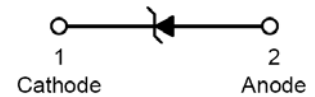


### Features

- Small SOD-323 Package
- Unidirectional Configurations
- Peak Power Dissipation 350W @8 x 20 us Pulse
- Low Leakage
- Fast Response Time < 1 ns
- Protects One Power or I/O Port
- ESD Protection to IEC 61000-4-2 Level 4, 15KV(Air), 8KV(Contact)
- ESD Protection to IEC 61000-4-2 Level 4, 30A
- 16KV Human Body Model ESD Requirements
- RoHS Compliant in Lead-Free Versions



### Applications

- Cell Phone Handsets and Accessories
- Microprocessor Based Equipment
- Personal Digital Assistant (PDA)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

### Absolute Maximum Ratings

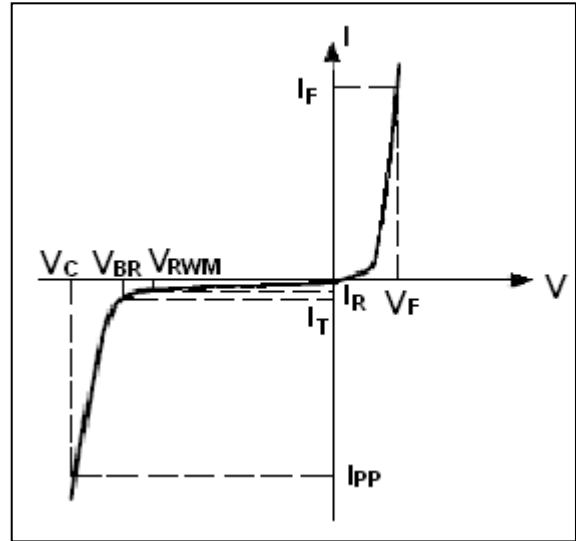
| Parameter   | Symbol               | Value      | Units            |
|---|----------------------|------------|------------------|
| Peak Power Dissipation (Note 1.) @ $T_L = 25^\circ\text{C}$ | $P_{PK}$             | 350        | W                |
| IEC 61000-4-2 (ESD)   | Air<br>CONTACT       | $\pm 15$   | KV               |
|   |                      | $\pm 8.0$  | KV               |
| IEC 61000-4-4 (EFT)   |                      | 30         | A                |
| ESD Voltage   | Per Human Body Model | $V_{PP}$   | 16<br>KV         |
| Storage Temperature Range                                   | $T_{STG}$            | -55 to 150 | $^\circ\text{C}$ |
| Operating Junction Temperature Range                        | $T_J$                | -55 to 150 | $^\circ\text{C}$ |

1. 8 X 20 us, non-repetitive

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Symbol    | Parameter                                   |
|-----------|---|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $I_T$     | Test Current                                |
| $V_{BR}$  | Breakdown Voltage @ $I_T$                   |
| $I_F$     | Forward Current                             |
| $V_F$     | Forward Voltage @ $I_F$                     |

