

Features

- Low operating voltage: 27V
- Ultra low capacitance: 0.4pF (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)
- -IEC61000-4-5 (Lightning) 4A (8/20 μs)
- 3-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

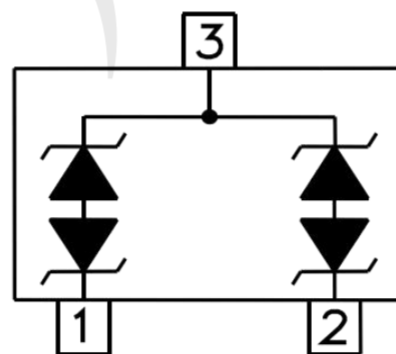
Mechanical Characteristics

- 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

- CAN
- CAN-FD
- FlexRay
- Portable Instrumentation
- USB power and data line

Dimensions and Pin Configuration



SOT-23

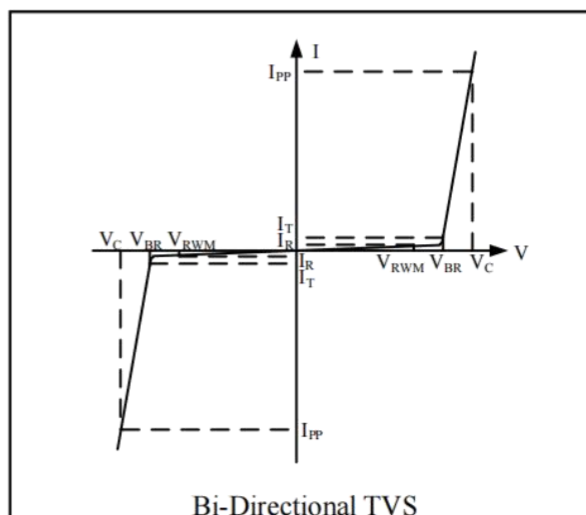
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 200 | W |
| Peak Pulse Current (8/20μs) | Ipp | 4 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | VESD | ±30 ±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 | -- | -- | 27 | V | |
| Breakdown Voltage | VBR | 30 | 35 | -- | V | IT= 1mA |
| Reverse Leakage Current | IR | -- | -- | 0.1 | uA | VRWM=27V |
| Clamping Voltage | VC | -- | 40 | -- | V | Ipp=1A(8x 20us pulse) |
| Clamping Voltage | VC | -- | 45 | 50 | V | Ipp=4A(8x 20us pulse) |
| Junction Capacitance | CJ | -- | -- | 0.4 | pF | VR =0V, f =1MHz, Pin1 to Pin2 |
| Junction Capacitance | CJ | -- | 0.4 | 0.6 | pF | VR =0V, f =1MHz, Pin1,2 to Pin3 |

