

## Features

- Ultra low capacitance: 0.5pF typical
- Ultra low leakage: nA level
- Low operating voltage: 15V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 15\text{kV}$
    - Contact discharge:  $\pm 8\text{kV}$
- RoHS Compliant
- Lead Finish: NiPdAu

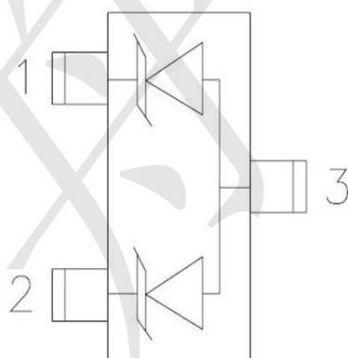
## Mechanical Characteristics

- Package: SOT23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :3000pcs/7Inch Tape & Reel

## Applications

- USB 2.0 and USB 3.0
- 10/100/1000 Ethernet
- High-speed data lines
- FireWire
- Local Area Network (LAN) equipmen

## Dimensions and Pin Configuration



**Marking: WAT**

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

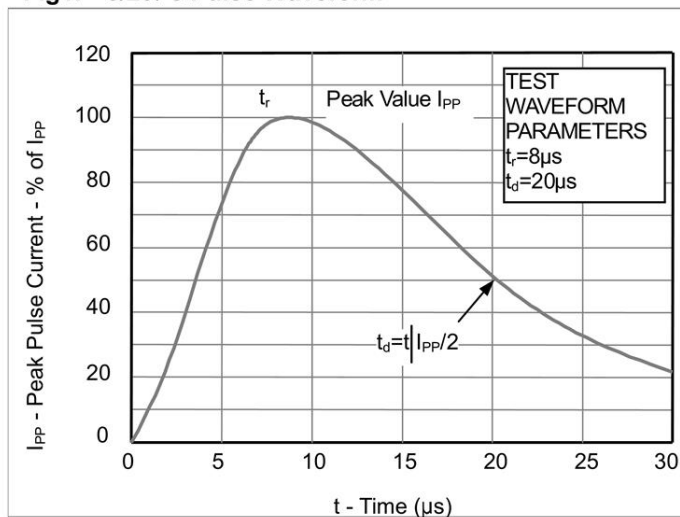
| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| ESD per IEC 61000-4-2 (Air)     | VESD   | ± 15        | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ± 8         |      |
| Operating Temperature Range     | TJ     | -55 to +125 | °C   |
| Storage Temperature Range       | Tstg   | -55 to +150 | °C   |

**Electrical Characteristics** (TA=25°C unless otherwise specified)

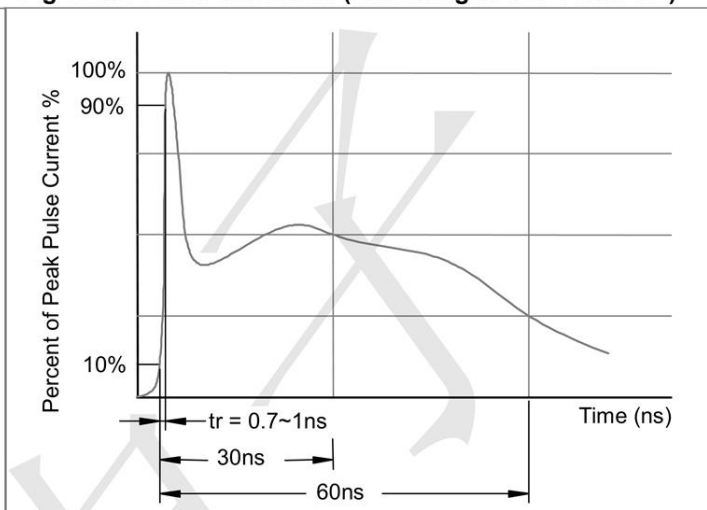
| Parameter               | Symbol | Min  | Typ | Max  | Unit | Test Condition                                    |
|-------------------------|--------|------|-----|------|------|---------------------------------------------------|
| Reverse Working Voltage | VRWM   |      |     | 24   | V    |                                                   |
| Breakdown Voltage       | VBR    | 26.4 |     |      | V    | IT = 1mA                                          |
| Reverse Leakage Current | IR     |      |     | 0.08 | μA   | VRWM = 24V                                        |
| Forward Voltage         | VF     |      | 0.8 | 1.2  | V    | IF = 10mA                                         |
| Clamping Voltage        | VC     |      |     | 43   | V    | I <sub>PP</sub> = 1.2 A (8 x 20μs pulse)          |
| Junction Capacitance    | CJ     |      |     | 0.9  | pF   | VR=0, f=1MHz, Pin 1 to Pin 3 or<br>Pin 2 to Pin 3 |
| Junction Capacitance    | CJ     |      | 0.5 |      | pF   | VR=0, f=1MHz, Pin 1 to Pin 2                      |

