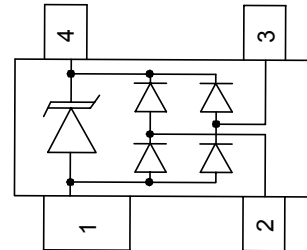


## Low Capacitance TVS Diode Array

### Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 6A (8/20 $\mu\text{s}$ )
- RoHS Compliant



### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

### Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0

### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                                | Symbol           | Value       | Unit |
|--|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu\text{s}$ )   | P <sub>pk</sub>  | 150         | W    |
| Peak Pulse Current (8/20 $\mu\text{s}$ ) | I <sub>pp</sub>  | 6           | A    |
| ESD per IEC 61000-4-2 (Air)              | V <sub>ESD</sub> | $\pm 30$    | kV   |
| ESD per IEC 61000-4-2 (Contact)          |                  | $\pm 30$    |      |
| Operating Temperature Range              | T <sub>J</sub>   | -55 to +125 | °C   |
| Storage Temperature Range                | T <sub>stg</sub> | -55 to +150 | °C   |

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

| 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     |     |     | 0.1 | uA   | VRWM =5V                              |
| Clamping Voltage        | VC     |     |     | 15  | V    | I <sub>PP</sub> = 1A (8 x 20μs pulse) |
| Clamping Voltage        | VC     |     |     | 25  | V    | I <sub>PP</sub> = 6A (8 x 20μs pulse) |
| Junction Capacitance    | CJ     |     | 0.3 | 0.5 | pF   | VR = 0V, f = 1MHz                     |

Typical Characteristics

Fig1. 8/20 $\mu$ s Pulse Waveform

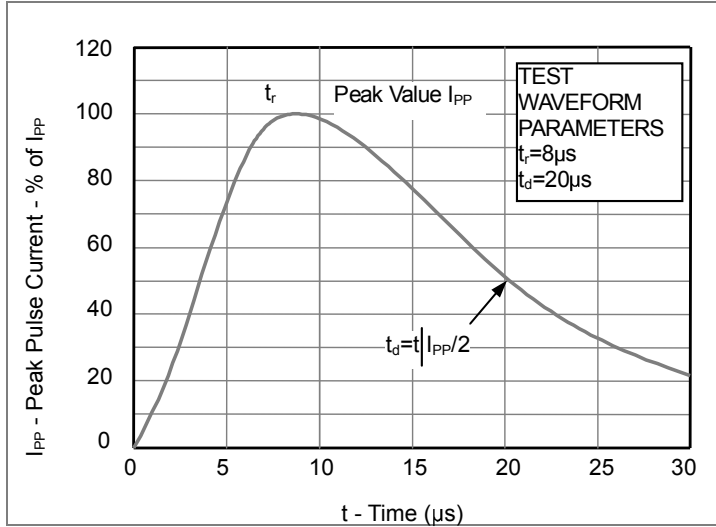


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

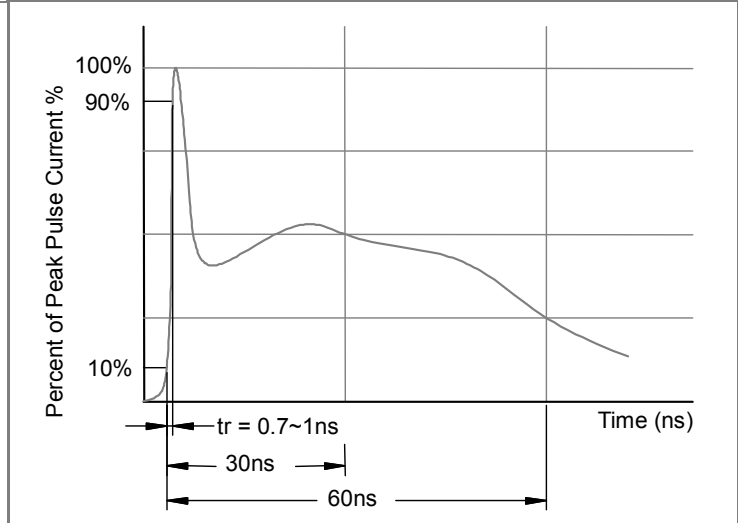
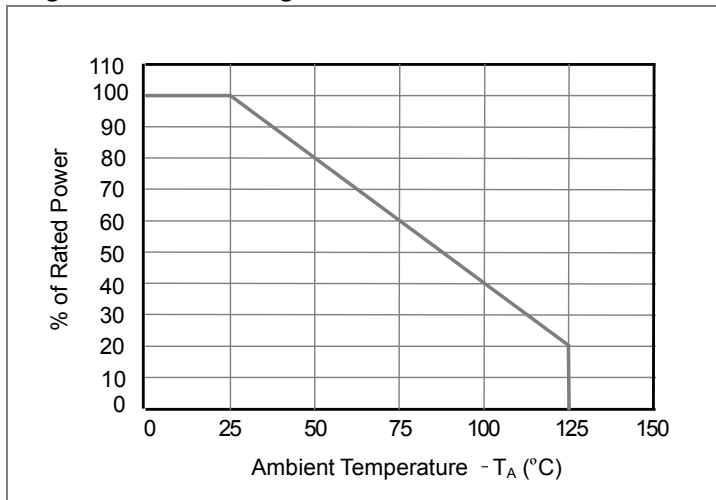
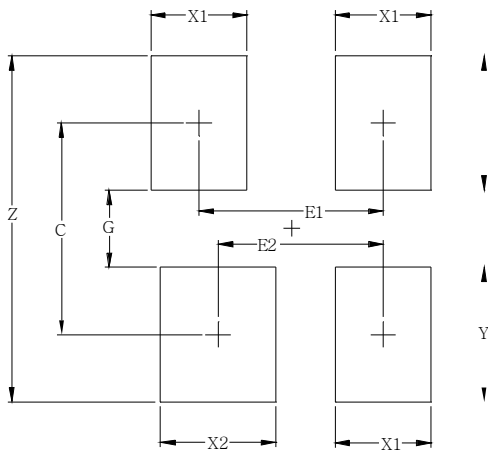


Fig3. Power Derating Curve

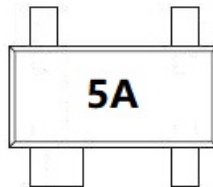


Outline Drawing - SOT-143



| SYM | DIMENSIONS  |        |
|-----|-------------|--------|
|     | MILLIMETERS | INCHES |
| C   | 2.20        | 0.087  |
| E1  | 1.92        | 0.076  |
| E2  | 1.72        | 0.068  |
| G   | 0.80        | 0.031  |
| X1  | 1.00        | 0.039  |
| X2  | 1.20        | 0.047  |
| Y   | 1.40        | 0.055  |
| Z   | 3.60        | 0.141  |

Marking



Ordering information

| Order code      | Package | Base qty | Delivery mode |
|-----------------|---------|----------|---------------|
| UMW PSR05-LF-T7 | SOT-143 | 3000     | Tape and reel |