

Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- 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 μs)
- RoHS Compliant

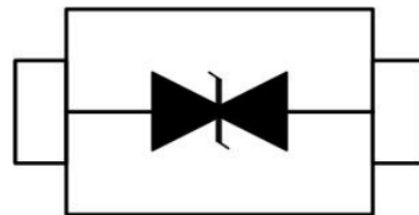
Dimensions SOD-523



Applications

- Computer Interfaces Protection
- Microprocessors Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection
- Power lines on PCB Protection
- Latchup Protection

Pin Configuration



Mechanical Characteristics

- Package: SOD-523
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch
- Device Marking: eB

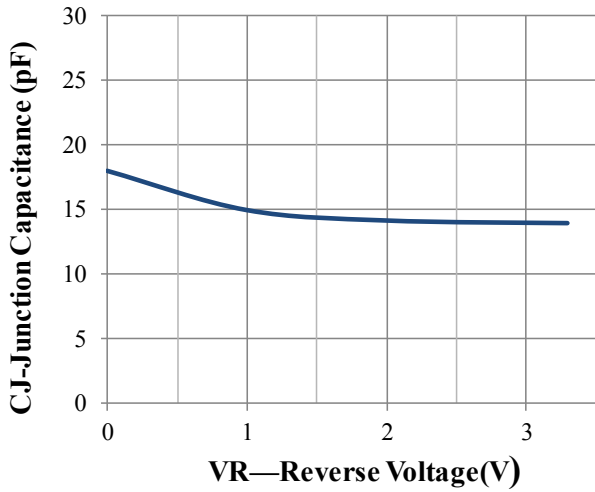
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 μs) | P _{pp} | 90 | W |
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ± 30 | Kv |
| ESD per IEC 61000-4-2 (Contact) | | ± 30 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{STJ} | -55 to +150 | °C |

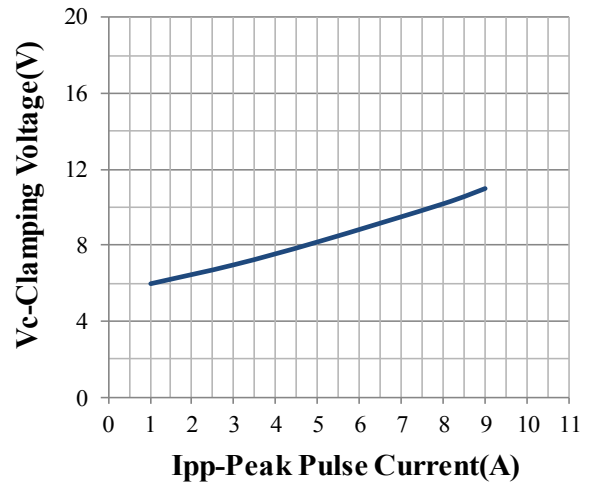
Electrical Characteristics (TA=25°C unless otherwise specified)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--------|------------------------------|--------------------|-----|------|------|------|
| VRWM | Reverse Working Peak Voltage | | | | 3.3 | V |
| VBR | Reverse Breakdown Voltage | IT = 1mA | 3.5 | | | V |
| IR | Reverse Leakage Current | VRWM = 3.3V | | | 0.01 | μA |
| VC | Clamping Voltage | IPP = 1 A (8/20μs) | | | 6 | V |
| VC | Clamping Voltage | IPP = 9 A (8/20μs) | | | 8 | V |
| CJ | Capacitance | VR = 0V, f = 1MHz | | 10.3 | | pF |

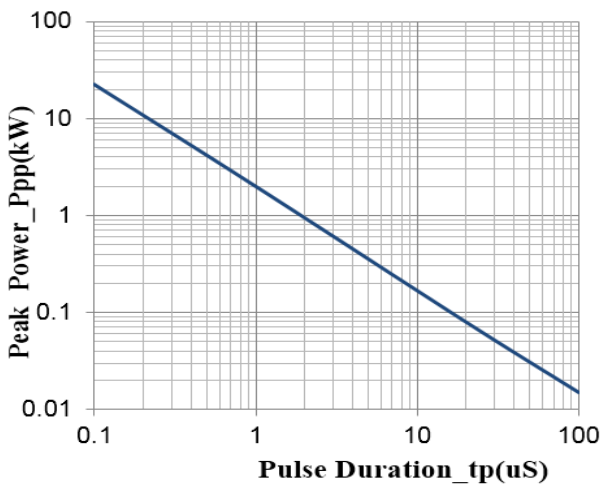
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



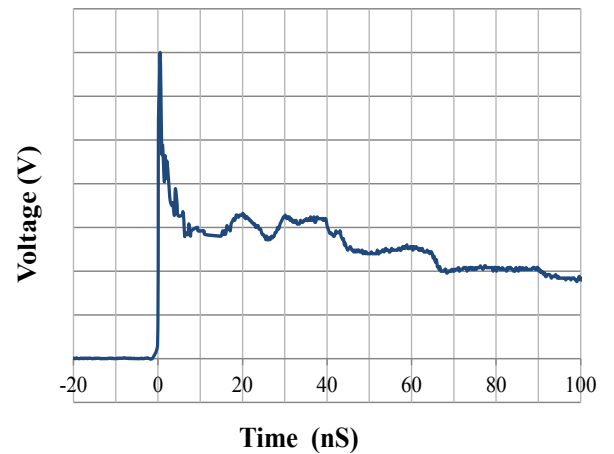
Junction Capacitance vs. Reverse Voltage



