

## Features

- \* 100W peak pulse power (8/20 $\mu$ s)
- \* Ultra low capacitance: 0.3 pF typical
- \* Ultra low leakage: nA level
- \* Low operating : 3.3V
- \* Low clamping voltage
- \* Protects one power line or data line
- \* Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 20$ kV  
Contact discharge:  $\pm 15$ kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- \* RoHS Compliant

## Mechanical Characteristics

- \* Package: SOD-323
- \* Lead Finish: Matte Tin
- \* Case Material: “Green” Molding Compound.
- \* UL Flammability Classification Rating 94V-0
- \* Moisture Sensitivity: Level 3 per J-STD-020
- \* Terminal Connections: See Diagram Below

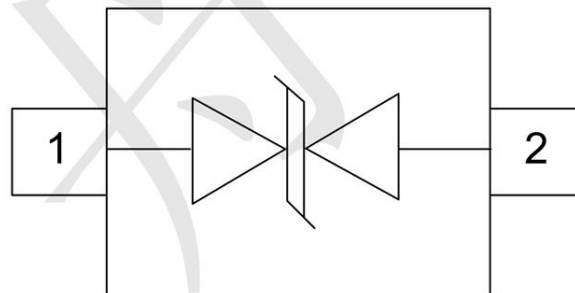
## Applications

- \* USB Ports
- \* Smart Phones
- \* Wireless Systems
- \* Ethernet 10/100/1000 Base T

## Ordering Information

| Part Number   | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| ESD3V3B03-323 | 3000         | 7"        |

## Dimensions and Pin Configuration



**Marking: 3C Or CC**

**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

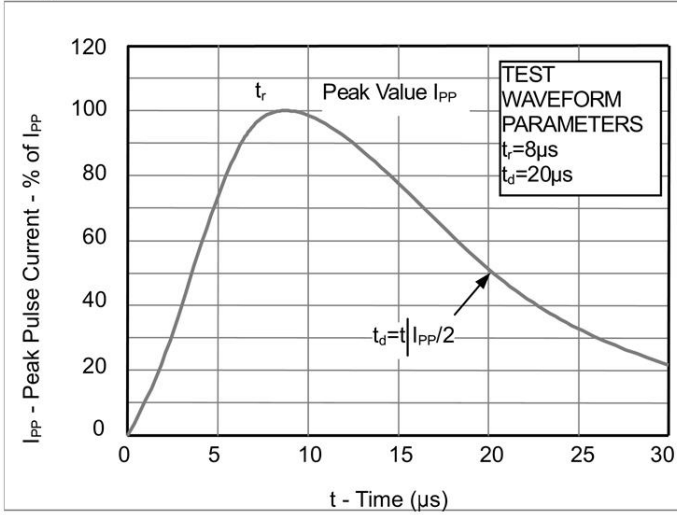
| Parameter                                | Symbol | Value       | Unit             |
|--|--------|-------------|------------------|
| Peak Pulse Power (8/20 $\mu\text{s}$ )   | Ppk    | 100         | W                |
| Peak Pulse Current (8/20 $\mu\text{s}$ ) | IPP    | 4           | A                |
| ESD per IEC 61000-4-2 (Air)              | VESD   | $\pm 20$    | kV               |
| ESD per IEC 61000-4-2 (Contact)          |        | $\pm 15$    |                  |
| Operating Temperature Range              | TJ     | -40 to +85  | $^\circ\text{C}$ |
| Storage Temperature Range                | Tstg   | -55 to +150 | $^\circ\text{C}$ |

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

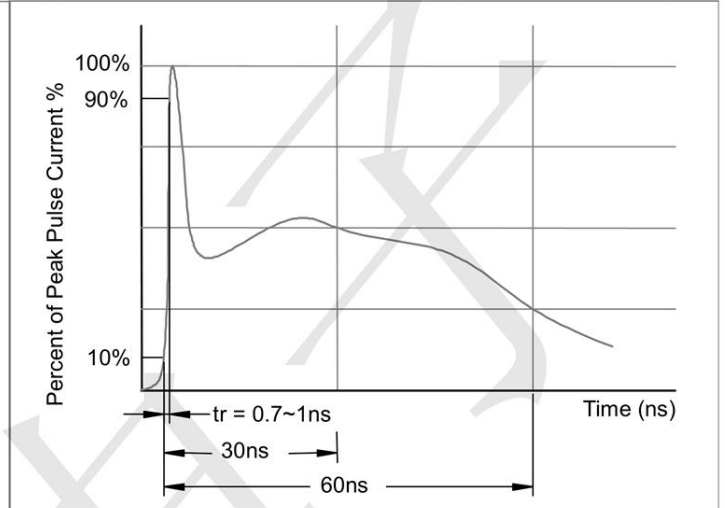
| Parameter               | Symbol    | Test Condition                                    | Min | Typ | Max | Unit          |
|-------------------------|-----------|---|-----|-----|-----|---------------|
| Reverse Working Voltage | $V_{RWM}$ |   |     |     | 3.3 | V             |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1\text{mA}$                                | 4   |     | 6   | V             |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 3.3\text{V}$                           |     |     | 0.2 | $\mu\text{A}$ |
| Clamping Voltage        | $V_C$     | $I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse) |     |     | 5   | V             |
| Clamping Voltage        | $V_C$     | $I_{PP} = 4\text{A}$ (8 x 20 $\mu\text{s}$ pulse) |     |     | 23  | V             |
| Junction Capacitance    | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$             |     | 0.3 |     | pF            |

