# H16X33V3B

**Bi-directional ESD Protection Diode**

**Peak Pulse Power - 112 Watts**
**Reverse Working Voltage - 3.3V**

## Description

The H16X33V3B 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 = 112W (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

- Mobile Phones
- Latchup Protection
- Microprocessors Protection
- Control Signal Line Protection
- Power Lines on PCB Protection
- Computer Interfaces Protection
- Hand Held Portable Applications

## 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 HY or hy are made by HY Electronic (Cayman) Limited.

## Ordering Information

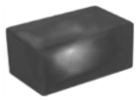
- Package :DFN0603
- Reel Size :7 (inches)
- Quantity Per Reel :10kpcs
- Quantity Per Box :100kpcs
- Quantity Per Carton :400kpcs

## Marking Information

E3T

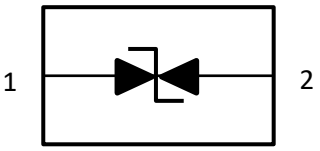
"E3T"=Product Type Marking Code

## Package Outline



DFN0603 Top View

## Device Schematic & PIN Configuration




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

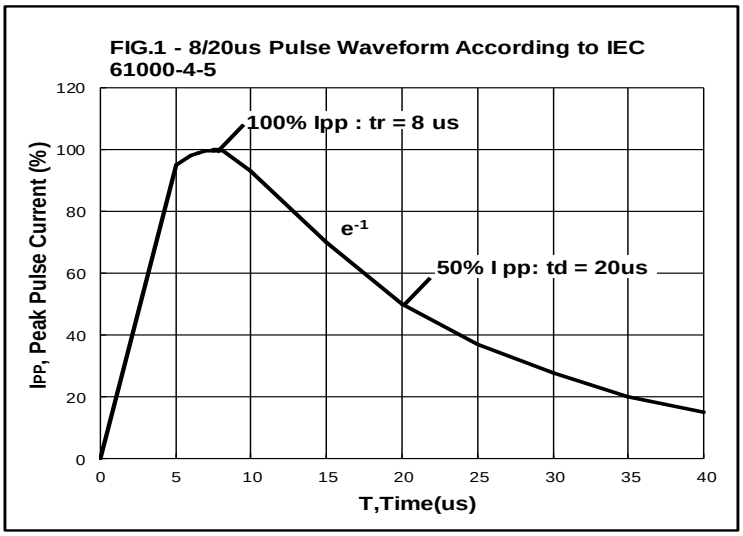
**Absolute Ratings**

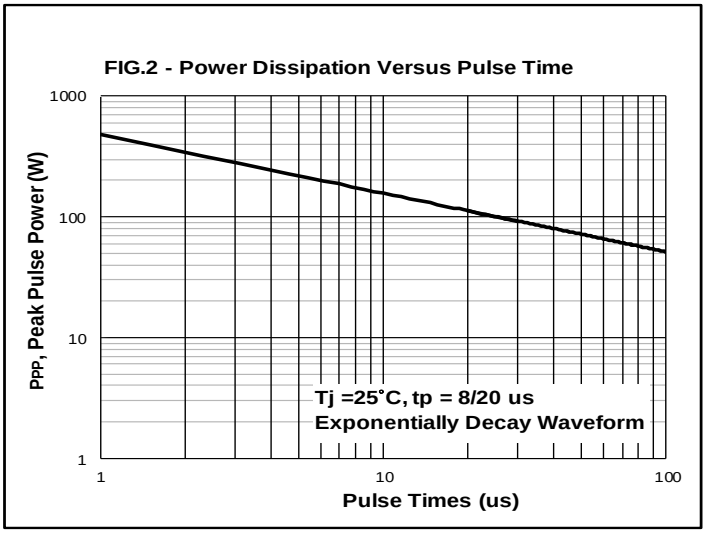
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power Dissipation (8/20 us) | $P_{PP}$ | 112 | W |
| Peak Pulse Current (8/20 us) | $I_{PP}$ | 16 | A |
| ESD Protection- Contact (Standard IEC 61000-4-2) | $V_{ESD}$ | ±30 | k V |
| ESD Protection- Air (Standard IEC 61000-4-2 ) | | ±30 | |
| Operating Temperature Range | $T_J$ | -55 to +125 | ° C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | ° C |
| Soldering Temperature, t max =10s | $T_L$ | 260 | ° C |

