

## Features

- Low operating voltage: 18V
- Ultra low capacitance: 40pF
- 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)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically  $< 1\text{ ns}$

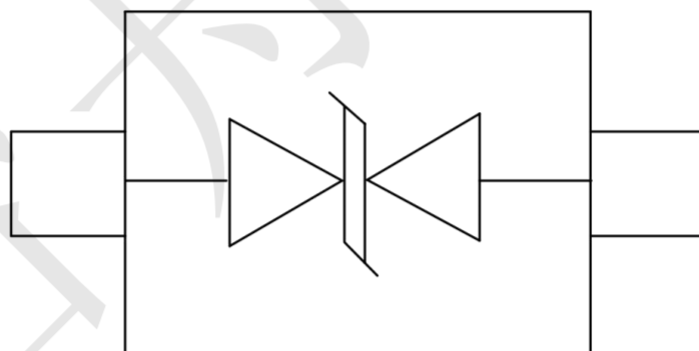
## Mechanical Characteristics

- 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



**SOD323**

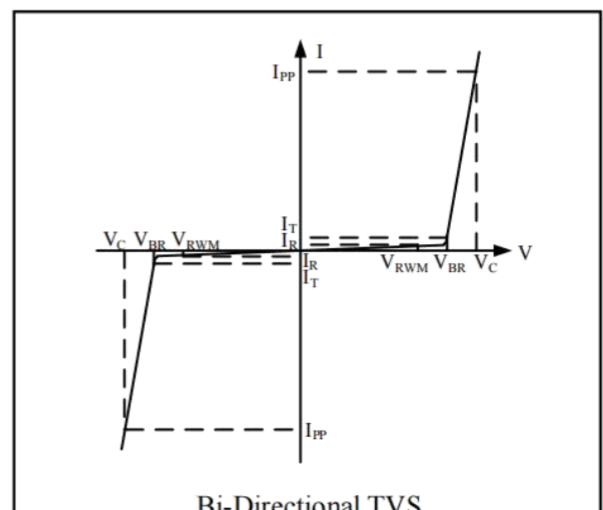
**Absolute Maximum Ratings**( $T_{amb}=25^{\circ}C$  unless otherwise specified)

| Parameter                                                      | Symbol | Value                | Unit        |
|----------------------------------------------------------------|--------|----------------------|-------------|
| Peak Pulse Power (8/20 $\mu$ s)                                | Ppk    | 220                  | W           |
| Peak Pulse Current (8/20 $\mu$ s)                              | Ipp    | 6                    | A           |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | $\pm 30$<br>$\pm 30$ | KV          |
| Operating Temperature Range                                    | TJ     | -55 to +125          | $^{\circ}C$ |
| Storage Temperature Range                                      | Tstg   | -55 to +150          | $^{\circ}C$ |

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

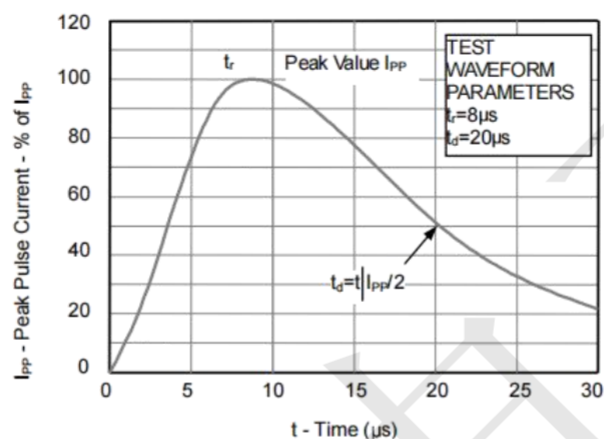
| Parameter               | Symbol | Min | Typ | Max | Unit    | Test Condition        |
|-------------------------|--------|-----|-----|-----|---------|-----------------------|
| Reverse Working Voltage | VRWM   | --  | --  | 18  | V       |                       |
| Breakdown Voltage       | VBR    | 20  | --  | 24  | V       | $I_T = 1mA$           |
| Reverse Leakage Current | IR     | --  | --  | 0.1 | $\mu A$ | VRWM=18V              |
| Clamping Voltage        | VC     | --  | 30  | --  | V       | Ipp=1A(8x 20us pulse) |
| Clamping Voltage        | VC     | --  | --  | 35  | V       | Ipp=6A(8x 20us pulse) |
| Junction Capacitance    | CJ     | --  | --  | 40  | pF      | VR = 0V, f = 1MHz     |

| Symbol | Parameter                          |
|--------|------------------------------------|
| VRWM   | Nominal Reverse Working Voltage    |
| IR     | Reverse Leakage Current @ VRWM     |
| VBR    | Reverse Breakdown Voltage @ IT     |
| IT     | Test Current for Reverse Breakdown |
| VC     | Clamping Voltage @ IPP             |
| IPP    | Maximum Peak Pulse Current         |
| CESD   | Parasitic Capacitance              |
| VR     | Reverse Voltage                    |
| f      | Small Signal Frequency             |

