

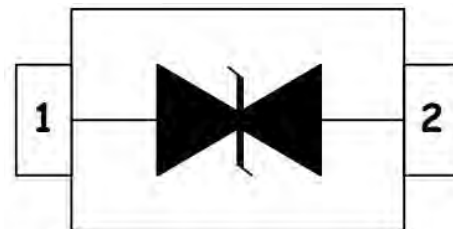
### Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 9A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Dimensions SOD-323



### Pin Configuration



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch
- Device Marking: 2H

### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                              | Symbol           | Value       | Unit |
|----------------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ ) | P <sub>pp</sub>  | 320         | W    |
| ESD per IEC 61000-4-2 (Air)            | V <sub>ESD</sub> | $\pm 30$    | Kv   |
| ESD per IEC 61000-4-2 (Contact)        |                  | $\pm 30$    |      |
| Operating Temperature Range            | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range              | T <sub>STJ</sub> | -55 to +150 | °C   |

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

| Symbol | Parameter                    | Conditions         | Min  | Typ | Max | Unit |
|--------|------------------------------|--------------------|------|-----|-----|------|
| VRWM   | Reverse Working Peak Voltage |                    |      |     | 24  | V    |
| VBR    | Reverse Breakdown Voltage    | IT = 1mA           | 26.7 |     |     | V    |
| IR     | Reverse Leakage Current      | VRWM = 24V         |      |     | 0.5 | μA   |
| VC     | Clamping Voltage             | IPP = 1 A (8/20μs) |      |     | 40  | V    |
| VC     | Clamping Voltage             | IPP = 9 A (8/20μs) |      |     | 43  | V    |
| CJ     | Capacitance                  | VR = 0V, f = 1MHz  |      | 25  |     | pF   |

