

### Features

- Ultra low capacitance: 0.5pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - – IEC61000-4-5 (Lightning)4A (8/20 $\mu\text{s}$ )
- RoHS Compliant
- Lead Finish: NiPdAu

### Mechanical Characteristics

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

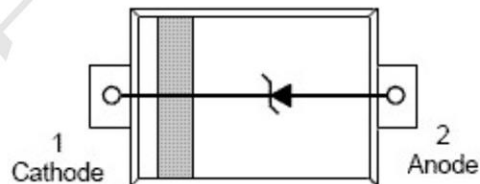
### Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

### Ordering Information

| Part Number   | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| ESD5V0U05-523 | 3000         | 7"        |

### Dimensions and Pin Configuration



Marking: 5L Or L

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

| Parameter                       | Symbol | Value       | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)       | Ppk    | 70          | W    |
| Peak Pulse Current (8/20μs)     | Ipp    | 4           | 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    | 6.5 | 7.5 | 9.0  | V    | IT = 1mA                          |
| Reverse Leakage Current | IR     |     |     | 0.08 | uA   | VRWM = 5V                         |
| Clamping Voltage        | VC     |     |     | 10   | V    | Ipp=1A(8x 20us pulse)             |
| Clamping Voltage        | VC     |     |     | 14   | V    | Ipp=4A(8x 20us pulse)             |
| Junction Capacitance    | CJ     |     | 0.5 | 0.9  | pF   | VR = 0V, 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

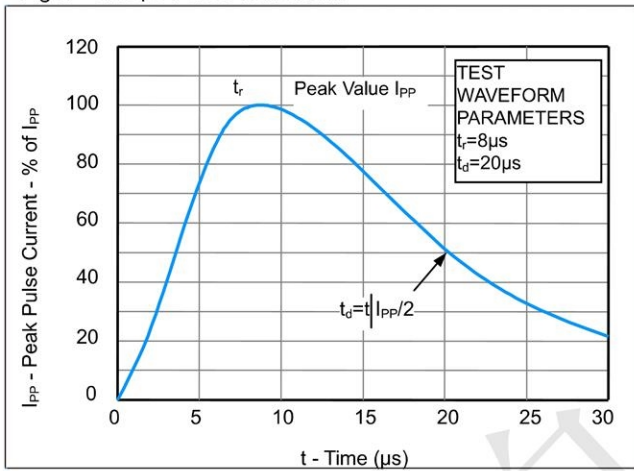


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

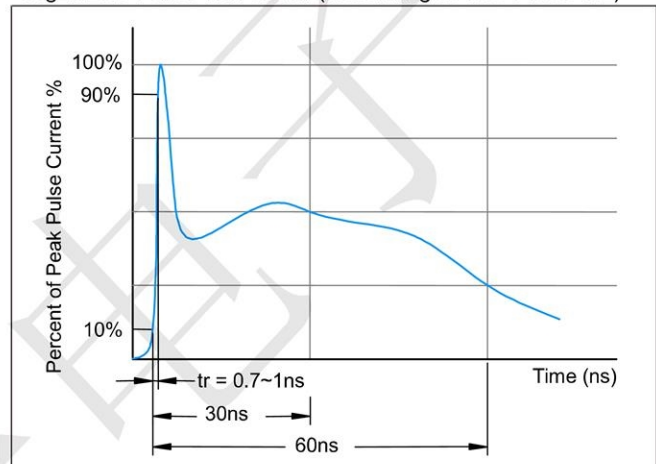
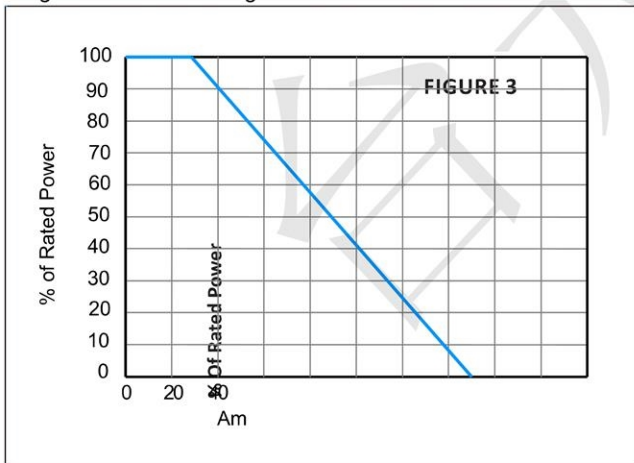
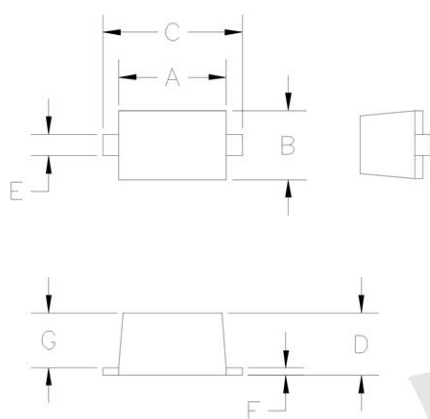


Fig3. Power Derating Curve



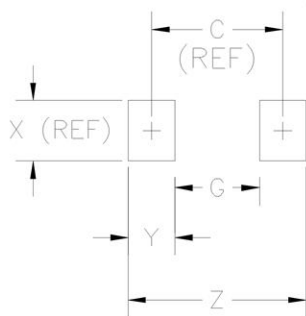
**SOD523 (0603) Package Outline Drawing**



| DIM <sup>N</sup> | INCHES |      | MM [1] |      | NOTE |
|------------------|--------|------|--------|------|------|
|                  | MIN    | MAX  | MIN    | MAX  |      |
| A                | .043   | .051 | 1.10   | 1.30 | —    |
| B                | .028   | .035 | 0.70   | 0.90 | —    |
| C                | .059   | .067 | 1.50   | 1.70 | —    |
| D                | .020   | .028 | 0.50   | 0.70 | —    |
| E                | .010   | .014 | 0.25   | 0.35 | —    |
| F                | .004   | .008 | 0.10   | 0.20 | —    |
| G                | .020   | .028 | 0.50   | 0.70 | —    |

[1] CONTROLLING DIMENSION: MILLIMETERS

**Suggested Land Pattern**



| DIM <sup>N</sup> | INCHES |      | MM [1] |      | NOTE |
|------------------|--------|------|--------|------|------|
|                  | MIN    | MAX  | MIN    | MAX  |      |
| C                | —      | .067 | —      | 1.70 | REF  |
| G                | —      | .043 | —      | 1.10 | —    |
| X                | —      | .031 | —      | 0.80 | REF  |
| Y                | —      | .024 | —      | 0.60 | —    |
| Z                | —      | .091 | —      | 2.30 | —    |

[1] CONTROLLING DIMENSION: MILLIMETERS