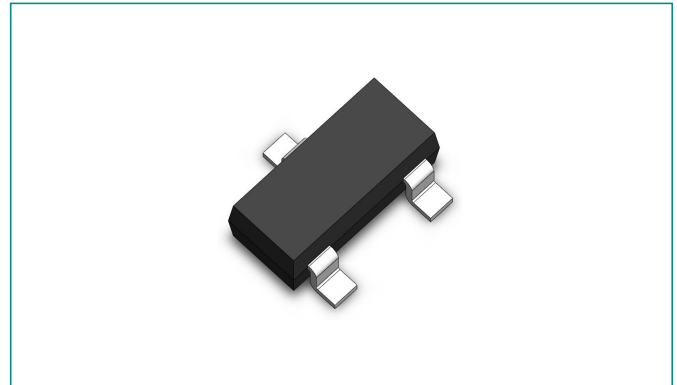


Transient Voltage Suppressors for ESD Protection

ESDXXV23T-2A Series

Description

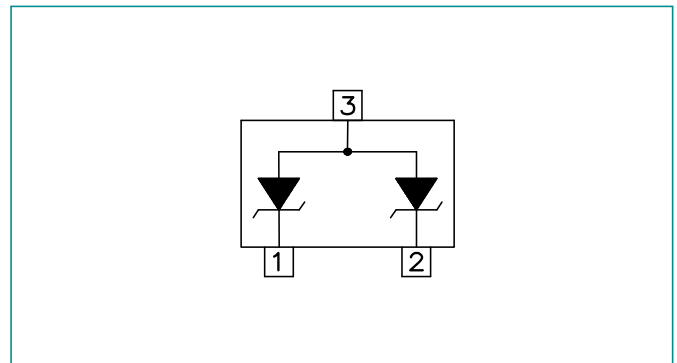
The ESDXXV23T-2A series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



Feature

- ◆ 320~450 Watts Peak Pulse Power per Line (tp=8/20μs)
- ◆ Protects one bidirectional line or two unidirectional lines
- ◆ Low clamping voltage
- ◆ Low leakage current
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact): 3.3V ~ 15V
- ◆ IEC61000-4-2 (ESD) ±20kV (air), ±20kV (contact): 18V ~36V

Functional Diagram



Applications

- ◆ Cellular Handsets and Accessories
- ◆ Portable Electronics
- ◆ Industrial Controls
- ◆ Set-Top Box
- ◆ Instrumentation
- ◆ Servers, Notebook, and Desktop PC

Mechanical Data

- ◆ JEDEC SOT-23 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 8.0 Milligrams (Approximate)
- ◆ Lead Finish : Lead Free

Mechanical Characteristics

| Symbol | Parameter | Value | Units |
|------------------|---------------------------------------|---------------|-------|
| P _{PP} | Peak Pulse Power (tp=8/20μs waveform) | 320~450 | Watts |
| T _L | Lead Soldering Temperature | 260 (10 sec.) | °C |
| T _{STG} | Storage Temperature Range | -55 to +150 | °C |
| T _J | Operating Junction Temperature Range | -40 to +125 | °C |

Transient Voltage Suppressors for ESD Protection

ESDXXV23T-2A Series

Electrical Characteristics(@25°C Unless Otherwise Specified)

| Part Number | Device Marking | V _{RMW} (V) (Max.) | V _{BR} (V) (Min.) | I _T (mA) | V _C @1A (Max.) | V _C | | I _R (uA) (Max.) | C (pF) (Typ.) |
|---------------|----------------|-----------------------------------|----------------------------------|------------------------|---------------------------------|----------------|------|----------------------------------|---------------------|
| | | | | | | (Max.) | (@A) | | |
| ESD3.3V23T-2A | M03 | 3.3 | 3.8 | 1 | 7.5 | 16 | 25 | 100 | 200 |
| ESD05V23T-2A | M05 | 5.0 | 6.0 | 1 | 9.8 | 17 | 24 | 1 | 150 |
| ESD08V23T-2A | M08 | 7.0 | 8.0 | 1 | 13.4 | 20 | 18 | 1 | 100 |
| ESD12V23T-2A | M12 | 12.0 | 13.3 | 1 | 20 | 30 | 13 | 1 | 50 |
| ESD15V23T-2A | M15 | 15.0 | 16.7 | 1 | 25 | 36 | 11 | 1 | 45 |
| ESD18V23T-2A | M18 | 18.0 | 19.0 | 1 | 30 | 40 | 8 | 1 | 42 |
| ESD24V23T-2A | M24 | 24.0 | 26.7 | 1 | 45 | 50 | 7 | 1 | 40 |
| ESD36V23T-2A | M36 | 36.0 | 40.0 | 1 | 65 | 75 | 6 | 1 | 25 |

