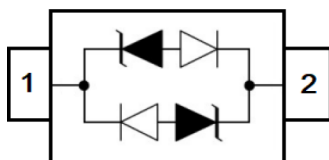


RoHS
Compliant



Device Schematic & PIN Configuration



Description

The HxxxD3xVxBL series are low capacitance bidirectional electro static discharge (ESD) protection diodes in small surface-mounted device (SMD) plastic packages designed to protect one data line from the damage caused by ESD.

Applications

- Ethernet - 10/100/1000 Base T
- Handheld - Wireless Systems
- USB Interface

Features

- 1 Channel of ESD Protection (Bi-directional)
- Peak Pulse Power : $P_{pp} = 350W$ ($t_p=8/20$ us)
- Reverse Working Voltage : 3.3V thru 36V
- Low Leakage Current
- Low Clamping Voltage
- Low Capacitance :0.8pF (Typ)
- IEC 61000-4-2 (ESD) : $\pm 27kV$ (Contact) / $\pm 30kV$ (Air)

Mechanical Data

- Case: SOD323 Package.
- Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
- Terminals:Matte tin plated,solderable per MIL-STD-750, method 2026

Maximum Ratings (@ $T_A = +25^{\circ}C$, unless otherwise specified.)

Absolute Ratings			
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P_{PP}	350	W
ESD Protection- Contact (Standard IEC 61000-4-2)	V_{ESD}	± 27	k V
ESD Protection- Air (Standard IEC 61000-4-2)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150	
Soldering Temperature, $t_{max} = 10s$	T_L	260	

Electrical Characteristics

Part Number	Marking Code	Reverse Working Voltage (Max) VRWM(V)	Reverse Breakdown Voltage(Min) VB(V) @IT=1mA	Reverse Current (Max) IR(uA) @VR=VRWM	Reverse Clamping Voltage(Max) VC(V) @IPP=1A	Reverse Clamping Voltage(Max) VC(V) @IPP=Max.	Peak Pulse Current (Max) IPP(A)	Junction Capacitance (Typ) Cj(pF) @VR=0V, F=1MHz
H20D33V3BL	CC	3.3	4	5	7	20	20	0.8
H18D35V0BL	AC	5	6	1	9.8	20	18	
H12D312VBL	DC	12	13.3	1	19	28.6	12	
H06D324VBL	HC	24	26.7	1	43	56	6	
H4A5D336VBL	IC	36	40	1	60	75	4.5	

