

Transient Voltage Suppressors for ESD Protection

SE15T2U02GW

Features

- ◆ Working voltage : 15V
- ◆ Low leakage current: 1 μ A @ V_{RWM}
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

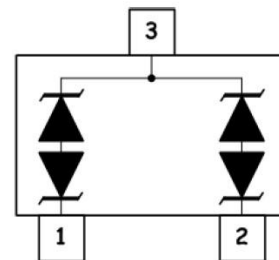
SOT-23



Applications

- ◆ Portable Instrumentation.
- ◆ Networking and Telecom.
- ◆ Serial and Parallel Ports.
- ◆ Peripherals.

Pin Configuration



Mechanical Characteristics

- ◆ SOT-23 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch

Absolute Maximum Rating

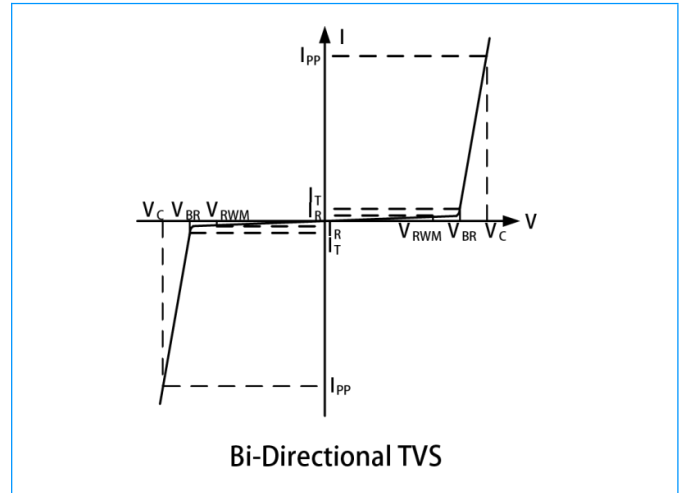
| Symbol | Parameter | Value | Units |
|-----------|---------------------------------|-------------|-------------|
| T_{LST} | Lead Soldering Temperature | 260 (10sec) | $^{\circ}C$ |
| T_{STG} | Storage Temperature Range | -55 to +150 | $^{\circ}C$ |
| T_{OPT} | Operating Temperature Range | -55 to +150 | $^{\circ}C$ |
| V_{ESD} | ESD per IEC 61000-4-2(Air) | ± 30 | KV |
| | ESD per IEC 61000-4-2 (Contact) | ± 30 | |

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I-V Curve Characteristics

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |



Bi-Directional TVS

Electrical Characteristics (@ $T_A=25^\circ\text{C}$ Unless Otherwise Specified)

| Symbol | Test Condition | Minimum | Typical | Maximum | Units |
|-----------|--|---------|---------|---------|---------------|
| V_{RWM} | -- | -- | -- | 15 | V |
| I_R | $V_{RWM}=15\text{V}, T=25^\circ\text{C}$ | -- | -- | 1 | μA |
| V_{BR} | $I_T=1\text{mA}$ | 16.7 | -- | -- | V |
| V_C | $I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$ | -- | 20 | -- | V |
| V_C | $I_{PP}=10\text{A}, t_p=8/20\mu\text{s}$ | -- | 27 | -- | V |
| C_J | $V_R=0\text{V}, f=1\text{MHz}$ | -- | 32 | -- | pF |

Electrical Characteristic Curves

Fig1. Pulse Waveform

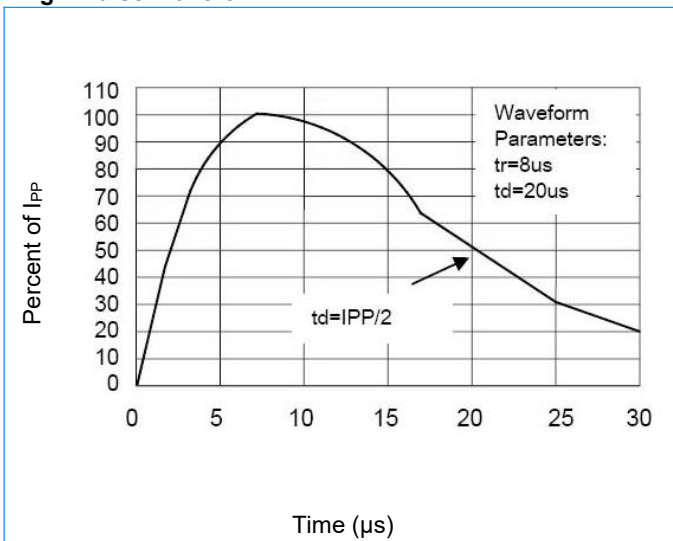
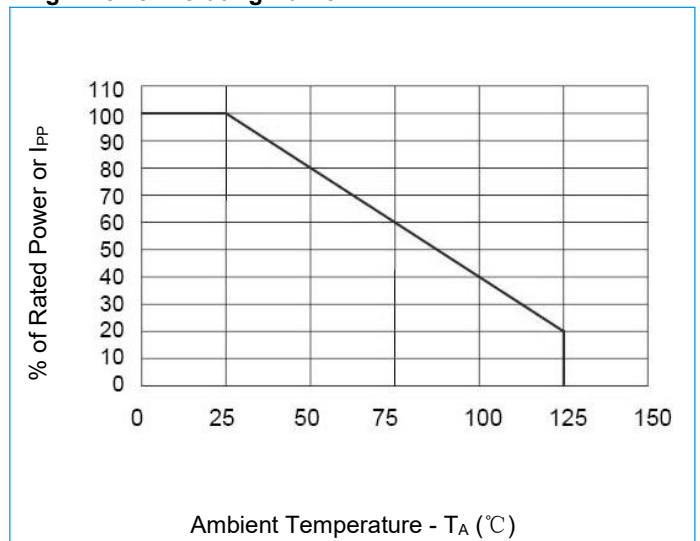


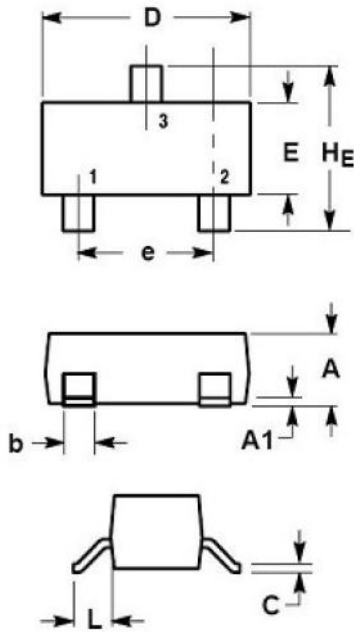
Fig2. Power Derating Curve



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SOT-23 Package Outline & Dimensions



| Symbol | Millimeters | | | Inches | | |
|--------|-------------|------|------|--------|-------|-------|
| | Min. | Nom. | Max. | Min. | Nom. | Max. |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.040 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.018 | 0.020 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.90 | 3.04 | 0.110 | 0.114 | 0.120 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.90 | 2.04 | 0.070 | 0.075 | 0.081 |
| L | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |

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