



## Bi-directional ESD Protection Diode

**Peak Pulse Power - 80 Watts**  
**Reverse Working Voltage - 3.3V**

## Description

The H08X33V3B is designed to provide electrostatic discharge (ESD) protection for data, control or power lines. The uses ultra small DFN0603 package. Each device can protect one data line. It offers system designers flexibility to protect single data line where space is a premium concern.

## Features

- 1 Channel of ESD Protection (Bi-directional)
- Peak Pulse Power :Ppp = 80W (tp=8/20 us)
- Reverse Working Voltage : 3.3V
- Low Leakage Current
- Low Clamping Voltage
- IEC 61000-4-2 (ESD) :±30kV(Contact) / ±30kV(Air)

## Applications

- Notebooks / Desktops / Servers
- Cell phone Handsets / Accessories
- Portable Electronics
- Personal digital assistants (PDA's)

## Mechanical Data

- Case: DFN0603 Package
- Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
- Component in accordance to RoHS
- Halogen Free

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

## Ordering Information

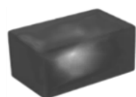
- Package :DFN0603
- Reel Size :7 (inches)
- Quantity Per Reel :15,000/Tape & Reel
- Quantity One Box :150,000/Tape & Reel
- Quantity One Carton :600,000/Tape & Reel

## Marking Information

3BN

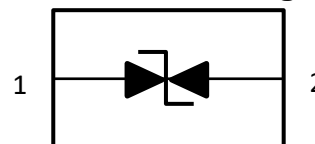
"3BN"=Product Type Marking Code

## Package Outline



DFN0603 Top View

## Device Schematic &amp; PIN Configuration



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

## Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P <sub>PP</sub>	80	W
Peak Pulse Current (8/20 us)	I <sub>PP</sub>	8	A
ESD Protection- Contact (Standard IEC 61000-4-2)	V <sub>ESD</sub>	±30	k V
ESD Protection- Air (Standard IEC 61000-4-2 )		±30	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	° C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	° C
Soldering Temperature, t max =10s	T <sub>L</sub>	260	° C

## Electrical Characteristics

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	---	V <sub>RWM</sub>	-	-	3.3	V
Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	V <sub>B</sub>	3.6	-	-	V
Reverse Current	V <sub>R</sub> =3.3V	I <sub>R</sub>	-	-	1	uA
Reverse Clamping Voltage	I <sub>PP</sub> = 1A (8/20μs)	V <sub>C</sub>	-	-	6	V
	I <sub>PP</sub> = 8A (8/20μs)		-	-	10	
Junction Capacitance	V <sub>R</sub> = 0V, F = 1MHz	C <sub>j</sub>	-	-	16.5	p F