Characteristics Curves

Fig1. 8/20μs Pulse Waveform

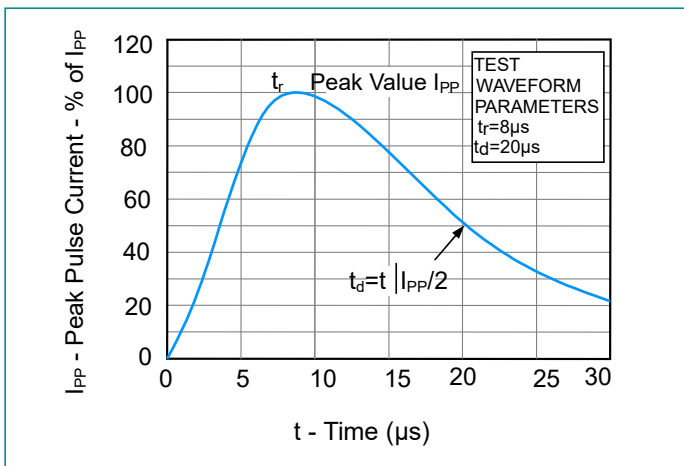


Fig2. Power Rating Derating Curve

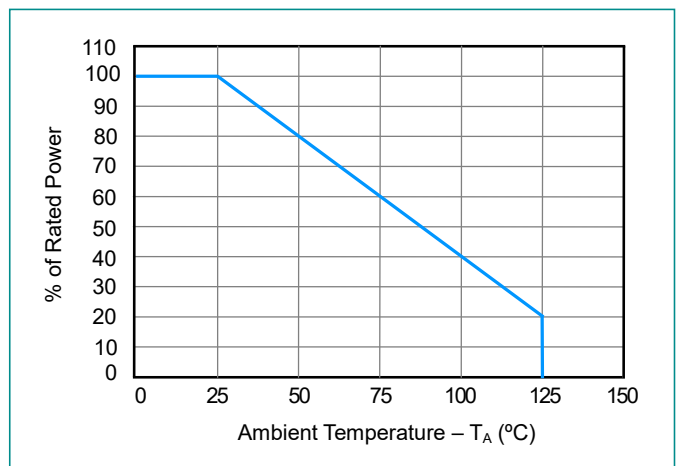
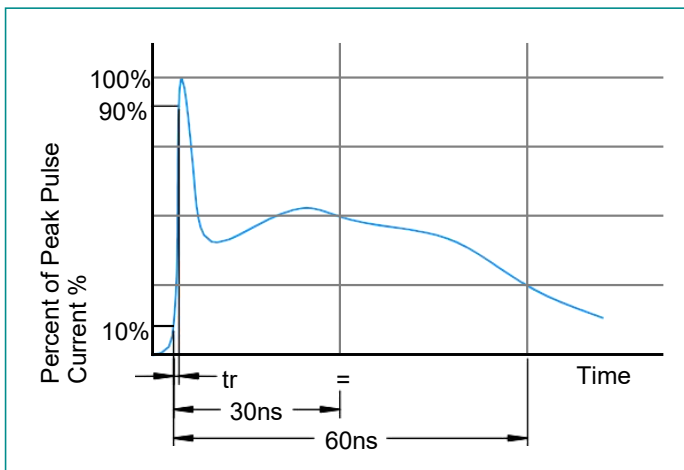


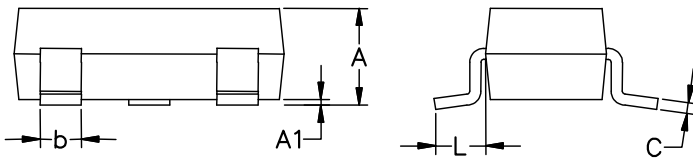
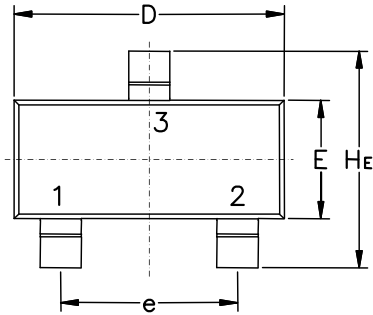
Fig3. ESD Pulse Waveform(According to IEC61000-4-2)



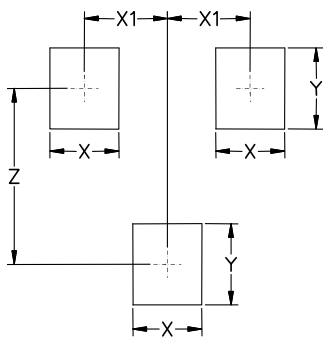
Transient Voltage Suppressors for ESD Protection

ESDXXV23T-2A Series

SOT-23 Package Outline & Dimensions



Soldering Footprint



| 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 |

Ordering Information

| Device | Package | Quantity | Reel Size |
|---------------------|---------|---------------|-----------|
| ESDXXV23T-2A Series | SOT-23 | 3,000pcs/Reel | 7 inch |