## Characteristic Curves

Fig1. 8/20μs Pulse Waveform

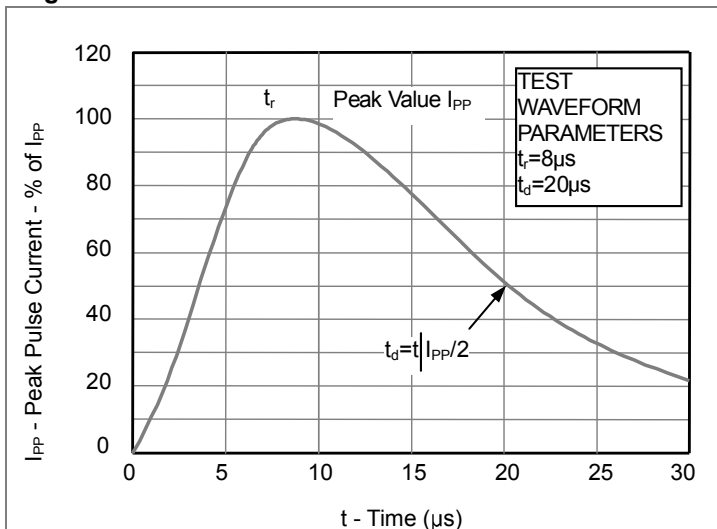


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

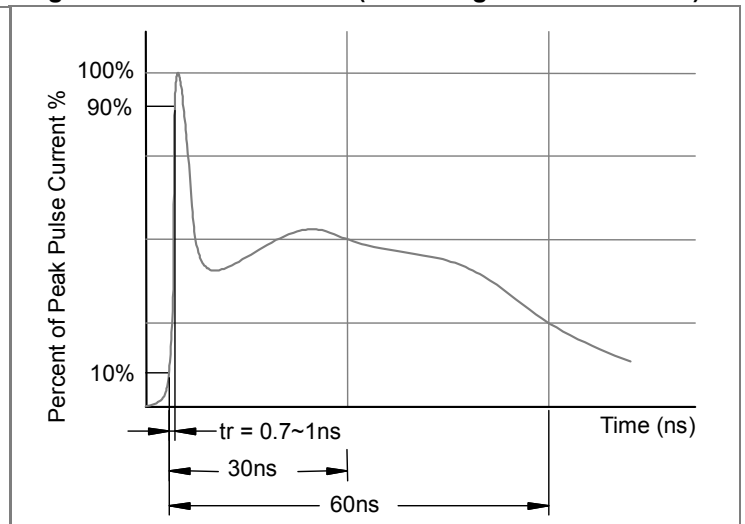
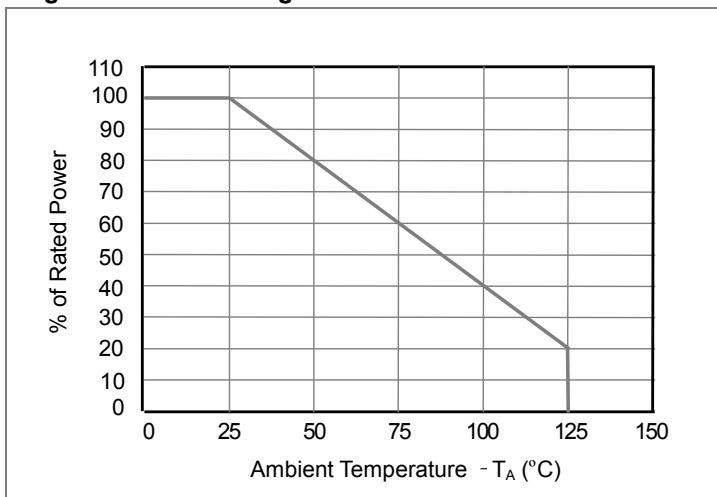
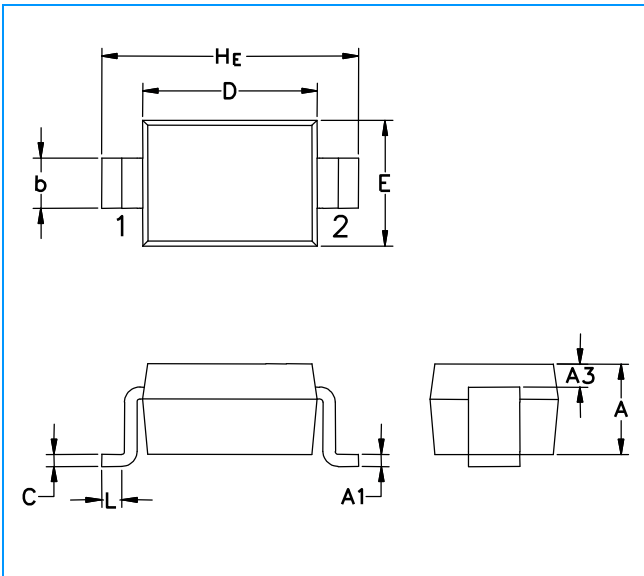


Fig3. Power Derating Curve

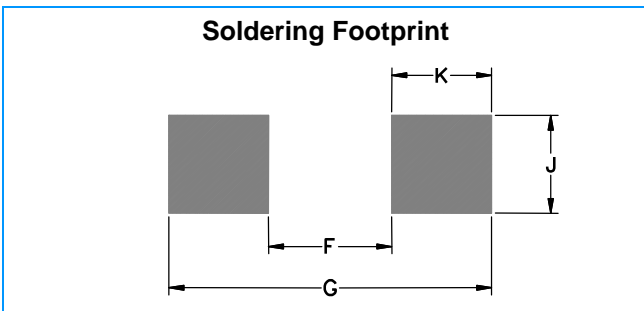


## SOD-323 Package Outline & Dimensions



| Symbol | Millimeters |      |       | Inches    |       |       |
|--------|-------------|------|-------|-----------|-------|-------|
|        | Min.        | Nom. | Max.  | Min.      | Nom.  | Max.  |
| A      | 0.80        | 0.90 | 1.00  | 0.031     | 0.035 | 0.040 |
| A1     | 0.00        | 0.05 | 0.10  | 0.000     | 0.002 | 0.004 |
| A3     | 0.15 REF    |      |       | 0.006 REF |       |       |
| b      | 0.25        | 0.32 | 0.40  | 0.010     | 0.012 | 0.016 |
| C      | 0.089       | 0.12 | 0.177 | 0.003     | 0.005 | 0.007 |
| D      | 1.60        | 1.70 | 1.80  | 0.062     | 0.066 | 0.070 |
| E      | 1.15        | 1.25 | 1.35  | 0.045     | 0.049 | 0.053 |
| L      | 0.08        |      |       | 0.003     |       |       |
| HE     | 2.30        | 2.50 | 2.70  | 0.090     | 0.098 | 0.105 |

### Soldering Footprint



| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| F      | 1.60        | 0.063  |
| G      | 2.85        | 0.112  |
| J      | 0.83        | 0.033  |
| K      | 0.63        | 0.025  |

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