



## Features

- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact) IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 4.5V
- ◆ Protects one bidirectional line or
- ◆ 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

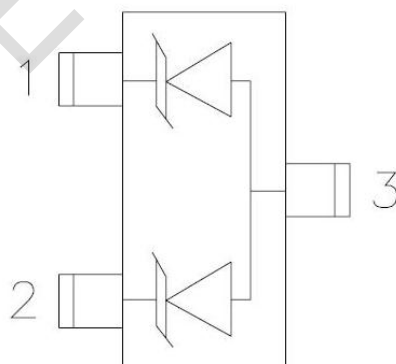
## Applications

- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I<sup>2</sup>C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

## Ordering Information

| Part Number    | Qty per Reel | Reel Size |
|----------------|--------------|-----------|
| TPMMBZ6V8ALT1G | 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 Current (8/20μs)     | Ipp    | 6           | 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)

| Type           | VRwm(V) | IR(μA)<br>Vrwm | VBR(V)IT |     | It  | VC(V)<br>Max Ipp | Ipp(A) | C(pf) |
|----------------|---------|----------------|----------|-----|-----|------------------|--------|-------|
|                | Max     | Max            | Min      | Max | mA  | Max              | Max    | Max   |
| TPMMBZ6V8ALT1G | 4.5     | 1.0            | 6.2      | 6.9 | 1.0 | 17.2             | 6.2    | 55    |



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

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

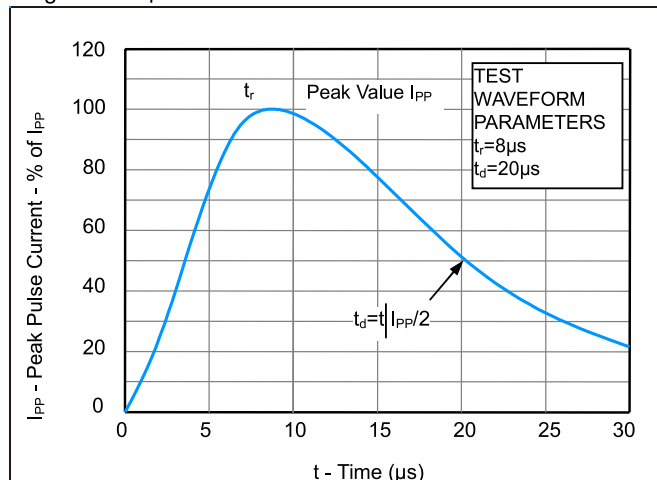


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

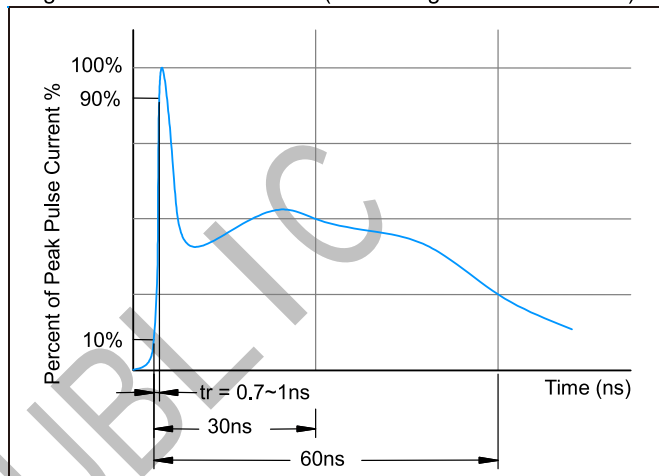


Fig3. Power Derating Curve

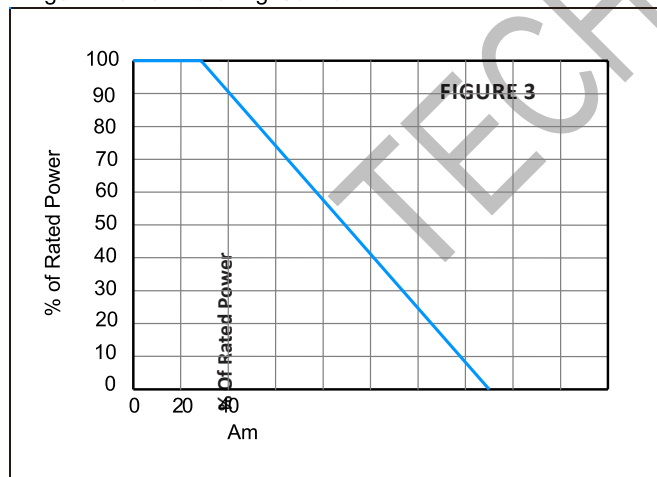
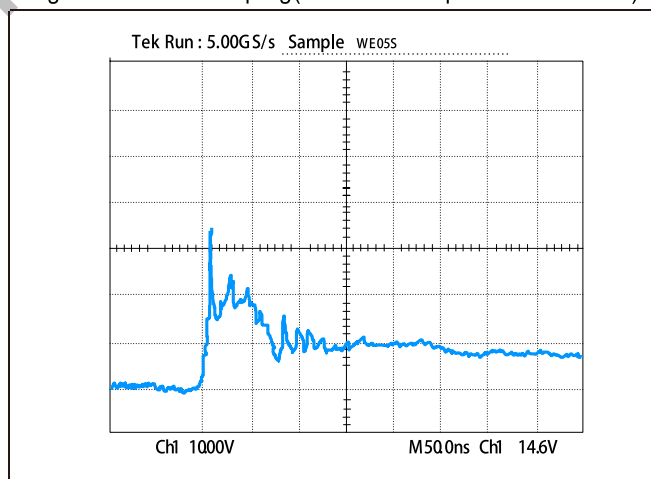
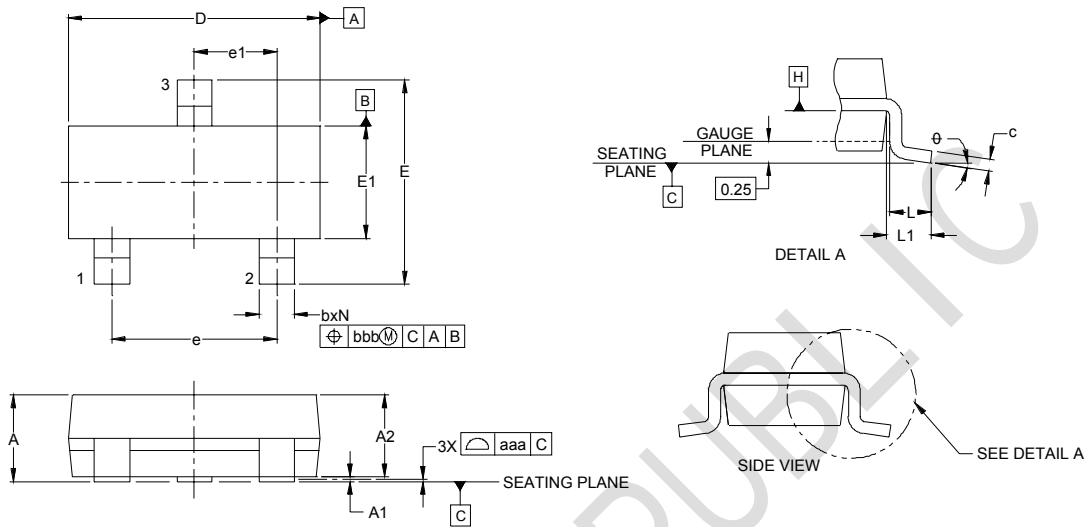


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)





## Outline Drawing - SOT23



## Land Pattern - SOT23

