

Features

- ◆ 250W peak pulse power(8/20 μ s)
- ◆ Protects two bi-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 5V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: ± 30 kV
Contact discharge: ± 30 kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ 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



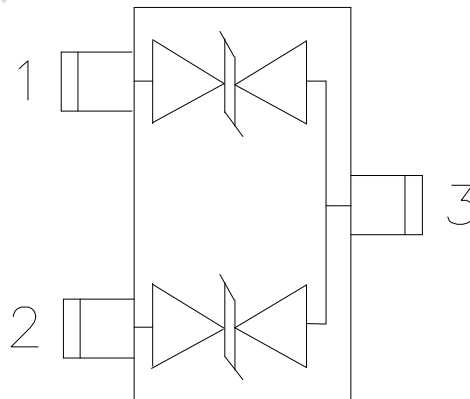
Applications

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

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| TPPESD5V0L2BT | 3000 | 7" |

Dimensions and Pin Configuration



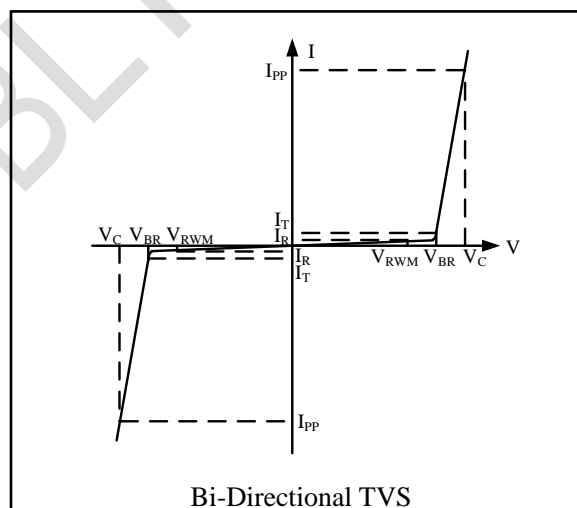
Circuit and Pin Schematic

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power(8/20μs) | Ppk | 250 | 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 | °C |
| Storage Temperature Range | Tstg | -55 to +150 | °C |

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

| Symbol | Parameter |
|-----------|-------------------------------------|
| V_{RWM} | Nominal Reverse Working Voltage |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Reverse Breakdown Voltage @ I_T |
| I_T | Test Current for Reverse Breakdown |
| V_C | Clamping Voltage @ I_{PP} |
| I_{PP} | Maximum Peak Pulse Current |
| C_{ESD} | Parasitic Capacitance |
| V_R | Reverse Voltage |
| f | Small Signal Frequency |



| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|--------|-----|------|-----|------|--|
| Reverse Working Voltage | VRWM | | | 5 | V | |
| Breakdown Voltage | VBR | 6 | | | V | IT = 1mA |
| Reverse Leakage Current | IR | | 0.01 | 0.5 | μA | VRWM = 5V |
| Clamping Voltage | VC | | 7 | | V | IPP = 1A (8 x 20μs pulse) |
| Clamping Voltage | VC | | 11 | | V | IPP = 16A (8 x 20μs pulse) |
| Peak Pulse Current | IPP | | | 16 | A | tp=8/20μs |
| Junction Capacitance | CJ | | | 35 | pF | VR=0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3 |

