

## Features

- Low operating voltage: 2.8V
- Ultra low capacitance: 0.6pF(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)
- 3-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically  $< 1\text{ ns}$

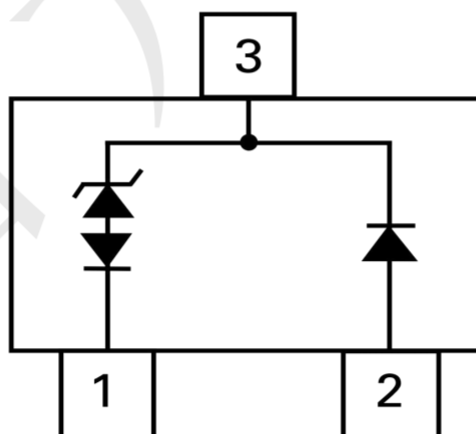
## Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

## Applications

- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Switching Systems
- Desktops, Servers, and Notebooks

## Dimensions and Pin Configuration



**SOT-23**

### Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

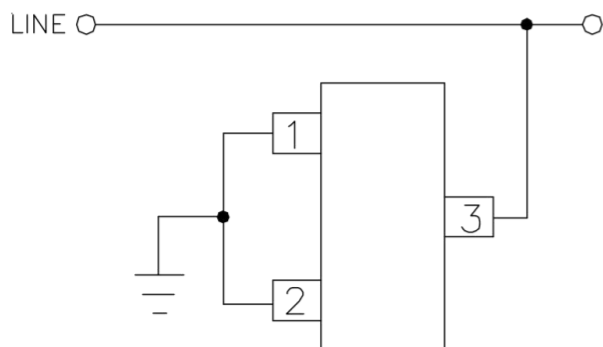
| Parameter                                                      | Symbol | Value       | Unit |
|----------------------------------------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 1800        | W    |
| Peak Pulse Current (8/20μs)                                    | Ipp    | 30          | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ±30<br>±30  | KV   |
| Operating Temperature Range                                    | TJ     | -55 to +125 | °C   |
| Storage Temperature Range                                      | Tstg   | -55 to +150 | °C   |

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

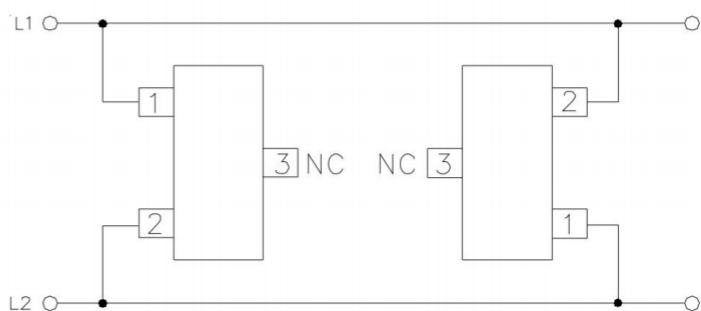
| Parameter               | Symbol | Min | Typ | Max | Unit | Test Condition                     |
|-------------------------|--------|-----|-----|-----|------|------------------------------------|
| Reverse Working Voltage | VRWM   | --  | --  | 2.8 | V    |                                    |
| Breakdown Voltage       | VBR    | 3.0 | --  | --  | V    | IT= 1mA                            |
| Reverse Leakage Current | IR     | --  | --  | 0.5 | uA   | VRWM=2.8V                          |
| Forward Voltage         | VF     | --  | 0.7 | 1.2 | V    | IF = 1mA                           |
| Clamping Voltage        | VC     | --  | 5   | --  | V    | Ipp=1A(8x 20us pulse)              |
| Clamping Voltage        | VC     | --  | --  | 12  | V    | Ipp=38A(8x 20us pulse)             |
| Junction Capacitance    | CJ     | --  | 0.6 | 1.0 | pF   | VR = 0V, f = 1MHz,<br>Pin2 to Pin1 |

