



Bi-directional ESD Protection Diodes

Peak Pulse Power - 350 Watts

Description

The AHxxxD3xVxBL 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.

Features

- 1 Channel of ESD Protection (Bi-directional)
- Peak Pulse Power :Ppp = 350W (tp=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) :±30kV(Contact) / ±30kV(Air)
- High reliability and automotive grade (AEC-Q101 qualified)

Applications

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

Mechanical Data

- Case: SOD323 Package
- Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
- Component in accordance to RoHS
- Terminals:Matte tin plated,solderable per MIL-STD-750, method 2026
- Halogen Free

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Ordering Information

- Package :SOD323
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :45,000/Tape & Reel
- Quantity One Carton :180,000/Tape & Reel

Marking Information



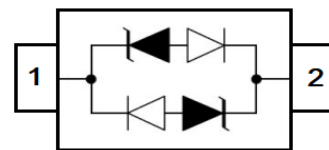
See marking code of Page 2

Package Outline



SOD323 Top View

Device Schematic & PIN Configuration



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

Absolute Ratings

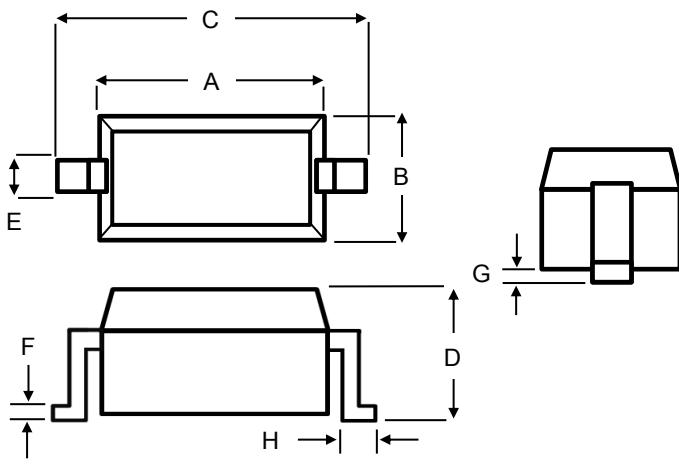
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P _{PP}	350	W
ESD Protection- Contact (Standard IEC 61000-4-2)	V _{ESD}	±30	kV
ESD Protection- Air (Standard IEC 61000-4-2)		±30	
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C
Soldering Temperature, t max =10s	T _L	260	°C

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

Electrical Characteristics

Part Number	Marking Code	Reverse Working Voltage(Max)	Reverse Breakdown Voltage(Min)	Reverse Current(Max)	Reverse Clamping Voltage(Max)	Reverse Clamping Voltage(Max)	Peak Pulse Current(Max)	Junction Capacitance(Typ)
		V _{RWM} (V)	V _B (V) @I _T =1mA	I _R (μ A) @V _R =V _{RWM}	V _C (V) @I _{PP} =1A	V _C (V) @I _{PP} =Max.	I _{PP} (A)	C _j (pF) @V _R =0V, F=1MHz
AH20D33V3BL	CC	3.3	4.0	5	7.0	20.0	20	0.8
AH18D35V0BL	AC	5	6.0	1	9.8	20.0	18	0.8
AH18D38V0BL	BC	8	8.5	1	13.4	24.0	18	0.8
AH12D312VBL	DC	12	13.3	1	19	28.6	12	0.8
AH10D315VBL	EC	15	16.7	1	24	31.8	10	0.8
AH07D318VBL	FC	18	20.0	1	35	53.0	7	0.8
AH06D324VBL	HC	24	26.7	1	43	56.0	6	0.8
AH4A5D336VBL	IC	36	40.0	1	60	75.0	4.5	0.8

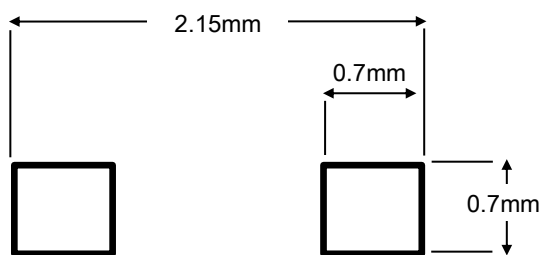
Package Outline Dimensions



SOD323 Package		
Dim	Min	Max
A	1.6	1.8
B	1.2	1.4
C	2.5	2.7
D	-	1.0
E	0.25	0.35
F	0.08	0.15
G	-	0.1
H	0.25	0.4