PROTECTION PRODUCTS
Typical characteristics

Fig1. 8/20 μ s Pulse Waveform

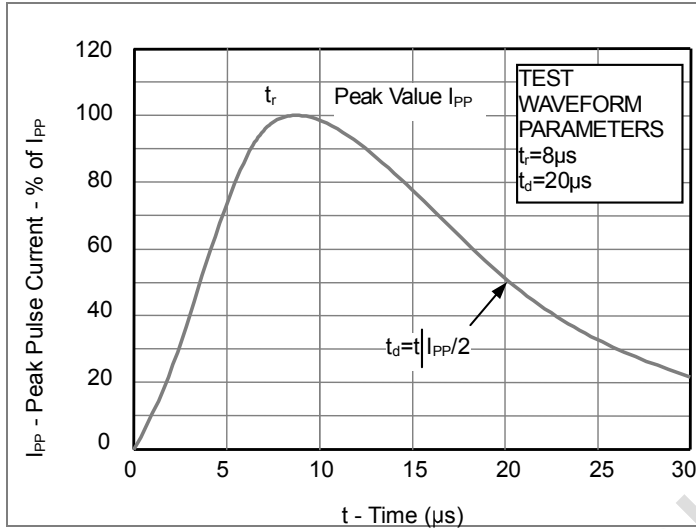


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

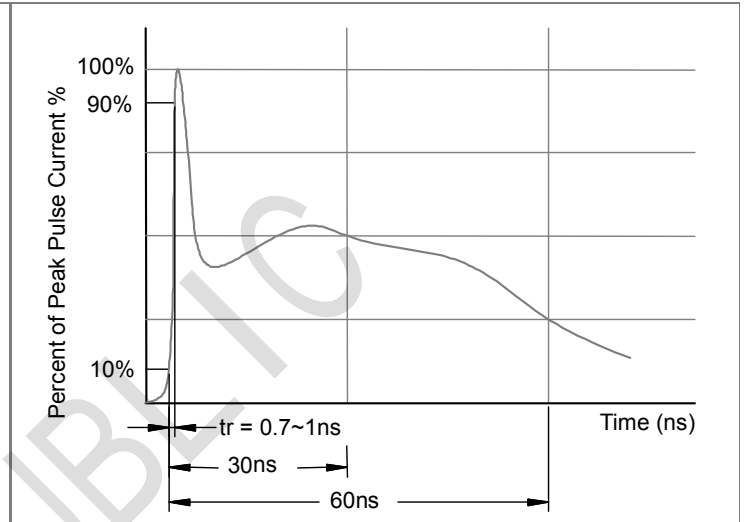
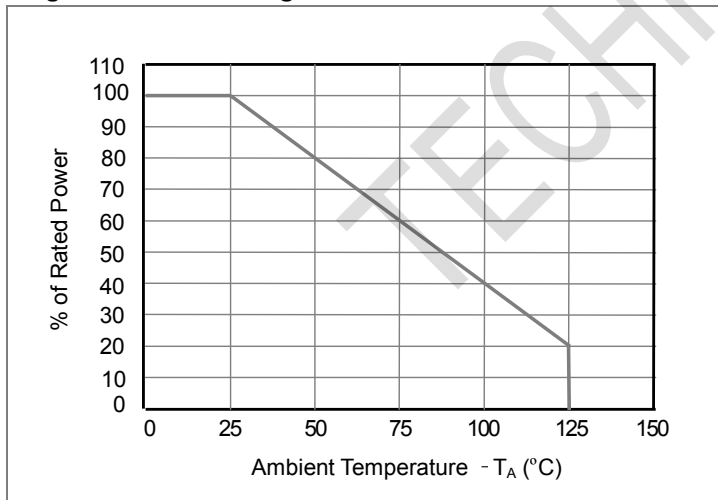
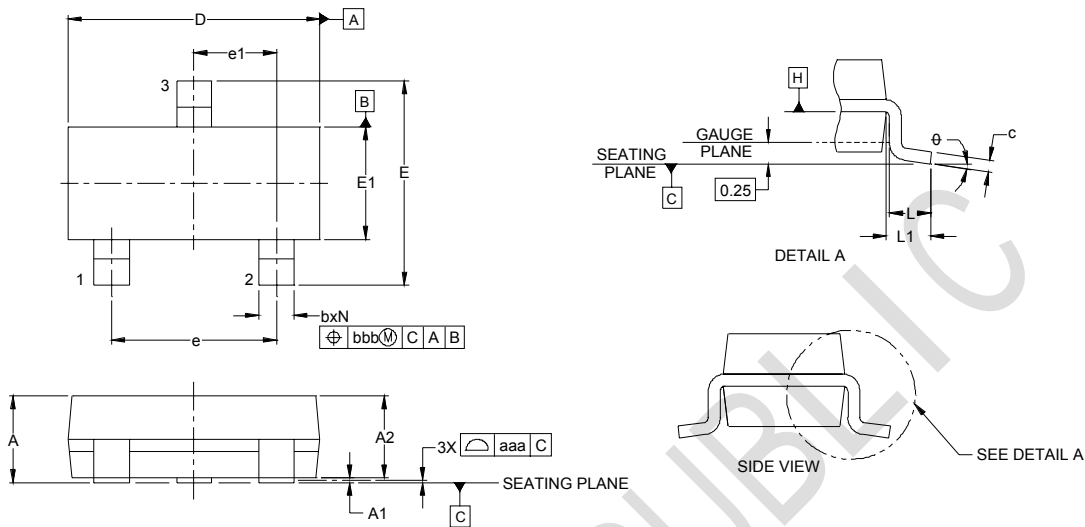


Fig3. Power Derating Curve



Outline Drawing - SOT23



Land Pattern - SOT23