### Applications Information

#### Protection of one unidirectional line



#### Low capacitance protection of one high-speed line pair



## Characteristic Curves

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

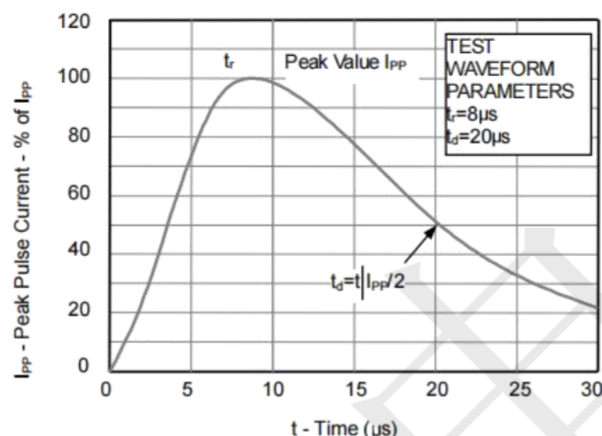


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

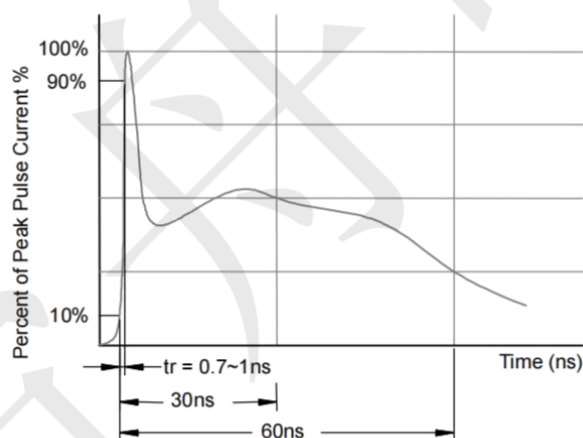
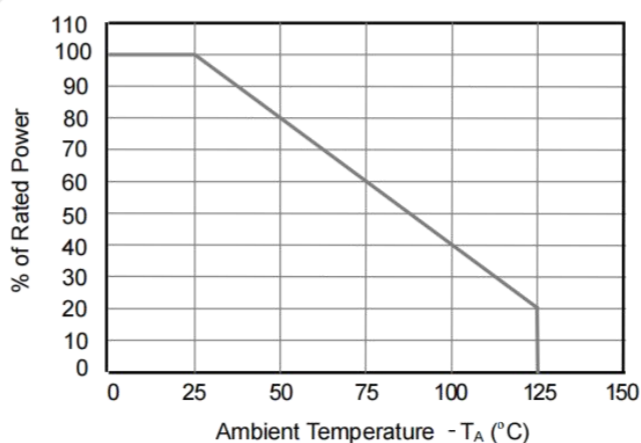
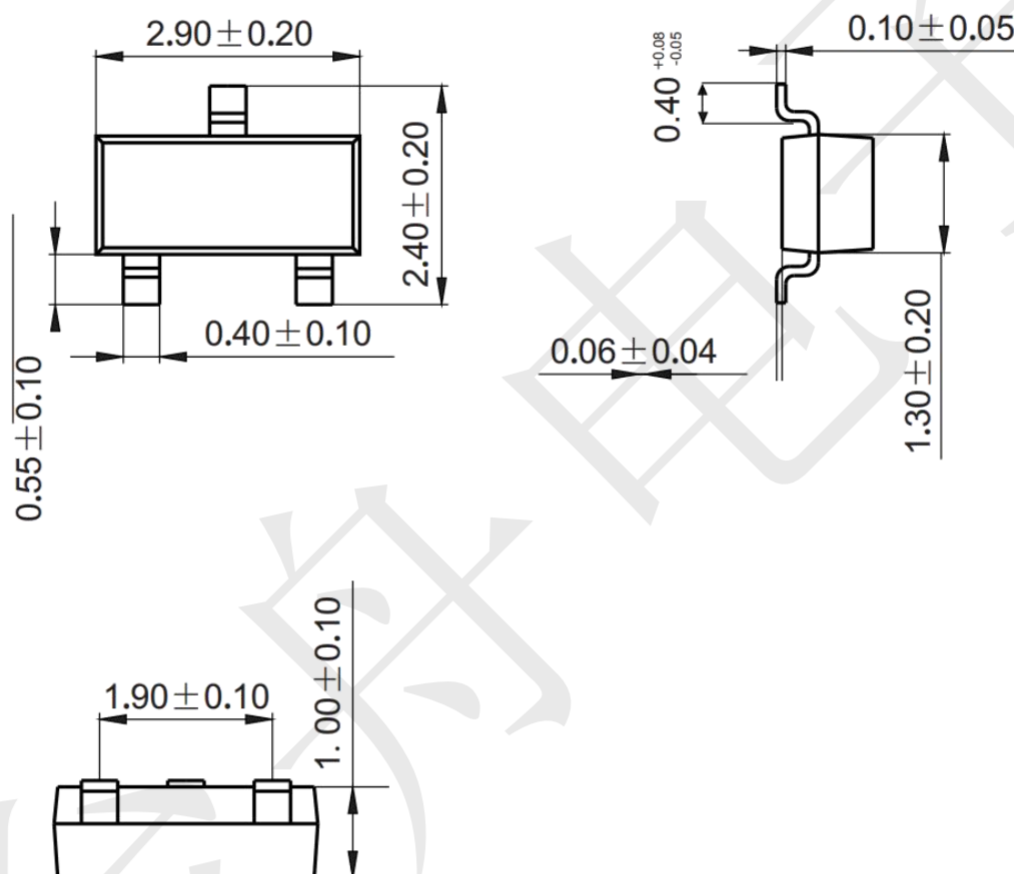


Fig3. Power Derating Curve



## Package Outline Dimensions (unit: mm)

### SOT-23



## Mounting Pad Layout (unit: mm)