**Typical Performance Characteristics (TA=25°C unless otherwise Specified)**

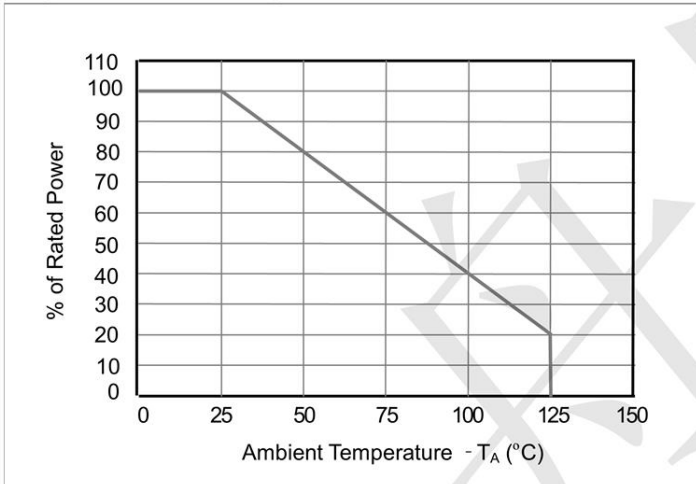
**Fig1. 8/20μs Pulse Waveform**



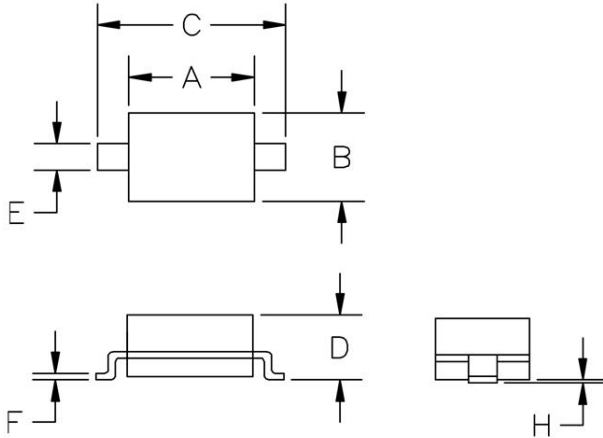
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

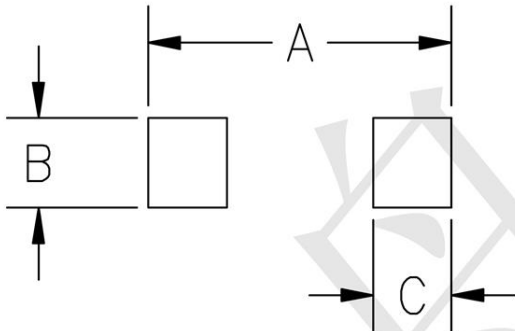


**SOD-323 Package Outline Drawing**



| SYM | DIMENS      |      |        |       |
|-----|-------------|------|--------|-------|
|     | MILLIMETERS |      | INCHES |       |
|     | MIN         | MAX  | MIN    | MAX   |
| A   | 1.50        | 1.80 | 0.060  | 0.071 |
| B   | 1.20        | 1.40 | 0.045  | 0.054 |
| C   | 2.30        | 2.70 | 0.090  | 0.107 |
| D   | -           | 1.10 | -      | 0.043 |
| E   | 0.30        | 0.40 | 0.012  | 0.016 |
| F   | 0.10        | 0.25 | 0.004  | 0.010 |
| H   | -           | 0.10 | -      | 0.004 |

**Suggested Land Pattern**



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| A   | 3.15        | 0.120  |
| B   | 0.80        | 0.031  |
| C   | 0.80        | 0.031  |