## Rating and Characteristic Curves

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

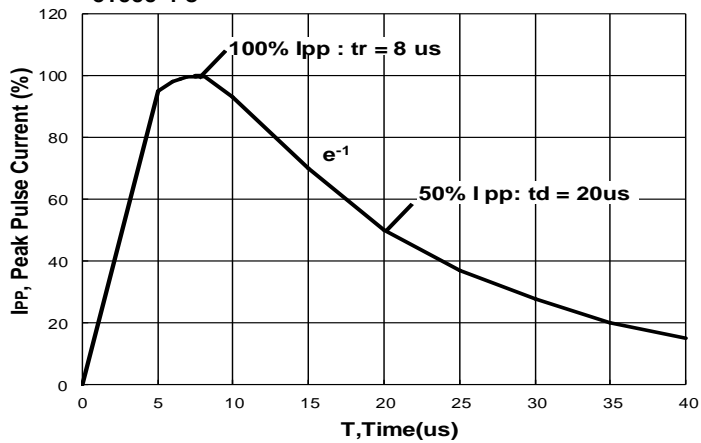


FIG.2 - Power Dissipation Versus Pulse Time

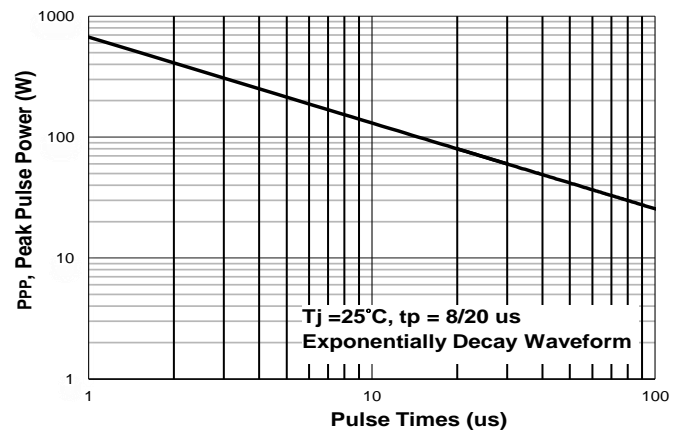


FIG.3 - Peak Pulse Power Versus Tj

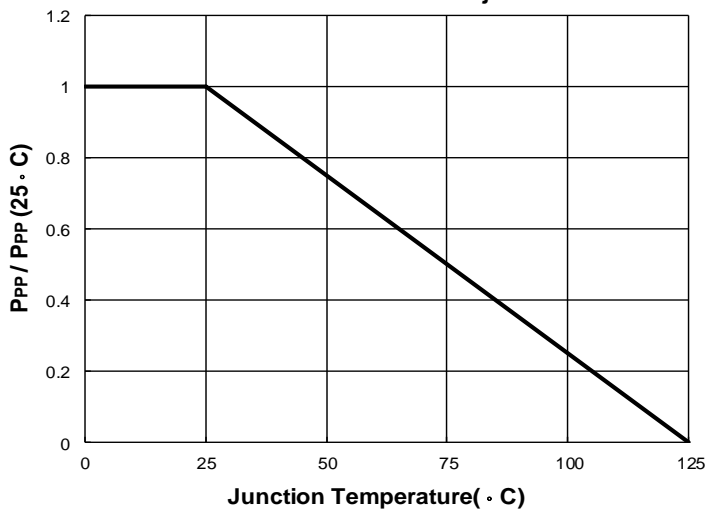
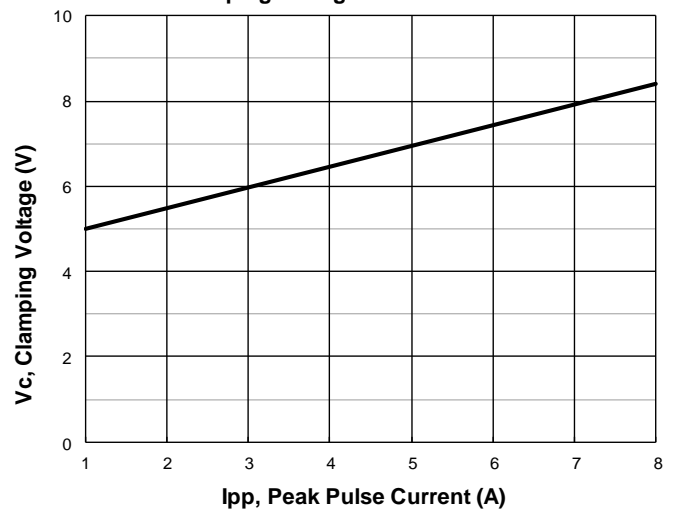
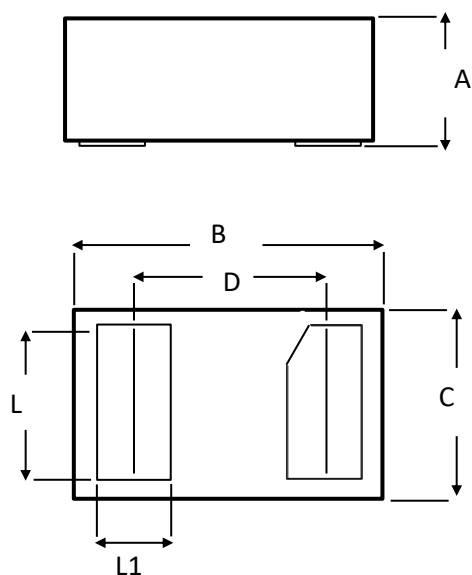


FIG.4 - Clamping Voltage Characteristic



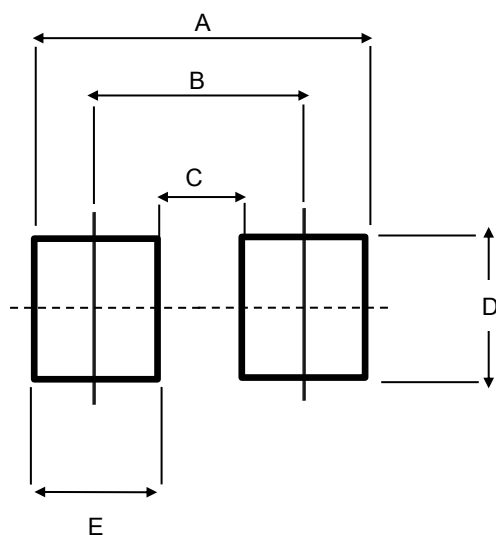


## Package Outline Dimensions



DFN0603 Package		
Dim	Min	Max
A	0.28	0.35
B	0.58	0.65
C	0.28	0.34
L	0.2	0.26
L1	0.13	0.19
D	0.36(Typ)	
All Dimensions in mm		

## Suggested Soldering Pad Layout



Dim.	Value
A	0.64
B	0.40
C	0.16
D	0.34
E	0.24
All Dimensions in mm	



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