

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 : 12V
- ◆ Protects one bidirectional line or two unidirectional lines
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

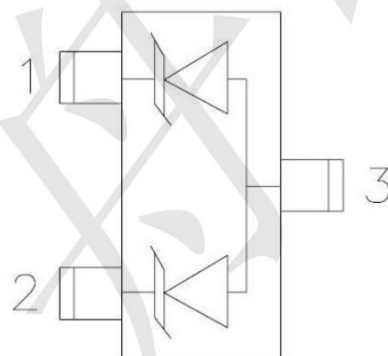
Mechanical Characteristics

- ◆ 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°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power(8/20μs) | Ppk | 150 | W |
| ESD per IEC 61000-4-2 (Air) | VESD | ±30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±30 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

Electrical Characteristics (T_A=25°C unless otherwise specified)

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|------------------|------|------|-----|------|---|
| Reverse Working Voltage | V _{RWM} | | | 12 | V | |
| Breakdown Voltage | V _{BR} | 13.3 | | | V | I _T = 1mA |
| Reverse Leakage Current | I _R | | 0.01 | 0.1 | μA | V _{RWM} = 12V |
| Clamping Voltage | V _C | | | 18 | V | I _{PP} = 1A (8 x 20μs pulse) |
| Clamping Voltage | V _C | | 20 | | V | I _{PP} = 7A (8 x 20μs pulse) |
| Peak Pulse Current | I _{PP} | | | 7 | A | t _p =8/20μs |
| Junction Capacitance | C _J | | | 55 | pF | V _R =0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3 |

Fig1. 8/20 μ s Pulse Waveform

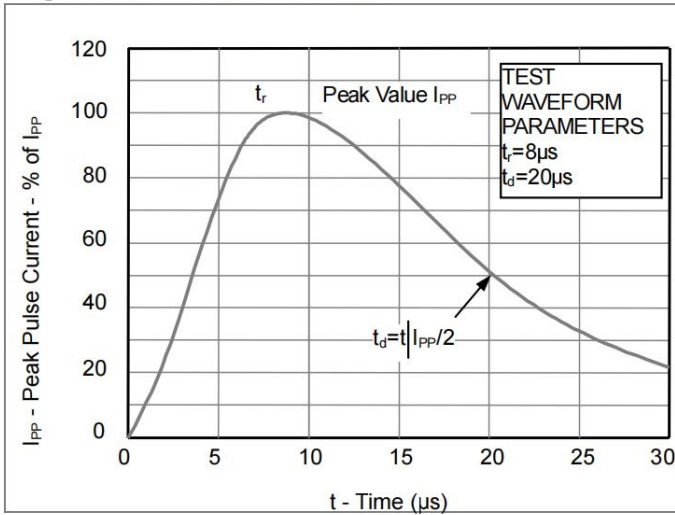


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

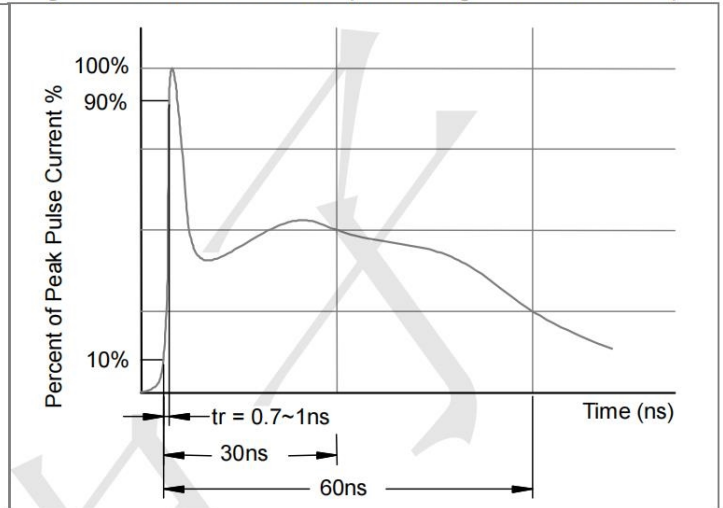
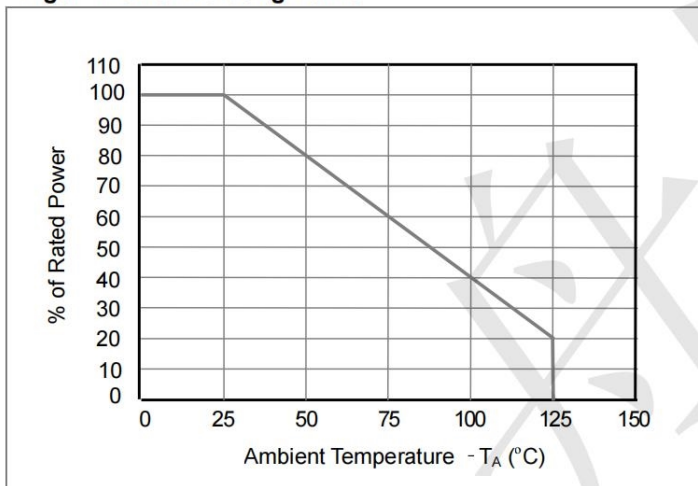
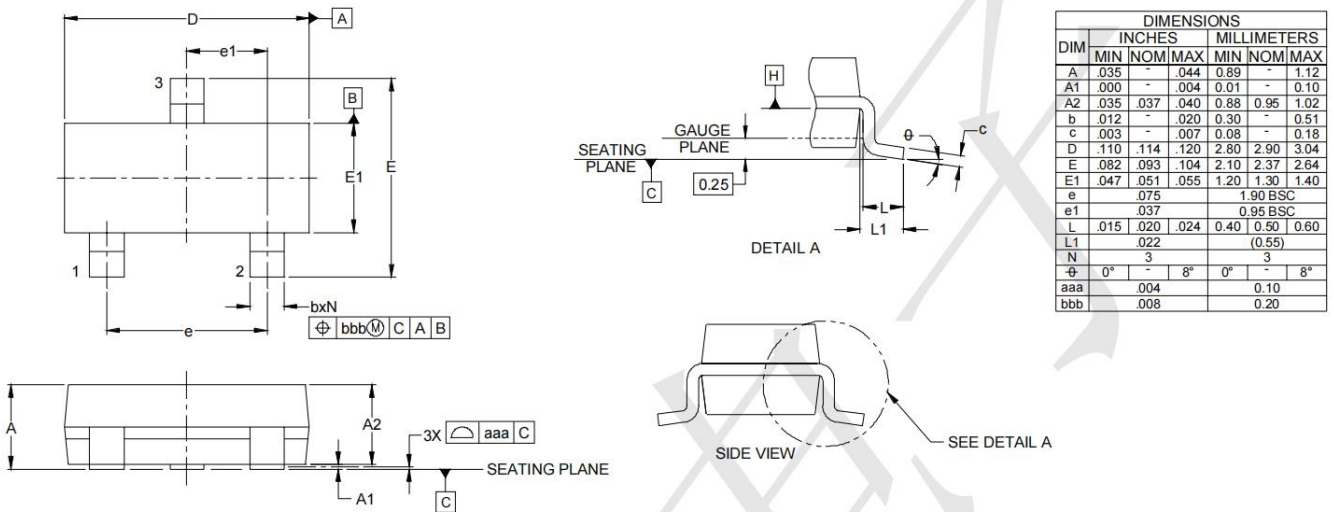


Fig3. Power Derating Curve



Outline Drawing - SOT23



Land Pattern - SOT23

