4 Clamping Voltage vs. Peak Pulse Current

Package Outline Dimensions

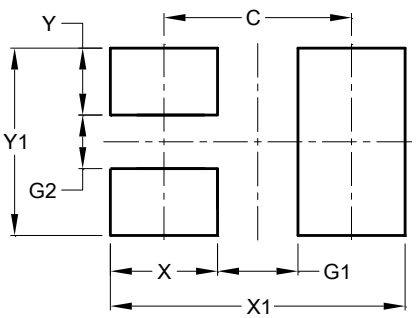
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



X1-DFN1006-3			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0.00	0.05	0.03
b	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
z	0.02	0.08	0.05
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)
C	0.70
G1	0.30
G2	0.20
X	0.40
X1	1.10
Y	0.25
C	0.70

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