

## Features

- Low operating voltage:  $\pm 5V$
- Ultra low capacitance: 15pF typical
- Ultra low leakage: nA level
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30kV$   
Contact discharge:  $\pm 30kV$
  - - IEC61000-4-5 (Lightning) 9A (8/20 $\mu s$ )
- These are Pb-Free Devices
- Response Time is Typically  $< 1 ns$

## Mechanical Characteristics

- Package: SOD523 (0603)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

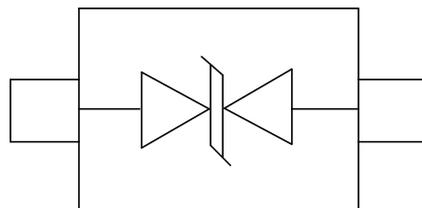
## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

## Ordering Information

| Part Number    | Qty per Reel | Reel Size |
|----------------|--------------|-----------|
| TPESD5D5.0CT1G | 3000         | 7"        |

## Dimensions and Pin Configuration



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

| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 90          | W    |
| Peak Pulse Current (8/20μs)     | Ipp    | 9           | A    |
| ESD per IEC 61000-4-2 (Air)     | VESD   | ±30         | kV   |
| ESD per IEC 61000-4-2 (Contact) |        | ±30         |      |
| 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   |     |     | 5    | V    |                       |
| Breakdown Voltage       | VBR    | 5.6 | 6.5 |      | V    | IT = 1mA              |
| Reverse Leakage Current | IR     |     |     | 0.07 | uA   | VRWM = 5V             |
| Clamping Voltage        | VC     |     | 7   | 8.6  | V    | Ipp=1A(8x 20us pulse) |
| Clamping Voltage        | VC     |     | 8.6 | 10   | V    | Ipp=9A(8x 20us pulse) |
| Junction Capacitance    | CJ     |     | 15  |      | pF   | VR = 0V, f = 1MHz     |

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

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

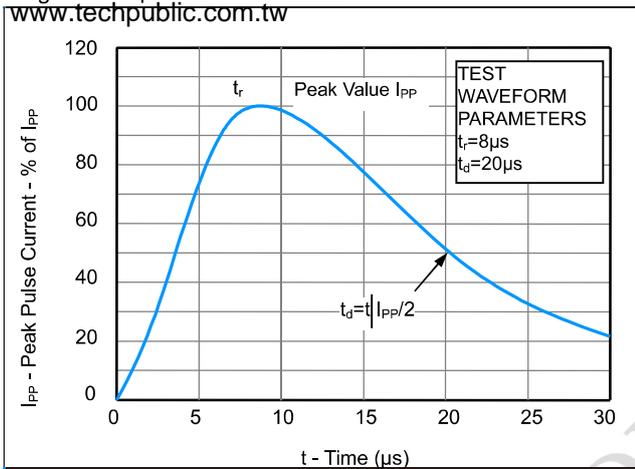


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

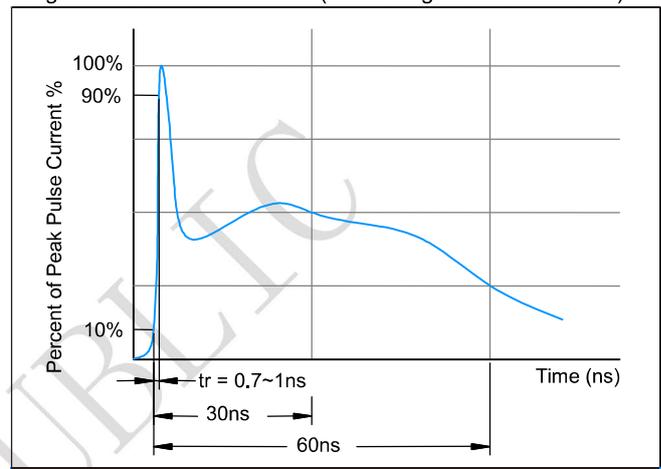
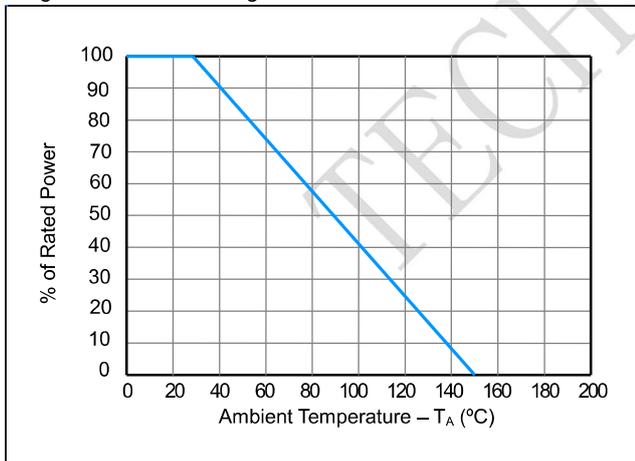
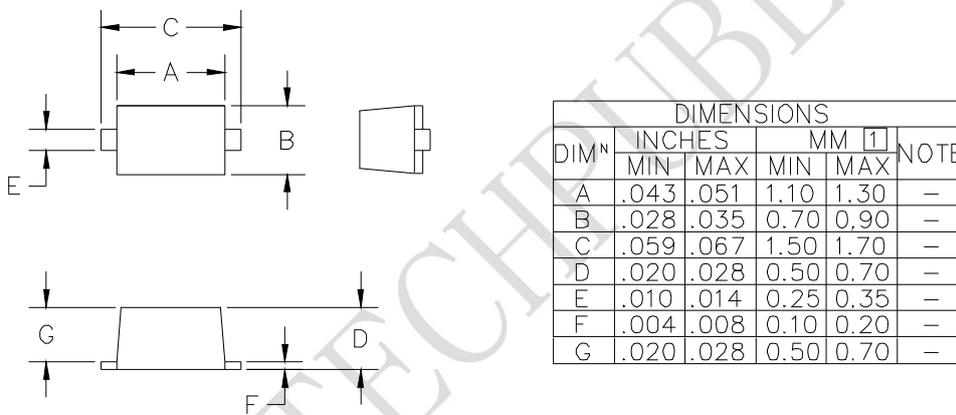


Fig3. Power Derating Curve

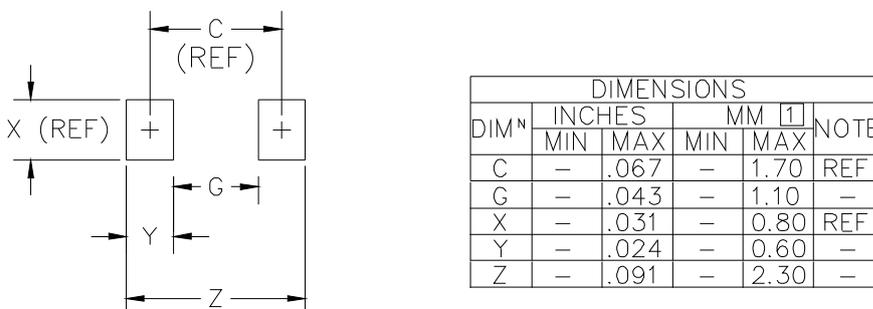


**SOD523 (0603) Package Outline Drawing**



[1] CONTROLLING DIMENSION: MILLIMETERS

**Suggested Land Pattern**



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