

Features

- ◆ 450W peak pulse power(8/20 μ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 12V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: \pm 30kV
 - Contact discharge: \pm 30kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 15A (8/20 μ s)
- ◆ RoHS Compliant

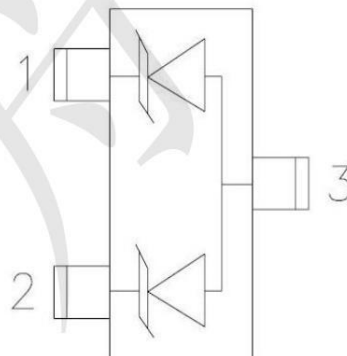
Mechanical Characteristics

- ◆ Package: SOT-23
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020
- ◆ Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

- ◆ Cellular Handsets and Accessories
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Set Top Box
- ◆ Industrial Controls

Dimensions and Pin Configuration



Marking: 12M Or12M. \square

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 450 | W |
| Peak Pulse Current (8/20μs) | IPP | 15 | A |
| 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 | °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 | | | 12 | V | |
| Breakdown Voltage | VBR | 13 | 15 | 17 | V | IT = 1mA |
| Reverse Leakage Current | IR | | | 0.1 | μA | VRWM = 12V |
| Forward Voltage | VF | | 0.8 | 1.2 | V | IF = 10mA |
| Clamping Voltage | VC | | 15 | | V | IPP = 1A (8 x 20μs pulse) |
| Clamping Voltage | VC | | | 30 | V | IPP = 15A (8 x 20μs pulse) |
| Junction Capacitance | CJ | | | 100 | pF | VR=0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3 |
| Junction Capacitance | CJ | | 40 | | pF | VR=0, f=1MHz, Pin 1 to Pin 2 |