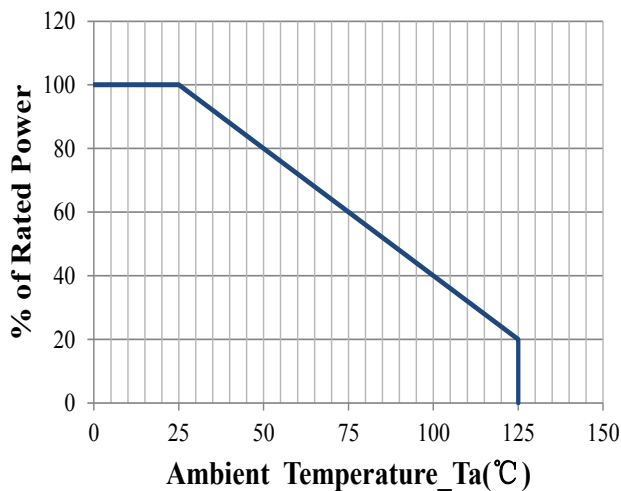
Clamping Voltage vs. Peak Pulse Current



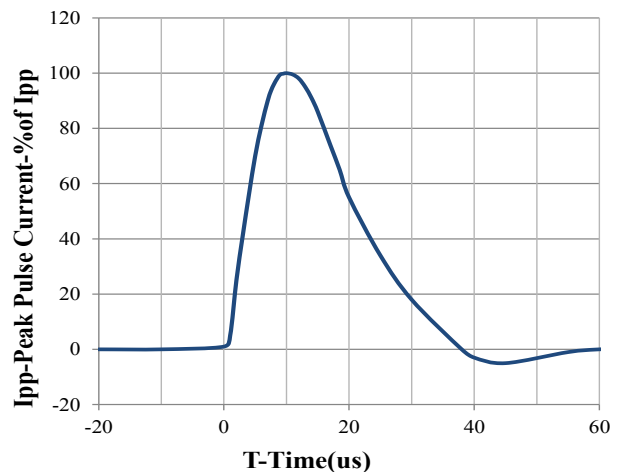
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

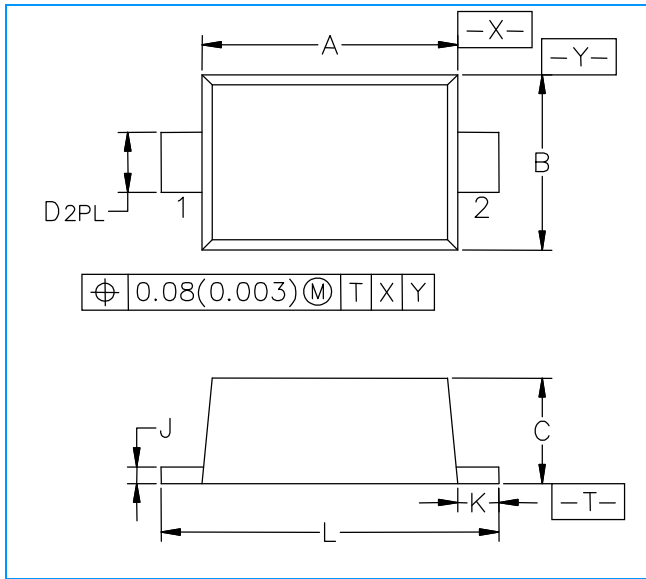


Power Derating Curve

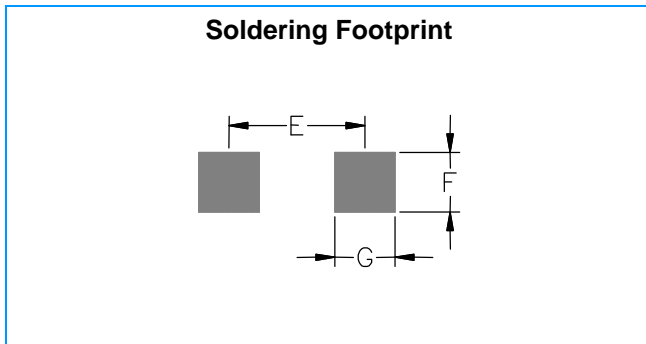


8 X 20us Pulse Waveform

SOD-523 Package Outline & Dimensions



| Symbol | Millimeters | | | Inches | | |
|--------|-------------|------|------|--------|--------|--------|
| | Min. | Nom. | Max. | Min. | Nom. | Max. |
| A | 1.10 | 1.20 | 1.30 | 0.043 | 0.047 | 0.051 |
| B | 0.70 | 0.80 | 0.90 | 0.028 | 0.032 | 0.035 |
| C | 0.50 | 0.60 | 0.70 | 0.020 | 0.024 | 0.028 |
| D | 0.25 | 0.30 | 0.35 | 0.010 | 0.012 | 0.014 |
| J | 0.07 | 0.14 | 0.20 | 0.0028 | 0.0055 | 0.0079 |
| K | 0.15 | 0.20 | 0.25 | 0.006 | 0.008 | 0.010 |
| L | 1.50 | 1.60 | 1.70 | 0.059 | 0.063 | 0.067 |



| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| E | 1.40 | 0.0547 |
| F | 0.40 | 0.0157 |
| G | 0.40 | 0.0157 |