

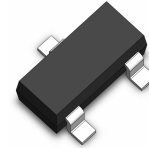
Transient Voltage Suppressors Array for ESD Protection

ESDXXV23T-2LC Series

Description

The ESDXXV23T-2LC is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

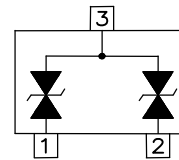
SOT-23



Feature

- u 100 Watts Peak Pulse Power per Line (tp=8/20µs)
- u Protects two bidirectional I/O lines
- u Low clamping voltage
- u Working voltages : 3.3V and 5V
- u Low leakage current
- u IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- u IEC61000-4-4 (EFT) 40A (5/50ns)

Functional Diagram



Applications

- u Cell Phone Handsets and Accessories
- u Microprocessor based equipment
- u Industrial Controls
- u Notebooks, Desktops, and Servers
- u Set-Top Box
- u Peripherals

Mechanical Characteristics

- u JEDEC SOT-23 Package
- u Molding Compound Flammability Rating : UL 94V-0
- u Weight 8.0 Milligrams (Approximate)
- u Quantity Per Reel : 3,000pcs
- u Reel Size : 7 inch
- u Lead Finish : Lead Free

Mechanical Characteristics

| Symbol | Parameter | Value | Units |
|------------------|---------------------------------------|---|-------|
| P _{PP} | Peak Pulse Power (tp=8/20µs waveform) | 100 | W |
| T _L | Lead Soldering Temperature | 260 (10sec) | °C |
| T _{STG} | Storage Temperature Range | -55 to +150 | °C |
| T _J | Operating Temperature Range | -55 to +150 | °C |
| | IEC61000-4-2 (ESD) | Air Discharge ±15 Contact Discharge ±8 | KV |
| | IEC61000-4-4 (EFT) | 40 | A |

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

| Part Number | Device Marking | V _{RWM} (V) (Max.) | V _B (V) (Min.) | I _T (mA) | V _C @1A (Max.) | V _C | | I _R (μA) (Max.) | C (pF) (Typ.) |
|----------------|----------------|-----------------------------------|---------------------------------|------------------------|---------------------------------|----------------|------|----------------------------------|---------------------|
| | | | | | | (Max.) | (@A) | | |
| ESD3.3V23T-2LC | L33 | 3.3 | 4.5 | 1 | 6 | 12 | 2.5 | 10 | 12 |
| ESD05V23T-2LC | L50 | 5 | 6 | 1 | 9.8 | 15 | 2.5 | 1 | 10 |