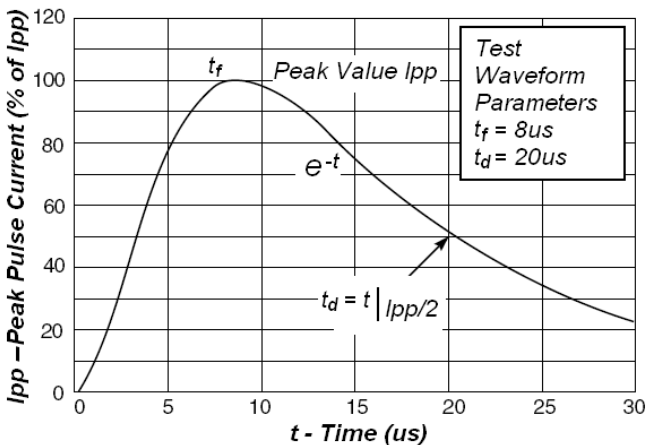


### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

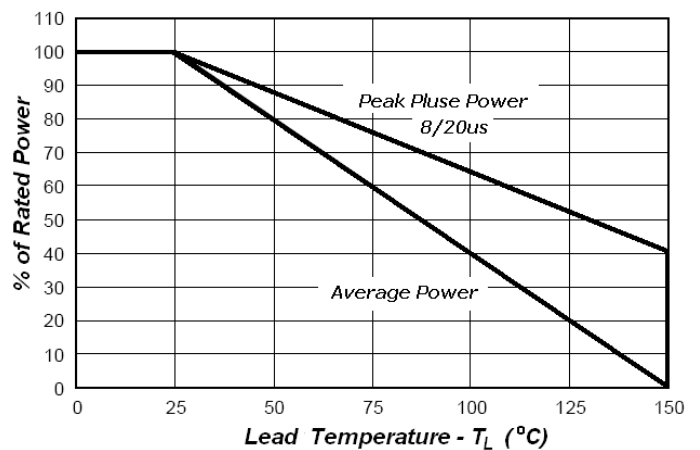
| Device | $V_{RWM}$ (V) | $I_R$ (uA) @ $V_{RWM}$ | $V_{BR}$ (V) @ $I_T$ (Note 1) |       | $I_T$ mA | $V_C$ (V) @ $I_{PP}=5 A^*$ | $V_C$ (V) @ Max $I_{PP}^*$ | $I_{PP}$ (A)* | $C@OV$ 1MHz (pF) |
|--------|---------------|------------------------|-------------------------------|-------|----------|----------------------------|----------------------------|---------------|------------------|
|        | Max           | Max                    | Min                           | Max   |          | Typ                        | Max                        |               | Typ              |
| SD05   | 5.0           | 10                     | 6.2                           | 7.3   | 1.0      | 9.8                        | 14.5                       | 20            | 350              |
| SD12   | 12            | 1.0                    | 13.3                          | 15.75 | 1.0      | 19                         | 25                         | 15            | 150              |
| SD15   | 15            | 1.0                    | 16.7                          | 19.05 | 1.0      | 22                         | 28                         | 12            | 100              |
| SD24   | 24            | 1.0                    | 26.7                          | 30.15 | 1.0      | 42                         | 49                         | 10            | 70               |

\*Surge current waveform per Figure 1.

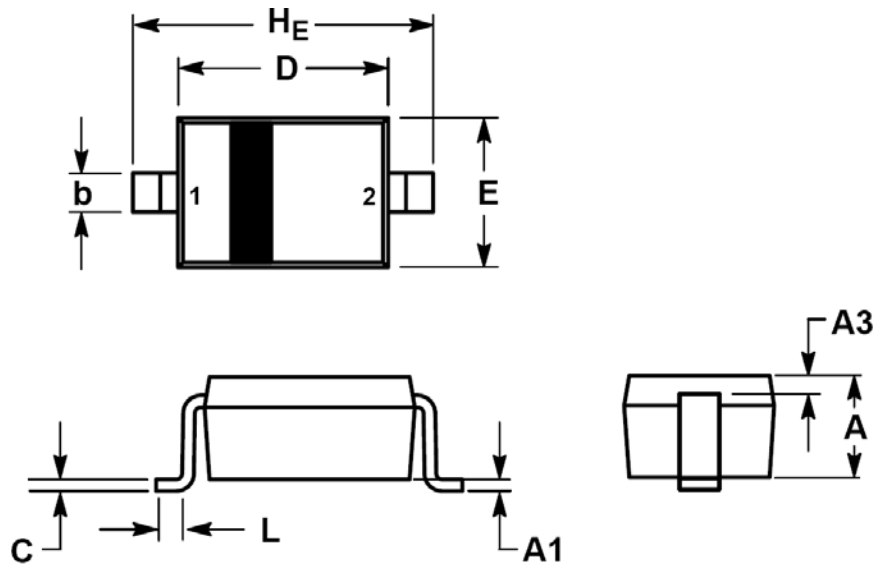
- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.



**Fig1. Pulse Waveform**



**Fig2. Power Derating**

**Package Dimensions**
**SOD-323**


| <i>Dim</i> | <i>Millimeters</i> |            |            | <i>Inches</i> |            |            |
|------------|--------------------|------------|------------|---------------|------------|------------|
|            | <i>MIN</i>         | <i>NOM</i> | <i>MAX</i> | <i>MIN</i>    | <i>NOM</i> | <i>MAX</i> |
| <i>A</i>   | 0.80               | 0.90       | 1.00       | 0.031         | 0.035      | 0.040      |
| <i>A1</i>  | 0.00               | 0.05       | 0.10       | 0.000         | 0.002      | 0.004      |
| <i>A3</i>  | 0.15 REF           |            |            | 0.006 REF     |            |            |
| <i>b</i>   | 0.25               | 0.32       | 0.4        | 0.010         | 0.012      | 0.016      |
| <i>C</i>   | 0.080              | 0.12       | 0.177      | 0.003         | 0.005      | 0.007      |
| <i>D</i>   | 1.60               | 1.70       | 1.80       | 0.063         | 0.066      | 0.071      |
| <i>E</i>   | 1.15               | 1.25       | 1.40       | 0.045         | 0.049      | 0.055      |
| <i>L</i>   | 0.08               |            |            | 0.003         |            |            |
| <i>HE</i>  | 2.30               | 2.50       | 2.70       | 0.090         | 0.098      | 0.106      |