All Dimensions in mm

Suggested Soldering Pad Layout





Rating and Characteristic Curves

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

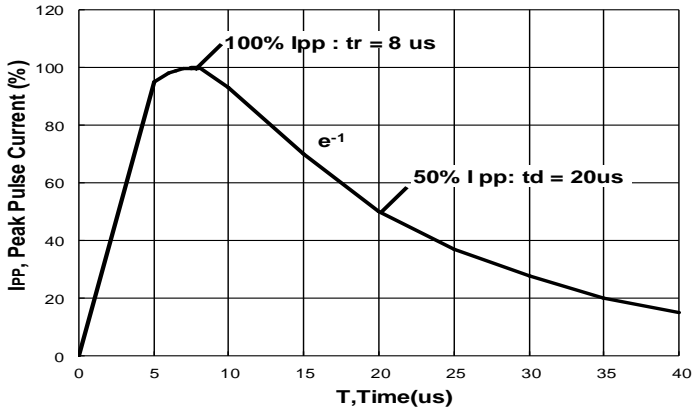


FIG.2 - Power Dissipation Versus Pulse Time

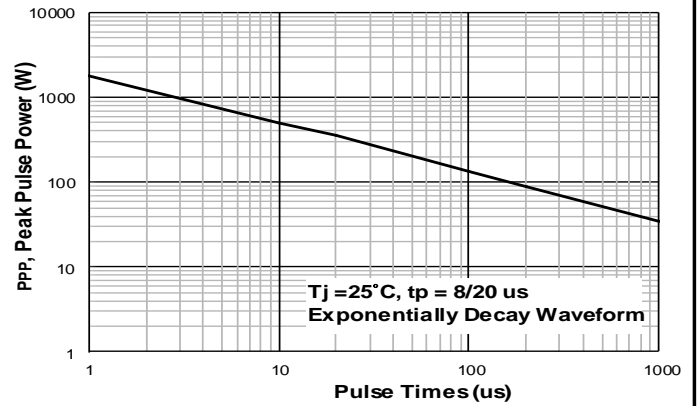


FIG.3 - Peak Pulse Power Versus Tj

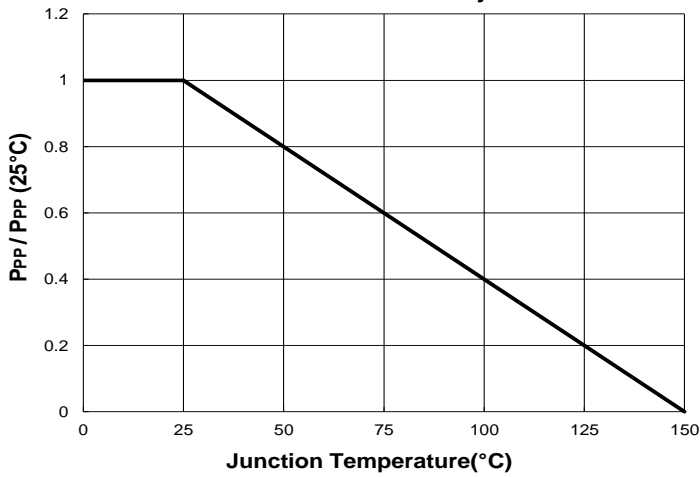
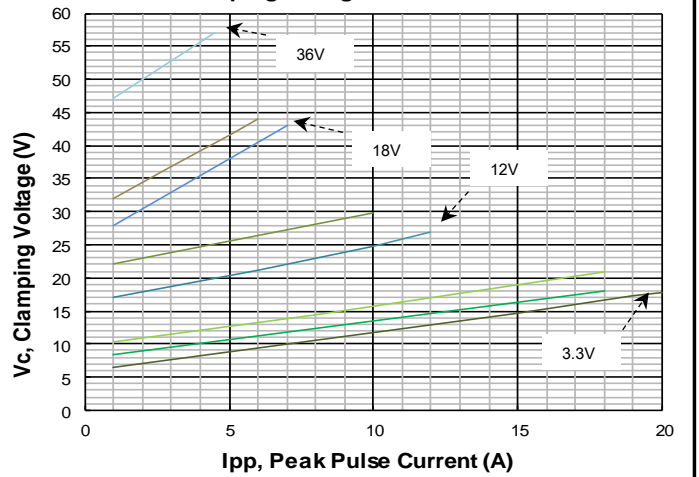


FIG.4 - Clamping Voltage Characteristic





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