

Features

- Low operating voltage: 12V
- Ultra low capacitance: 8pF (Typ)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 8A (8/20 μs)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

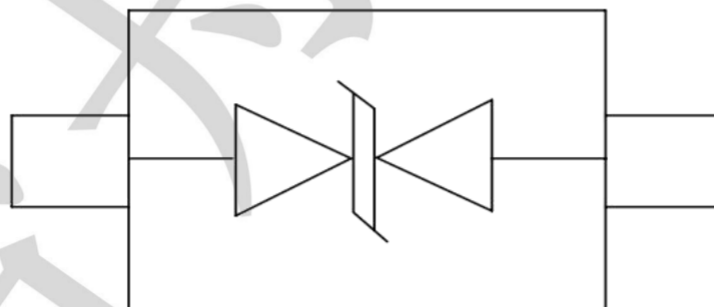
Mechanical Characteristics

- Package: SOD323(0805)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

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

Dimensions and Pin Configuration



Marking:12B

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

| Parameter | Symbol | Value | Unit |
|--|--------|----------------------|--------------------|
| Peak Pulse Power (8/20 μs) | Ppk | 180 | W |
| Peak Pulse Current (8/20 μs) | Ipp | 8 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | VESD | ± 30 ± 30 | KV |
| Operating Temperature Range | TJ | -55 to +125 | $^{\circ}\text{C}$ |
| Storage Temperature Range | Tstg | -55 to +150 | $^{\circ}\text{C}$ |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|--------|-----|-----|-----|---------------|-----------------------|
| Reverse Working Voltage | VRWM | -- | -- | 12 | V | |
| Breakdown Voltage | VBR | 13 | 14 | -- | V | $I_T=1\text{mA}$ |
| Reverse Leakage Current | IR | -- | -- | 0.1 | μA | VRWM=12V |
| Clamping Voltage | VC | -- | 16 | -- | V | Ipp=1A(8x 20us pulse) |
| Clamping Voltage | VC | -- | 21 | -- | V | Ipp=8A(8x 20us pulse) |
| Junction Capacitance | CJ | -- | | 20 | pF | VR = 0V, f = 1MHz |

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

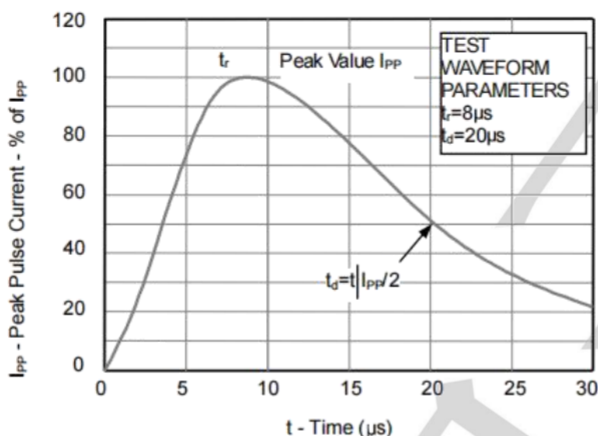


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

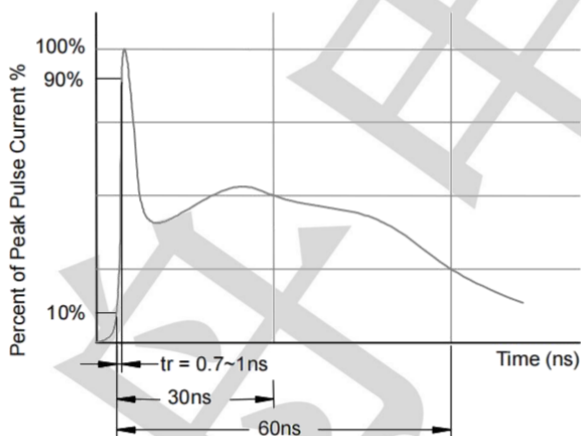
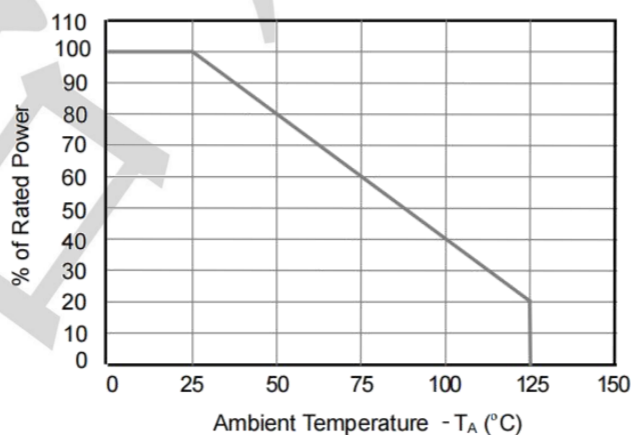
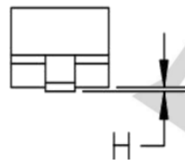
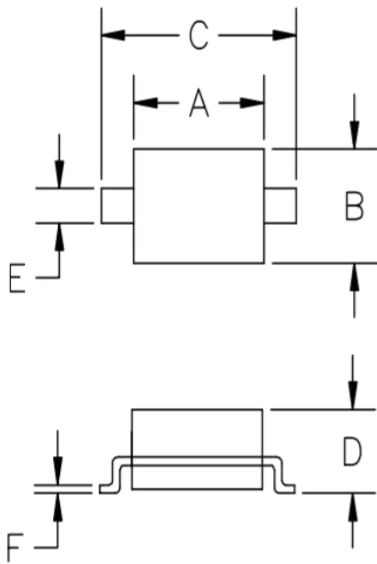


Fig3. Power Derating Curve



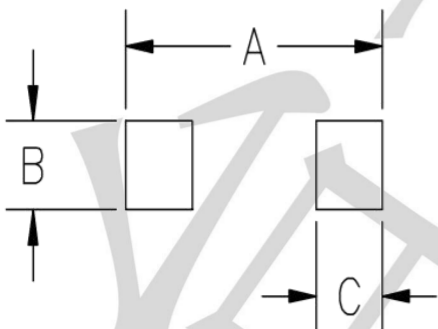
Package Outline & Dimensions

SOD323 (0805)



| DIMENSIONS | | | | |
|------------|-------------|------|--------|-------|
| SYM | 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 |