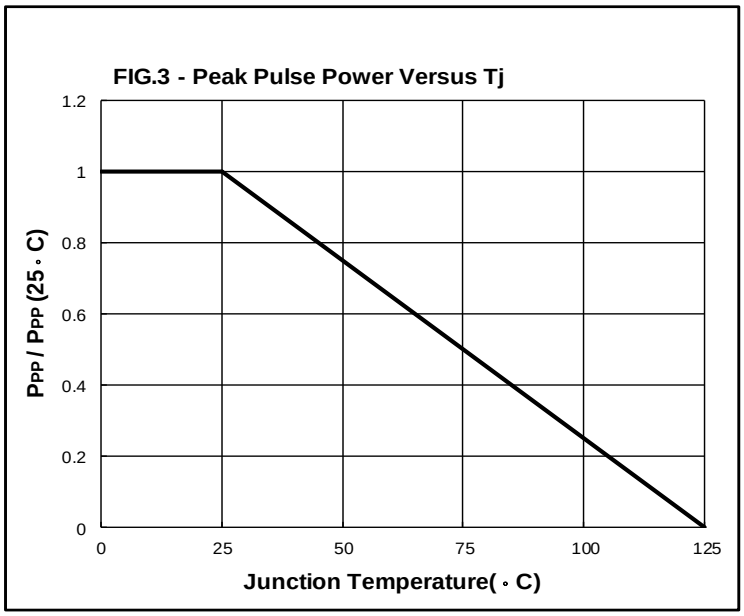
**Electrical Characteristics**

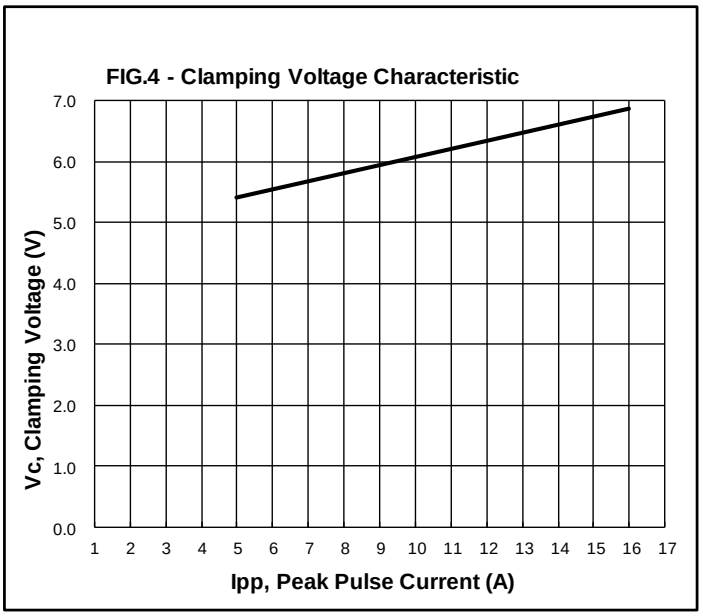
| Parameter | Test Conditions | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | --- | $V_{RWM}$ | - | - | 3.3 | V |
| Reverse Breakdown Voltage | $I_T$= 1mA | $V_B$ | 3.7 | - | - | V |
| Reverse Current | $V_R$ =3.3V | $I_R$ | - | - | 1 | uA |
| Reverse Clamping Voltage | $I_{PP}$ = 5A (8/20μs) | $V_C$ | - | - | 5.5 | V |
| | $I_{PP}$ = 16A (8/20μs) | | - | - | 7 | |
| Junction Capacitance | $V_R$ = 0V, F = 1MHz | Cj | - | - | 45 | p F |

## Rating and Characteristic Curves



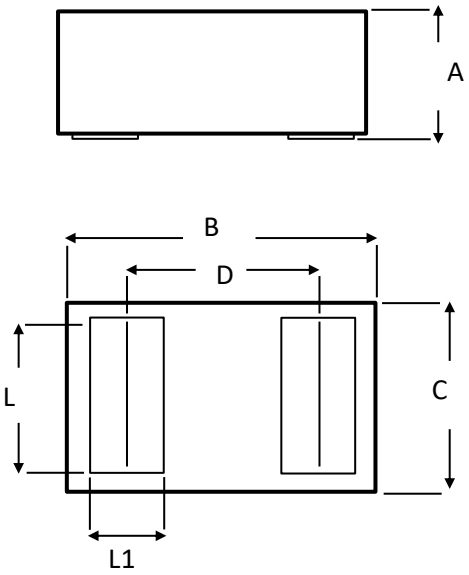



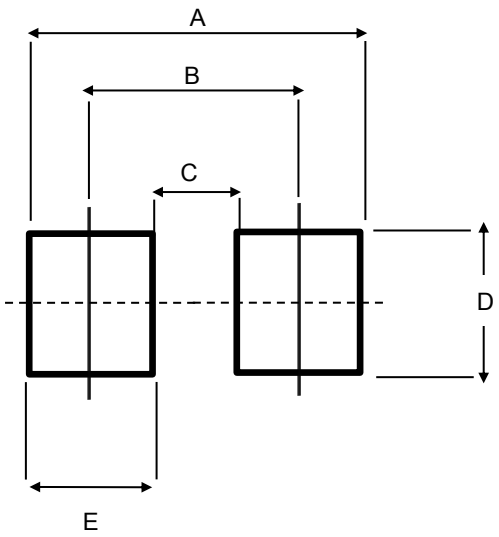

The curve above is for reference only.

## Package Outline Dimensions




| DFN0603 Package | | |
|---|---|---|
| Dim | Min | Max |
| A | 0.275 | 0.340 |
| B | 0.570 | 0.670 |
| C | 0.270 | 0.370 |
| L | 0.205 | 0.275 |
| L1 | 0.105 | 0.175 |
| D | 0.365 | 0.435 |
| 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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