

Features

- ◆ 150 Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact) IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 4.5V
- ◆ Protects one bidirectional line or two unidirectional lines
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

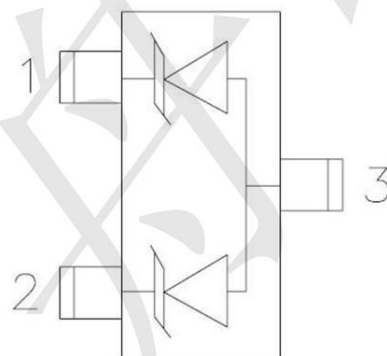
Mechanical Characteristics

- ◆ Package: SOT23
- ◆ Lead Finish: Matte Tin
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant
- ◆ Shipping Qty : 3000pcs/7Inch Tape & Reel

Applications

- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I²C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

Dimensions and Pin Configuration



Circuit and Pin Schematic

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------------|--------|-------------|------------------|
| Peak Pulse Power(8/20 μs) | Ppk | 150 | W |
| ESD per IEC 61000-4-2 (Air) | VESD | ± 30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ± 30 | |
| Operating Temperature Range | TJ | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | Tstg | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|-----------------|-----|------|-----|---------------|--|
| Reverse Working Voltage | VRWM | | | 4.5 | V | |
| Breakdown Voltage | VBR | 6 | 6.8 | 7.2 | V | $I_T = 1\text{mA}$ |
| Reverse Leakage Current | IR | | 0.01 | 0.1 | μA | $VRWM = 5\text{V}$ |
| Clamping Voltage | VC | | | 10 | V | $I_{PP} = 1\text{A}$ (8 x 20 μs pulse) |
| Clamping Voltage | VC | | | 18 | V | $I_{PP} = 10\text{A}$ (8 x 20 μs pulse) |
| Peak Pulse Current | I _{PP} | | | 10 | A | $t_P=8/20\mu\text{s}$ |
| Junction Capacitance | CJ | | | 98 | pF | $V_R=0$, $f=1\text{MHz}$, Pin 1 to Pin 3 or Pin 2 to Pin 3 |