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

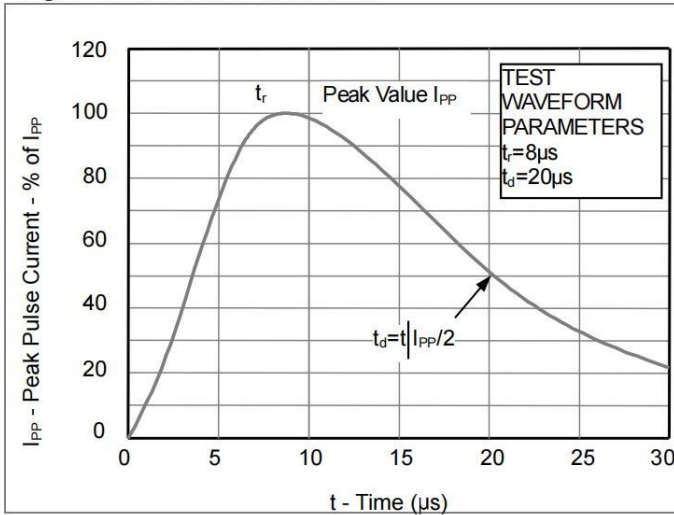


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

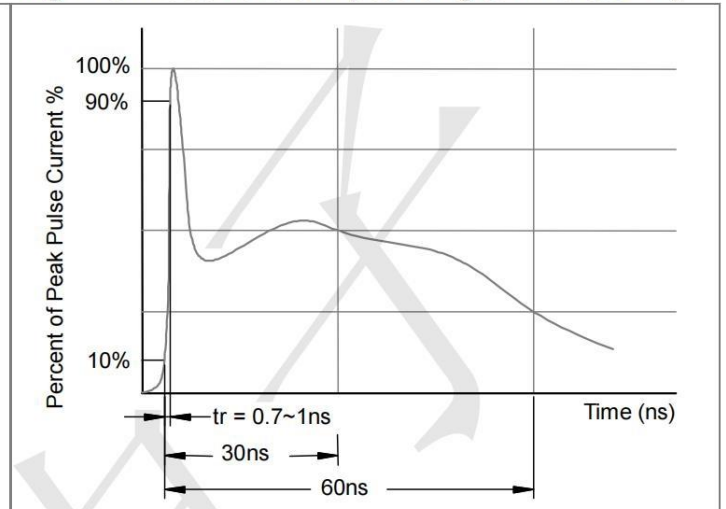
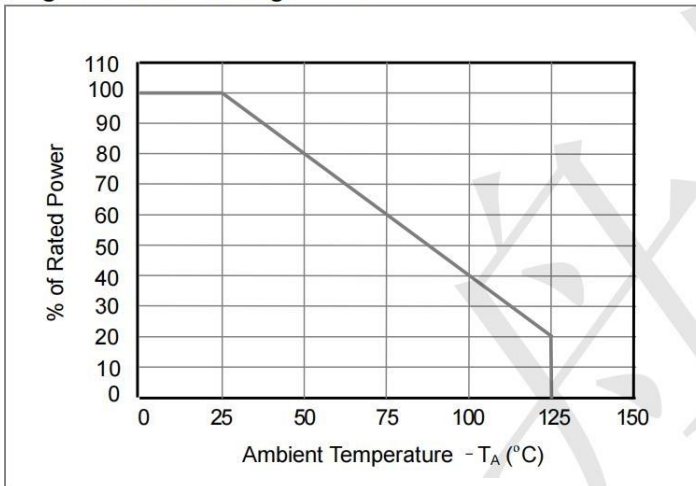
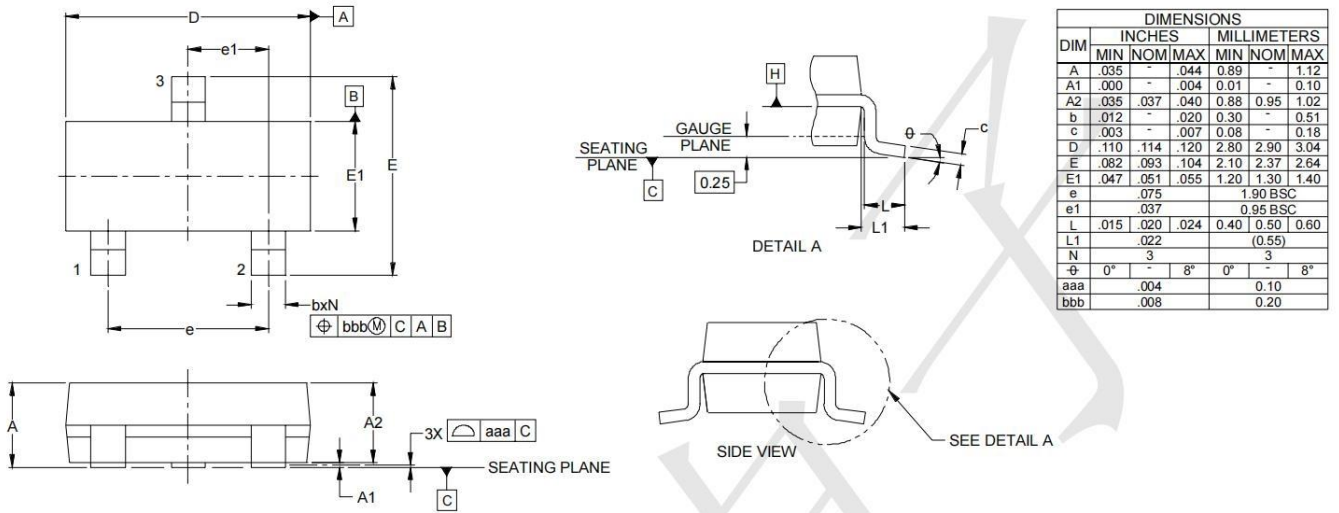


Fig3. Power Derating Curve



Outline Drawing - SOT23



Land Pattern - SOT23