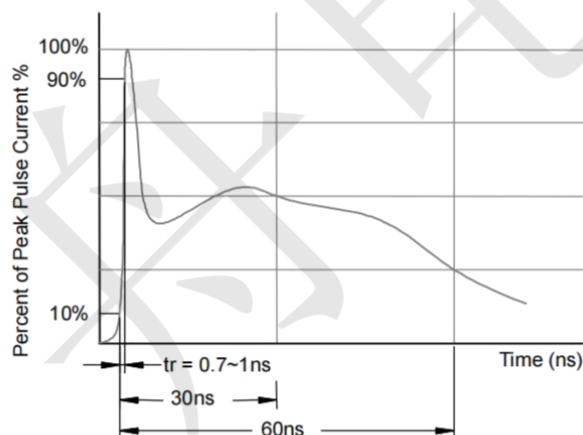


## Characteristic Curves

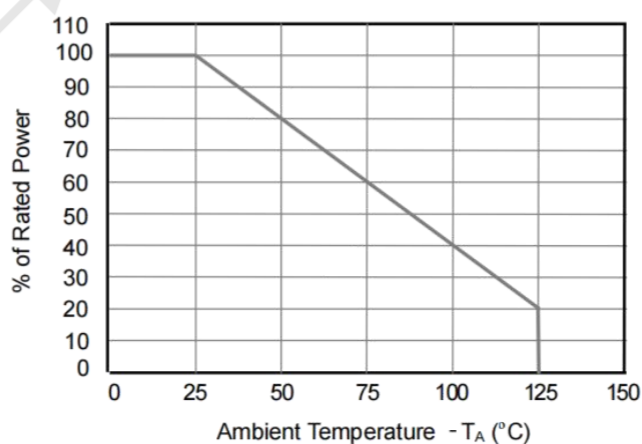
**Fig1. 8/20 $\mu$ s Pulse Waveform**



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

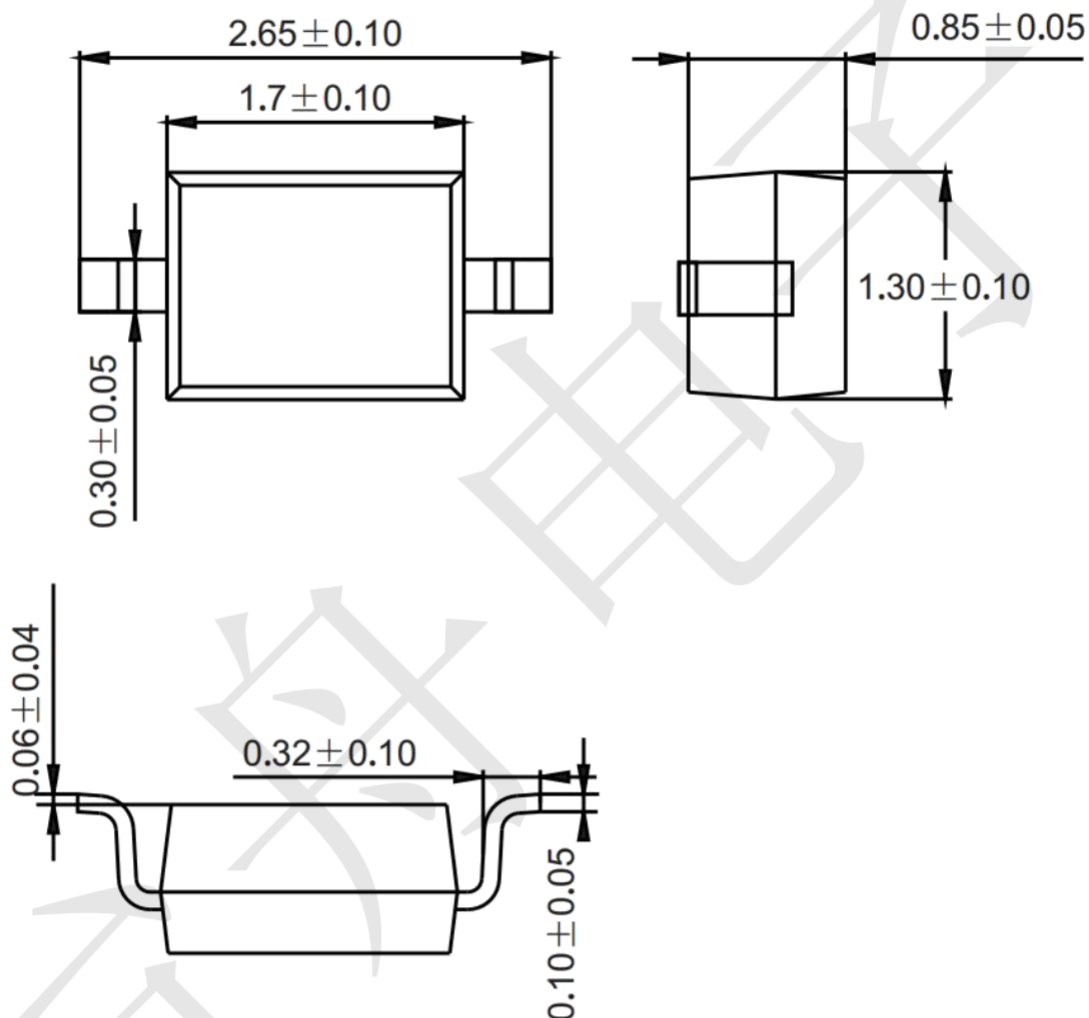


**Fig3. Power Derating Curve**



**Package Outline Dimensions (unit: mm)**

**SOD323 (0805)**



**Mounting Pad Layout (unit: mm)**

