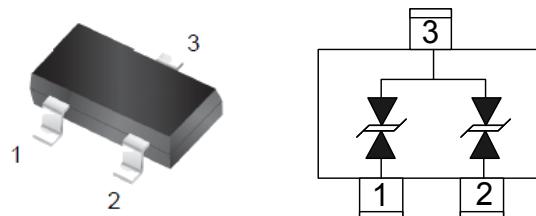


ESD TVS Array in SOT-23

Features

- 100Watts peak pulse power ($t_p = 8/20\mu s$)
- Tiny SOT-23 package
- Bidirectional configurations
- Protects one I/O port
- Low clamping voltage
- Low Leakage current
- ESD-immunity acc. IEC 61000-4-2 $\pm 10KV$ contact
 $\pm 15KV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 μs)



Mechanical Data

- **Case:** SOT-23 (plastic package). Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Applications

- Subscriber identity module(SIM) card protection
- Computers and peripherals
- PAD
- Audio and video equipment
- Cellular handsets and accessories
- Other electronics equipments Communication systems

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

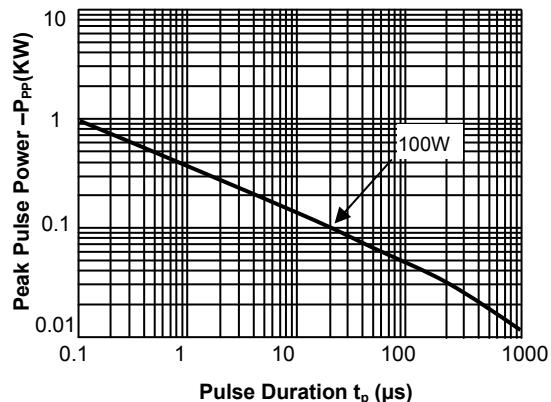
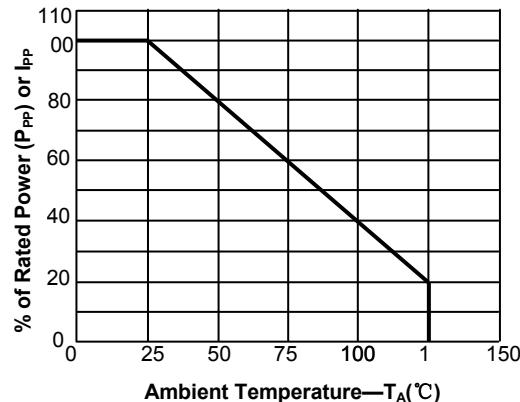
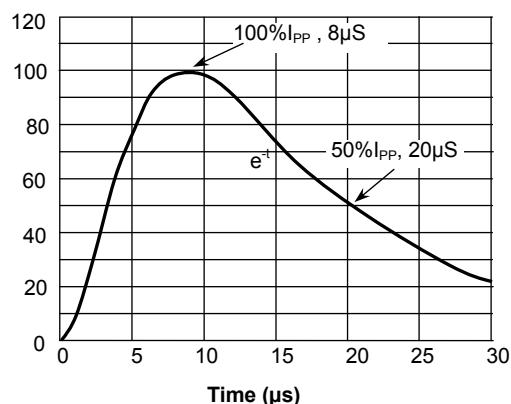
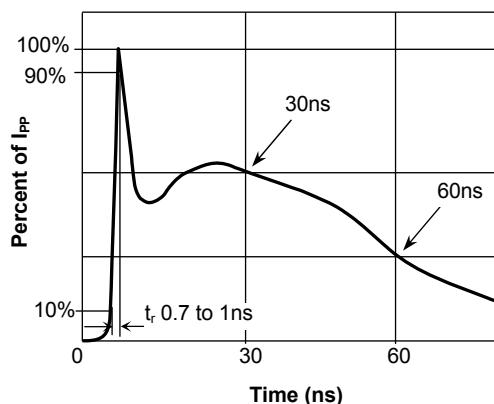
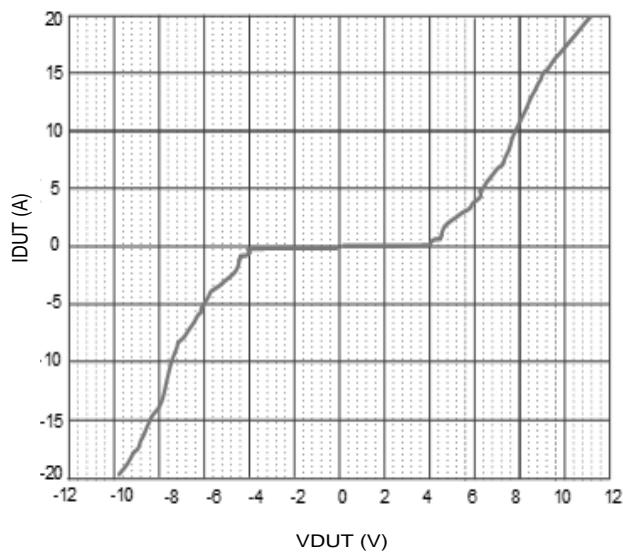
| Parameter | Symbol | Value | Unit |
|--|-----------|---------------|------|
| ESD Air Discharge per IEC 61000-4-2 | V_{ESD} | ± 15 | kV |
| ESD Contact Discharge per IEC 61000-4-2 | V_{ESD} | ± 10 | kV |
| Peak pulse power 8/20 μs waveform | P_{PPM} | 100 | W |
| Peak pulse current 8/20 μs waveform | I_{PPM} | 10 | A |
| Operating Temperature | T_J | - 55 to + 125 | °C |
| Storage Temperature | T_{STG} | - 55 to + 150 | °C |