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

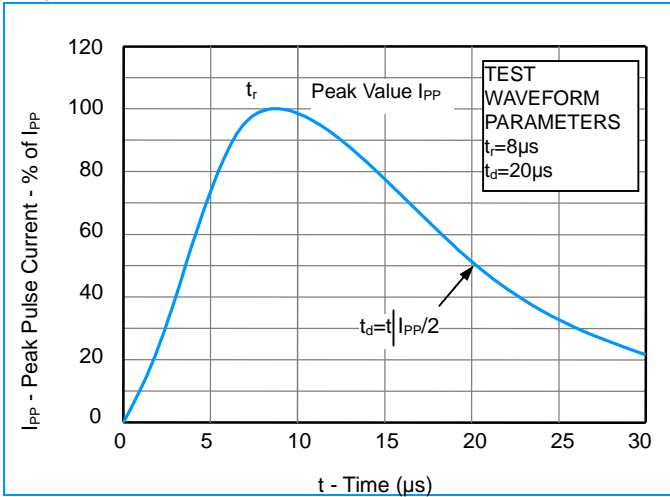


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

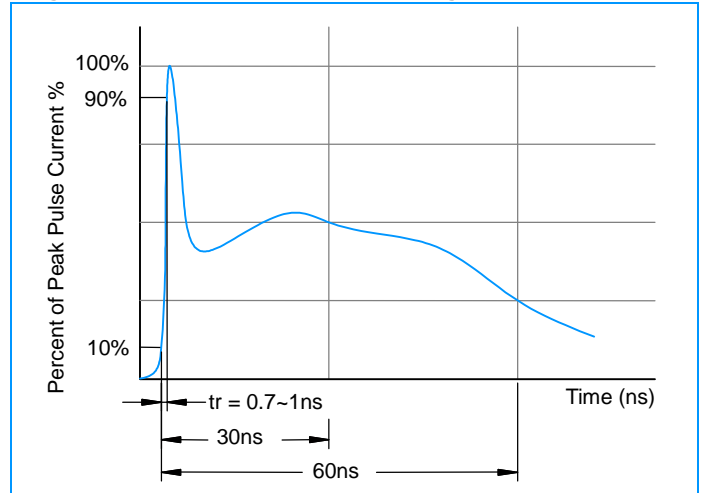
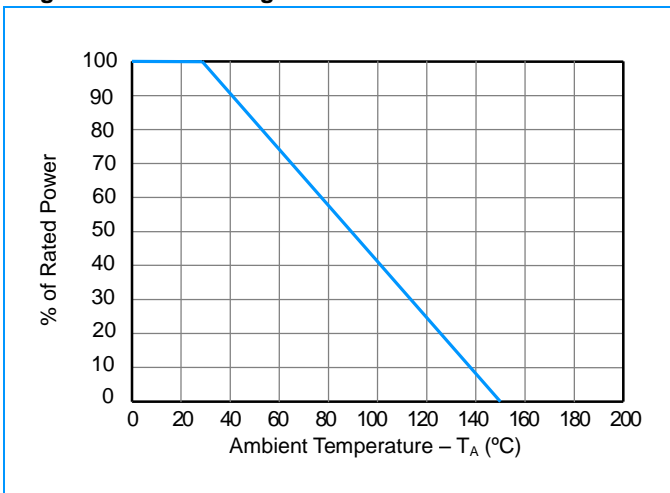


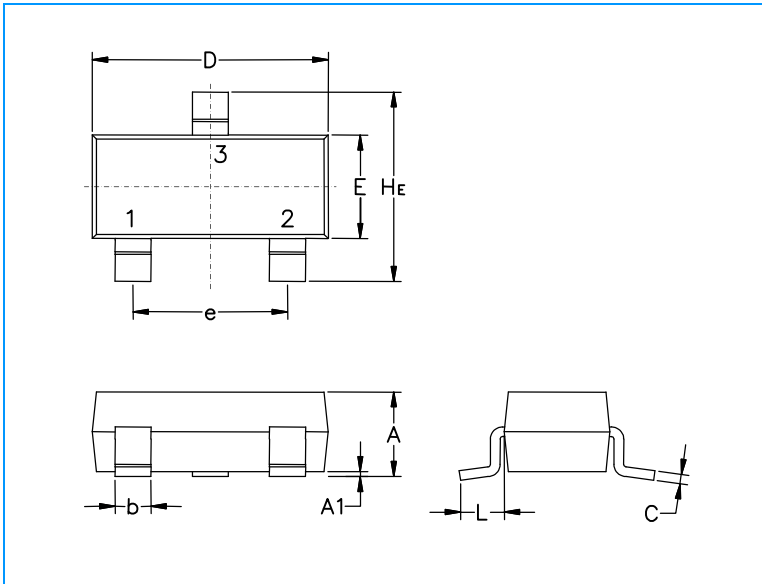
Fig3. Power Derating Curve



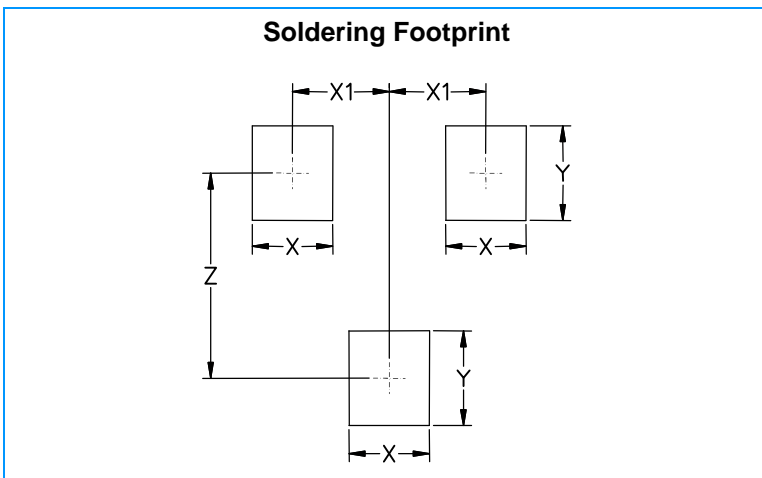
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SOT-23 Package Outline & Dimensions



| 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 | 0.15 | 0.18 | 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 |



| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| X | 0.80 | 0.031 |
| X1 | 0.95 | 0.037 |
| Y | 0.90 | 0.035 |
| Z | 2.00 | 0.079 |