| 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 μ s Pulse Waveform

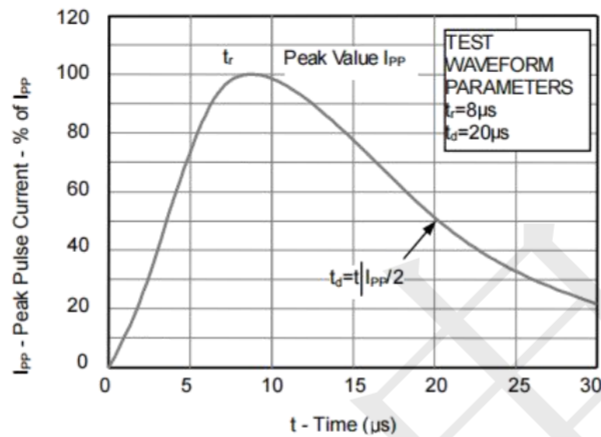


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

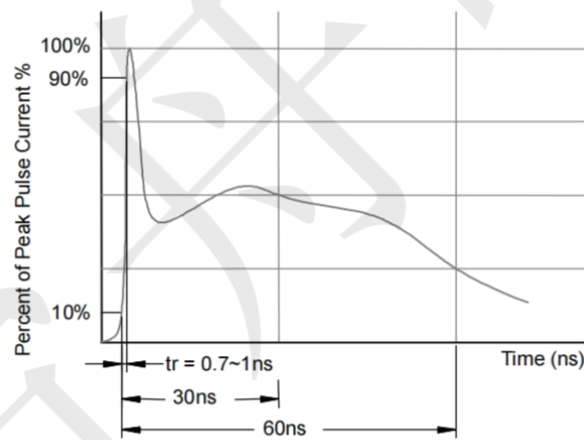
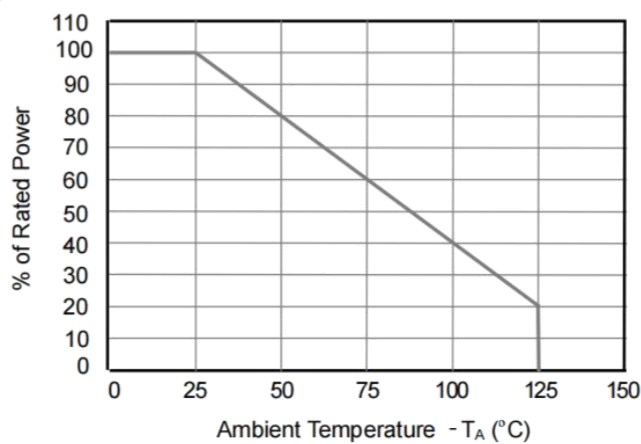
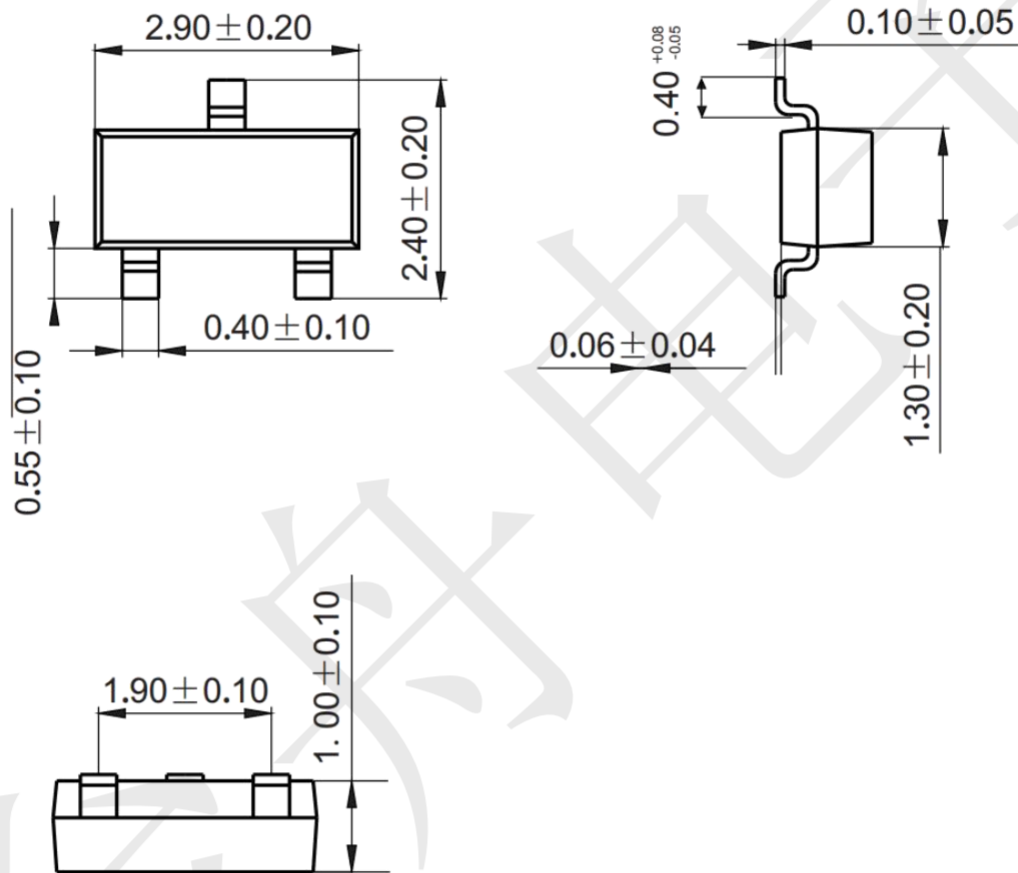


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)

