

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) 8A (8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

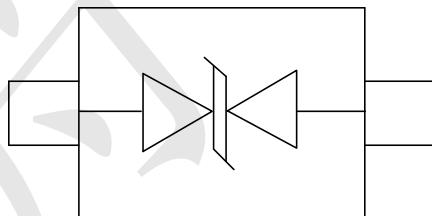
Mechanical Characteristics

- 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
- Shipping Qty :3000/7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration



SOD523

Marking: B5.3

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 70 | W |
| Peak Pulse Current (8/20μs) | Ipp | 8 | 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 | 6.8 | 9 | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.07 | uA | VRWM = 5V |
| Clamping Voltage | VC | | 7 | | V | Ipp=1A(8x 20us pulse) |
| Clamping Voltage | VC | | 8.6 | 10 | V | Ipp=8A(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 μs Pulse Waveform

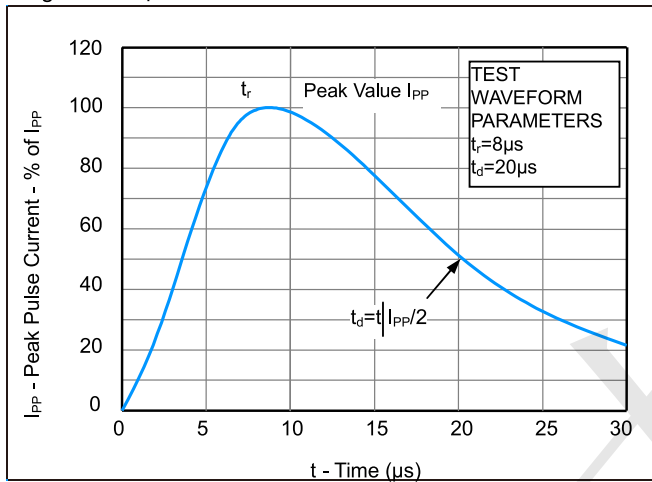


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

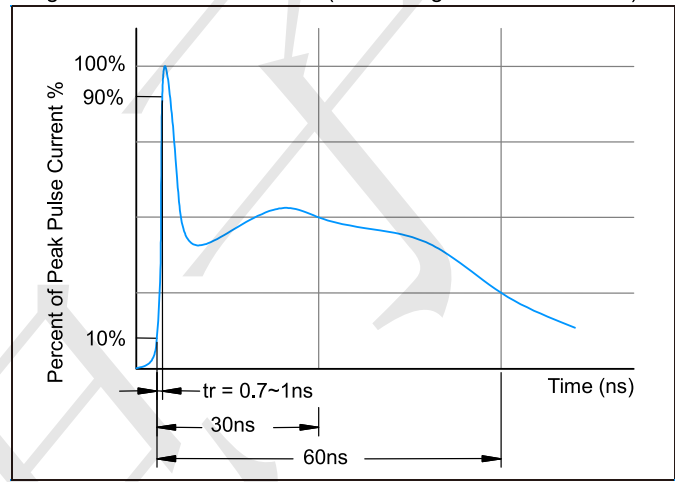
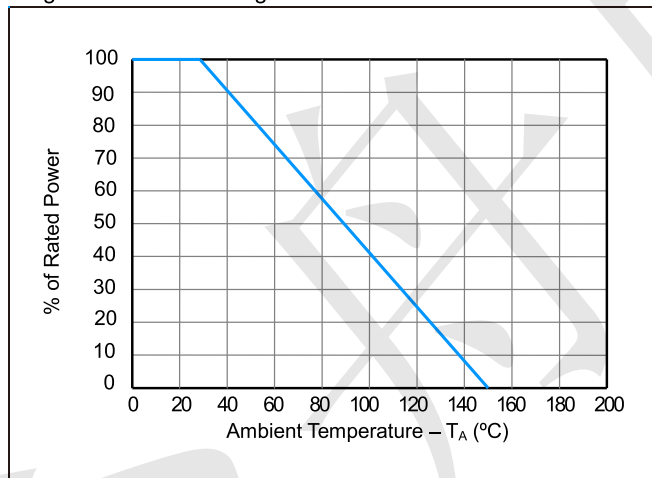
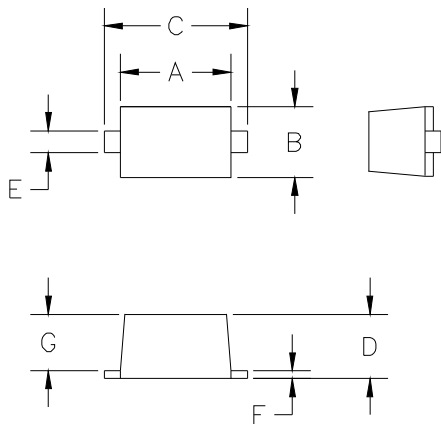


Fig3. Power Derating Curve



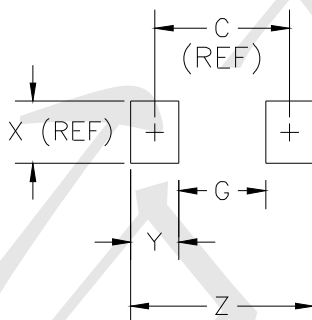
SOD523 (0603) Package Outline Drawing



| DIM ^N | 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 ^N | 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