Electrical Characteristics

($T_A = 25$ °C unless otherwise specified)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---------------------------|-----------|-------------------------------|-----|-------|-----|----------|
| Reverse stand-off Voltage | V_{RWM} | | | | 3.3 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 4.0 | 4.3 | | V |
| Reverse Leakage Current | I_R | $V_R=3.3V$ | | 0.01 | 0.5 | μA |
| Clamping Voltage(SURGE) | V_C | $I_{PP}=10A, T_P=8/20\mu s$ | | | 10 | V |
| Clamping Voltage(ESD) | V_C | $V_{ESD} = +6kV$ | | 7.5 | | V |
| Clamping Voltage(TLP) | V_C | $I_{PP}=10A, T_P=100ns$ | | 7.5 | | V |
| Clamping Voltage(TLP) | V_C | $I_{PP}=18A, T_P=100ns$ | | 10 | | V |
| Dynamic Resistance | R_{dyn} | $I_{TLP}=0A \sim 20A$ | | 0.235 | | Ω |
| Junction Capacitance | C_J | $V_R=0V, f=1MHz, pin1,2 to 3$ | | 18 | | pF |

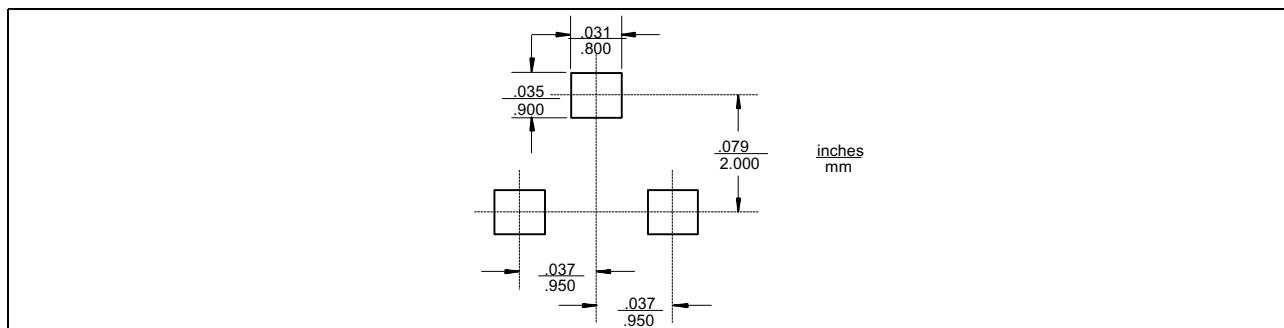
Typical Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

Fig.1 Peak Pulse Power Rating Curve

Fig.2 Pulse Derating Curve

Fig.3 Pulse Waveform-8/20μs

Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

Fig.5 Transmission Line Pulse (tp=100ns)


Package Dimensions

| SYMBOL | DIMENSIONS | | | |
|----------|------------|------|----------|--------|
| | MILLIMETER | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 0.89 | 1.12 | 0.035 | 0.044 |
| A1 | 0.01 | 0.10 | 0.0006 | 0.0043 |
| A2 | 0.88 | 1.02 | 0.035 | 0.040 |
| D | 2.80 | 3.04 | 0.110 | 0.120 |
| E | 2.10 | 2.64 | 0.082 | 0.104 |
| E1 | 1.20 | 1.40 | 0.047 | 0.055 |
| e | 1.90BSC | | 0.75 BSC | |
| L | 0.40 | 0.60 | 0.015 | 0.024 |
| θ | 0 | 8 | 0 | 8 |

Pad Dimensions



Pad Dimensions

| Unit:mm | | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|--|
| A0 | B0 | K0 | D1 | D | E | F | W | P | P1 | t | |
| 3.15±0.10 | 2.77±0.10 | 1.22±0.10 | 0.95~1.10 | 1.50~1.60 | 1.75±0.10 | 3.50±0.05 | 7.90~8.3 | 4.00±0.10 | 2.00±0.05 | 0.22±0.40 | |

Ordering information

| Order code | Marking | Package | Packaging option | Base quantity | Packaging specification |
|----------------|---------|---------|------------------|----------------|-------------------------|
| TEST23LC3V3B-M | LL3 | SOT-23 | Tape and reel | 3000pcs / reel | EIA STD RS-481 |