Fig1. 8/20 μ s Pulse Waveform

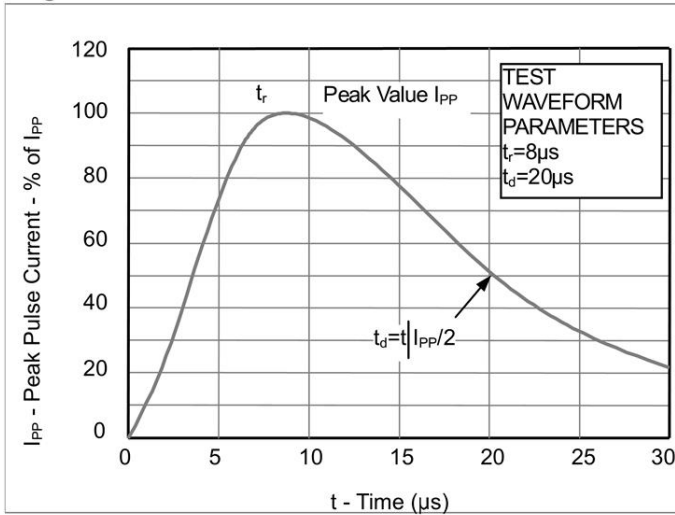


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

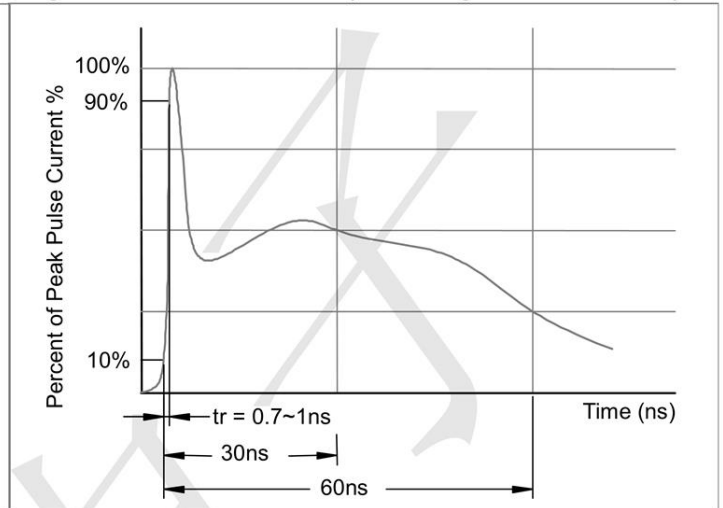
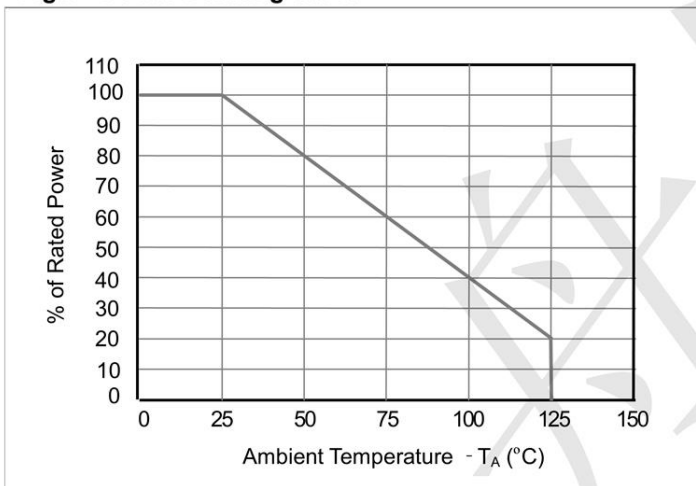
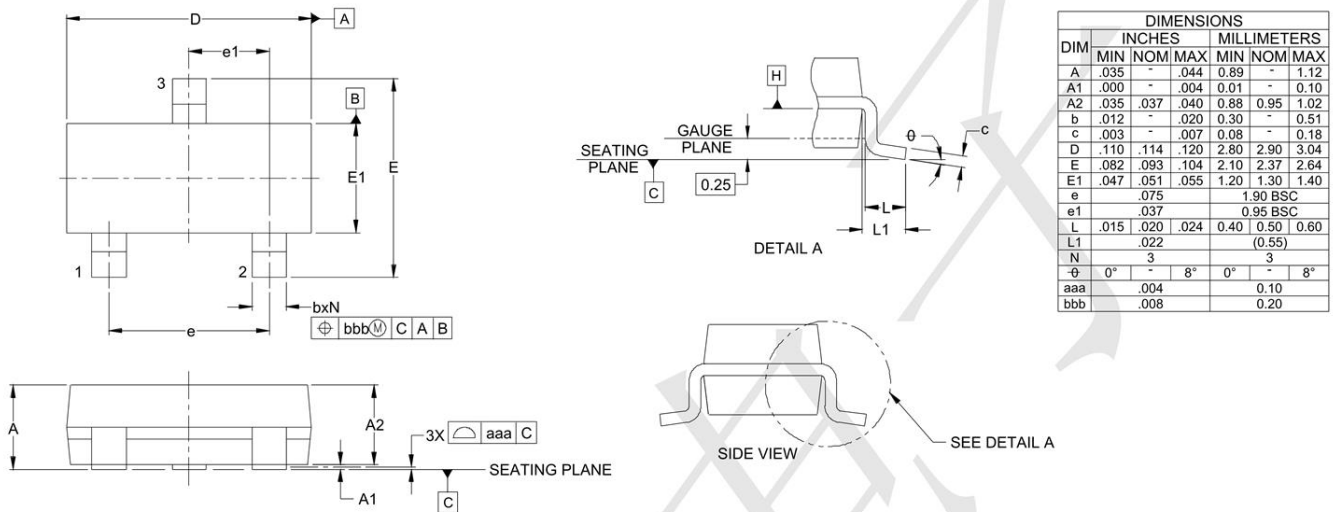


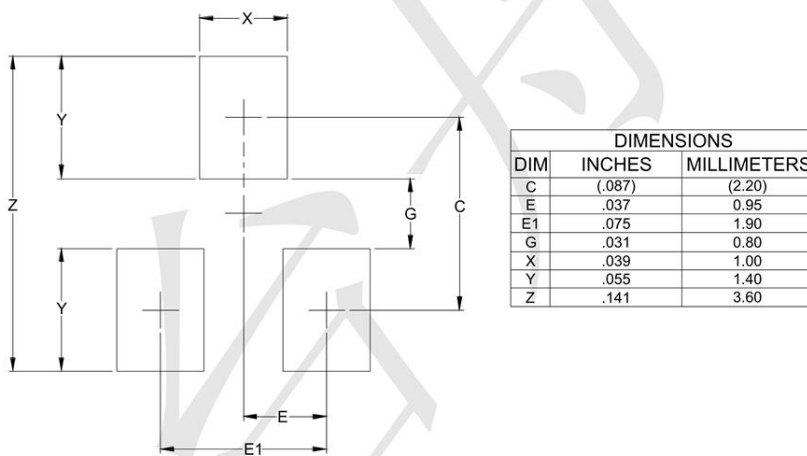
Fig3. Power Derating Curve



Outline Drawing - SOT23



Land Pattern - SOT23



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