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

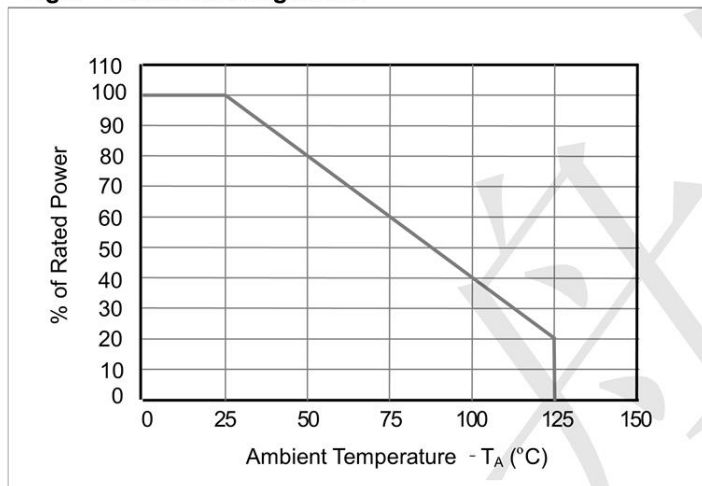
**Fig1. 8/20 $\mu\text{s}$  Pulse Waveform**



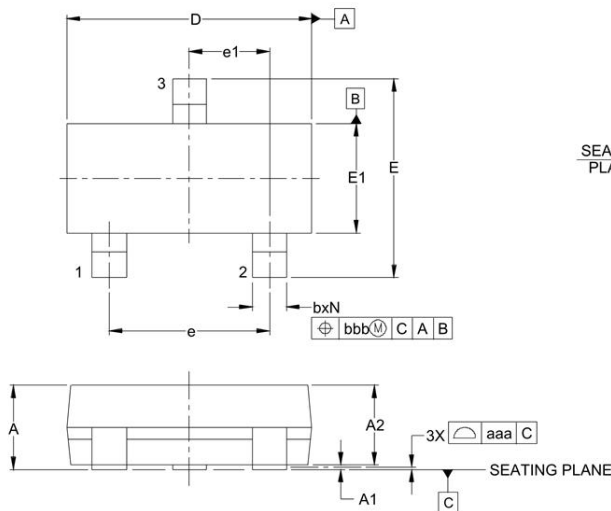
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

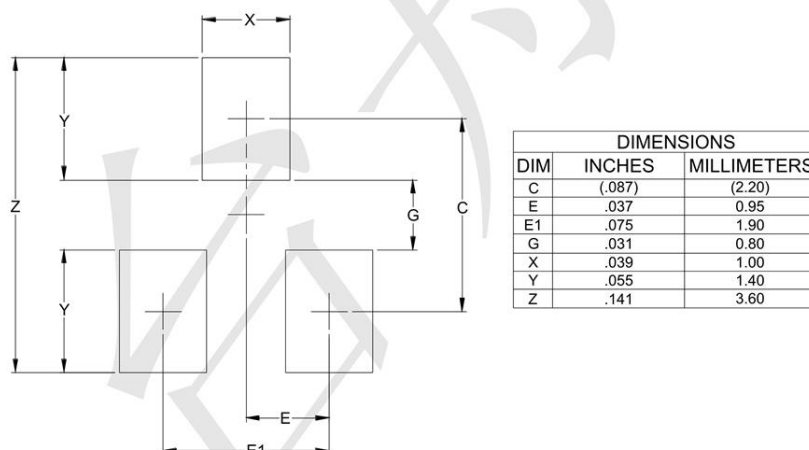


## Outline Drawing - SOT23



| DIM | INCHES |      |      | MILLIMETERS |        |      |
|-----|--------|------|------|-------------|--------|------|
|     | MIN    | NOM  | MAX  | MIN         | NOM    | MAX  |
| A   | .035   | -    | .044 | 0.89        | -      | 1.12 |
| A1  | .000   | -    | .004 | 0.01        | -      | 0.10 |
| A2  | .035   | .037 | .040 | 0.88        | 0.95   | 1.02 |
| b   | .012   | -    | .020 | 0.30        | -      | 0.51 |
| c   | .003   | -    | .007 | 0.08        | -      | 0.18 |
| D   | .110   | .114 | .120 | 2.80        | 2.90   | 3.04 |
| E   | .082   | .093 | .104 | 2.10        | 2.37   | 2.64 |
| E1  | .047   | .051 | .055 | 1.20        | 1.30   | 1.40 |
| e   |        | .075 |      |             | 1.90   | BSC  |
| e1  |        | .037 |      |             | 0.95   | BSC  |
| L   | .015   | .020 | .024 | 0.40        | 0.50   | 0.60 |
| L1  |        | .022 |      |             | (0.55) |      |
| N   |        | 3    |      |             | 3      |      |
| phi | 0°     | -    | 8°   | 0°          | -      | 8°   |
| aaa |        | .004 |      |             | 0.10   |      |
| bbb |        | .008 |      |             | 0.20   |      |

## Land Pattern - SOT23



| DIM | DIMENSIONS |             |
|-----|------------|-------------|
|     | INCHES     | MILLIMETERS |
| C   | (.087)     | (2.20)      |
| E   | .037       | 0.95        |
| E1  | .075       | 1.90        |
| G   | .031       | 0.80        |
| X   | .039       | 1.00        |
| Y   | .055       | 1.40        |
| Z   | .141       | 3.60        |