Rating and Characteristic Curves

FIG.1 - 8/20us Pulse Waveform According to IEC 61000-4-5

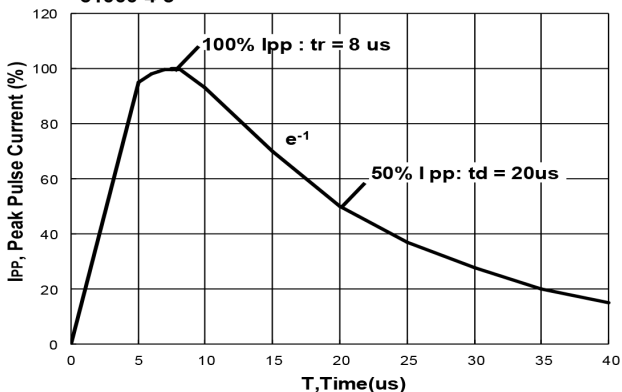


FIG.2 - Power Dissipation Versus Pulse Time

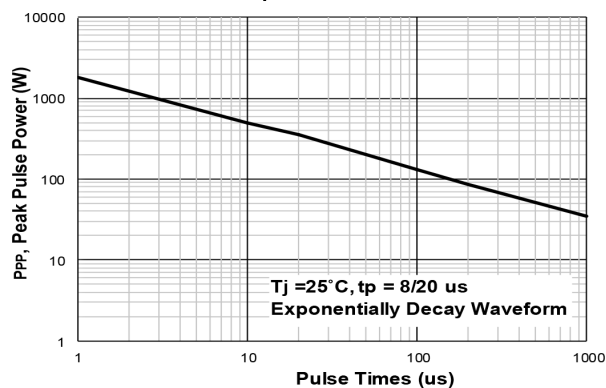


FIG.3 - Peak Pulse Power Versus Tj

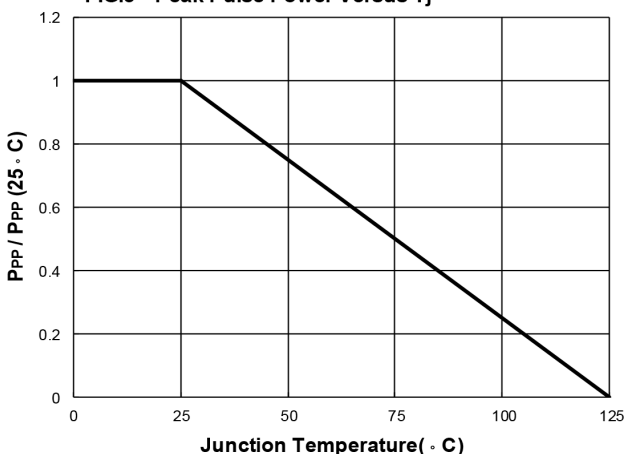
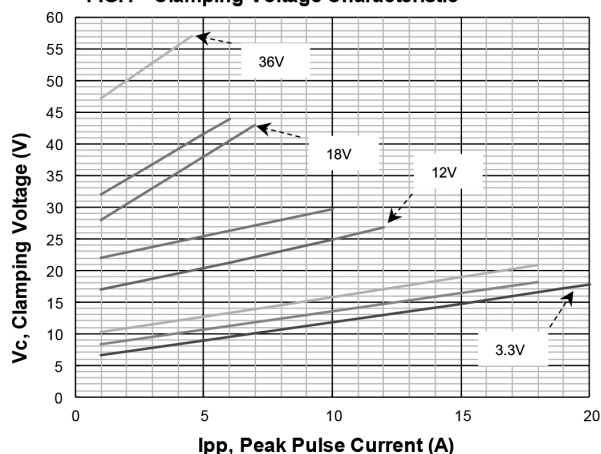
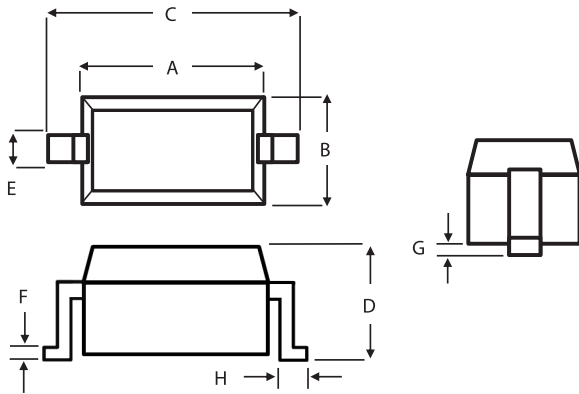


FIG.4 - Clamping Voltage Characteristic

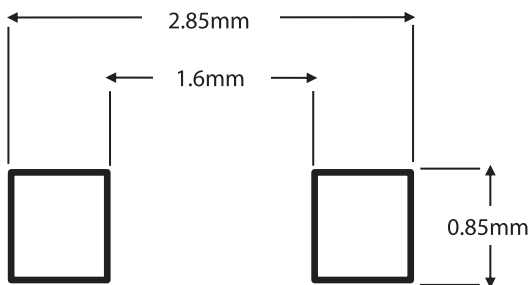


Package Outline Dimensions



SOD323 Package		
Dim	Min	Max
A	1.6	1.8
B	1.2	1.4
C	2.5	2.7
D	--	1
E	0.25	0.35
F	0.08	0.15
G	--	0.1
H	0.25	0.4

Suggested Soldering Pad Layout



Part Number Table

Description	Part Number
ESD Protection Diode, Bi-Directional, 20A, 20V, SOD-323	H20D33V3BL
ESD Protection Diode, Bi-Directional, 18A, 20V, SOD-323	H18D35V0BL
ESD Protection Diode, Bi-Directional, 12A, 28.6V, SOD-323	H12D312VBL
ESD Protection Diode, Bi-Directional, 6A, 56V, SOD-323	H06D324VBL
ESD Protection Diode, Bi-Directional, 4.5A, 75V, SOD-323	H4A5D336VBL

Dimensions : Millimetres

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