# L2TVS10.0A thru L2TVS190A

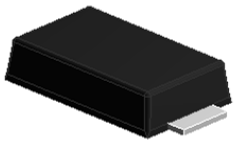
Surface Mount Transient Voltage Suppressors

Peak Pulse Power 200W Stand-off Voltage 10.0 to 190V

## Features

- Glass passivated junction
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Low profile， typical thickness 1.0mm
- Polarity:Uni-directional
- Excellent clamping capability and Fast response time
- 200W peak pulse power capability with a 10/1000us waveform

RoHS COMPLIANT



eSGB (SMAF)

## Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on Ics,MOSFET,signal lines of sensor units for consumer, computer, industrial and telecommunication

## Maximum Ratings (TA = 25 °C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak power dissipation with a 10/1000us waveform | $P_{PPM}$ 1) | Minimum 200 | W |
| Peak pulse current with a 10/1000us waveform | $I_{PPM}$ 1) | See Next Table | A |
| Steady state power dissipation on infinite heatsink | $P_{M(AV)}$ 2) | 0.5 | W |
| Peak forward surge current,8.3ms single half sine-wave uni- | $I_{FSM}$ | 30.0 | A |
| Maximum instantaneous forward voltage at 25A | $V_F$ | 3.5 | V |
| Thermal resistance junction to ambient air | Rthja | 80 | ℃/W |
| Operating junction and storage temperature range | TJ, TSTG | -65 to +150 | ℃ |

Notes:

1) Non-repetitive current,per fig.3 and derated above TA=25℃ per fig.4.

2) Power dissipation mounted on recommended pad layout

3) Thermal resistance from junction to ambient,mounted on PCB with 8.0×8.0mm copper pads

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

| Part Number | Reverse Stand-off Voltage | Breakdown Voltage | | Test Current | Max Reverse Leakage Current | Max. Clamp Voltage | Peak Pulse Current |
|---|---|---|---|---|---|---|---|
| | VRWM | VBR @ IT | | IT | IR @ VRWM | Vc @ IPP | IPP |
| | | Min | Max | | | | |
| | V | V | V | mA | μA | V | A |
| L2TVS10A | 10 | 11.1 | 12.3 | 1 | 5 | 17 | 11.8 |
| L2TVS11A | 11 | 12.2 | 13.5 | 1 | 5 | 18.2 | 11 |
| L2TVS12A | 12 | 13.3 | 14.7 | 1 | 5 | 19.9 | 10.1 |
| L2TVS13A | 13 | 14.4 | 15.9 | 1 | 5 | 21.5 | 9.3 |
| L2TVS14A | 14 | 15.6 | 17.2 | 1 | 5 | 23.2 | 8.62 |
| L2TVS15A | 15 | 16.7 | 18.5 | 1 | 5 | 24.4 | 8.2 |
| L2TVS16A | 16 | 17.8 | 19.7 | 1 | 5 | 26 | 7.69 |
| L2TVS17A | 17 | 18.9 | 20.9 | 1 | 5 | 27.6 | 7.25 |
| L2TVS18A | 18 | 20 | 22.1 | 1 | 5 | 29.2 | 6.85 |
| L2TVS20A | 20 | 22.2 | 24.5 | 1 | 5 | 32.4 | 6.17 |
| L2TVS22A | 22 | 24.4 | 26.9 | 1 | 5 | 35.5 | 5.63 |
| L2TVS24A | 24 | 26.7 | 29.5 | 1 | 5 | 38.9 | 5.14 |
| L2TVS26A | 26 | 28.9 | 31.9 | 1 | 5 | 42.1 | 4.75 |
| L2TVS28A | 28 | 31.1 | 34.4 | 1 | 5 | 45.4 | 4.41 |
| L2TVS30A | 30 | 33.3 | 36.8 | 1 | 5 | 48.4 | 4.13 |
| L2TVS33A | 33 | 36.7 | 40.6 | 1 | 5 | 53.3 | 3.75 |
| L2TVS36A | 36 | 40 | 44.2 | 1 | 5 | 58.1 | 3.44 |
| L2TVS40A | 40 | 44.4 | 49.1 | 1 | 5 | 64.5 | 3.1 |
| L2TVS43A | 43 | 47.8 | 52.8 | 1 | 5 | 69.4 | 2.88 |
| L2TVS45A | 45 | 50 | 55.3 | 1 | 5 | 72.7 | 2.75 |
| L2TVS48A | 48 | 53.3 | 58.9 | 1 | 5 | 77.4 | 2.58 |
| L2TVS51A | 51 | 56.7 | 62.7 | 1 | 5 | 82.4 | 2.43 |
| L2TVS54A | 54 | 60 | 66.3 | 1 | 5 | 87.1 | 2.3 |
| L2TVS58A | 58 | 64.4 | 71.2 | 1 | 5 | 93.6 | 2.14 |
| L2TVS60A | 60 | 66.7 | 73.7 | 1 | 5 | 96.8 | 2.07 |
| L2TVS64A | 64 | 71.1 | 78.6 | 1 | 5 | 103 | 1.94 |
| L2TVS70A | 70 | 77.8 | 86 | 1 | 5 | 113 | 1.77 |
| L2TVS75A | 75 | 83.3 | 92.1 | 1 | 5 | 121 | 1.65 |
| L2TVS78A | 78 | 86.7 | 95.8 | 1 | 5 | 126 | 1.59 |
| L2TVS80A | 80 | 88.8 | 97.6 | 1 | 5 | 129 | 1.55 |
| L2TVS85A | 85 | 94.4 | 104 | 1 | 5 | 137 | 1.46 |
| L2TVS90A | 90 | 100 | 111 | 1 | 5 | 146 | 1.37 |
| L2TVS100A | 100 | 111 | 123 | 1 | 5 | 162 | 1.23 |
| L2TVS110A | 110 | 122 | 135 | 1 | 5 | 177 | 1.13 |
| L2TVS120A | 120 | 133 | 147 | 1 | 5 | 193 | 1.04 |
| L2TVS130A | 130 | 144 | 159 | 1 | 5 | 209 | 0.96 |
| L2TVS140A | 140 | 155 | 171 | 1 | 5 | 224 | 0.89 |
| L2TVS150A | 150 | 167 | 185 | 1 | 5 | 243 | 0.82 |
| L2TVS160A | 160 | 178 | 197 | 1 | 5 | 259 | 0.77 |
| L2TVS170A | 170 | 189 | 209 | 1 | 5 | 275 | 0.73 |
| L2TVS180A | 180 | 201 | 222 | 1 | 5 | 292 | 0.69 |
| L2TVS190A | 190 | 211 | 232 | 1 | 5 | 324 | 0.62 |

## Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)

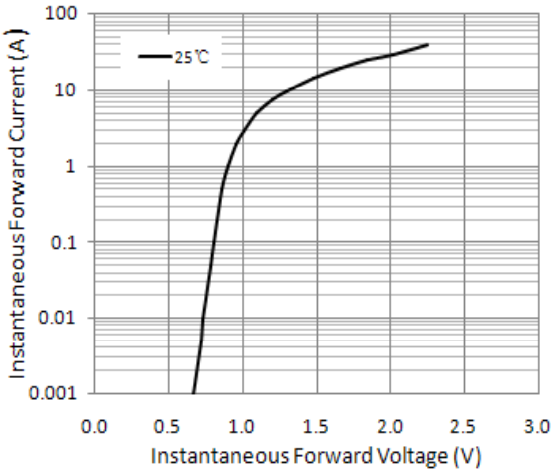



Figure 1. Typical Instantaneous Forward Characteristics

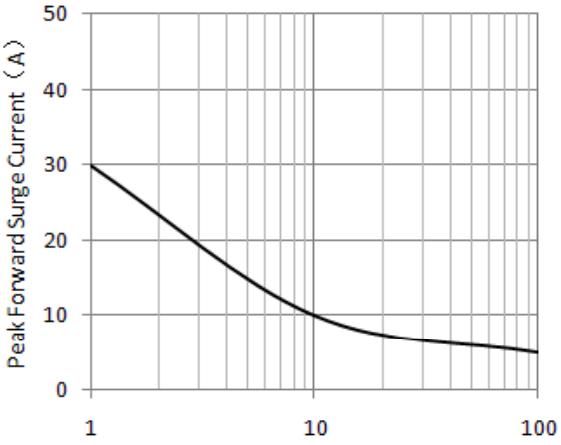



Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

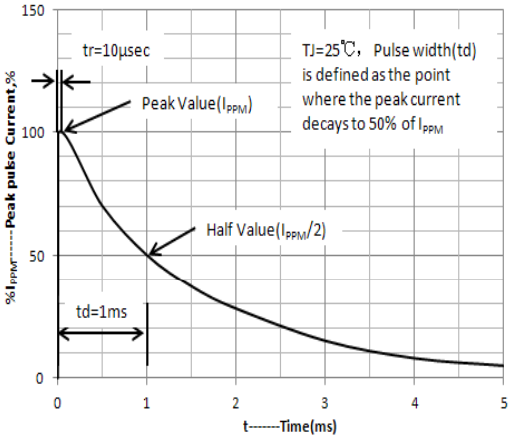



Figure 3. Pulse Waveform

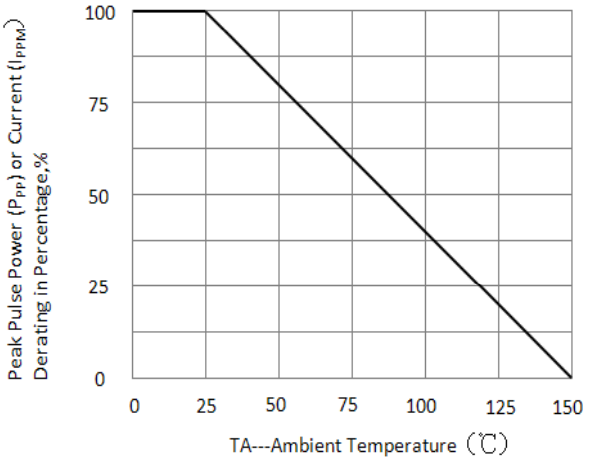



Figure 4. Peak Pulse Power Derating Curve

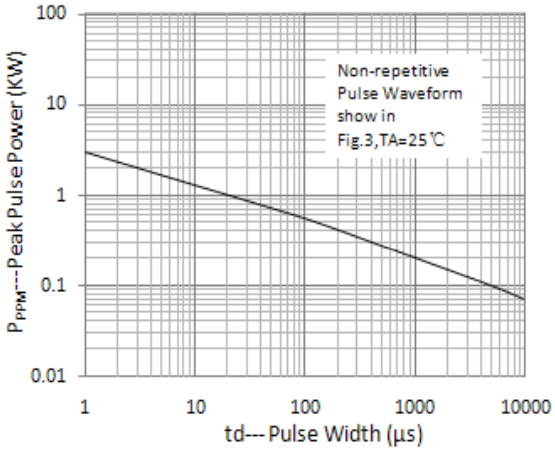
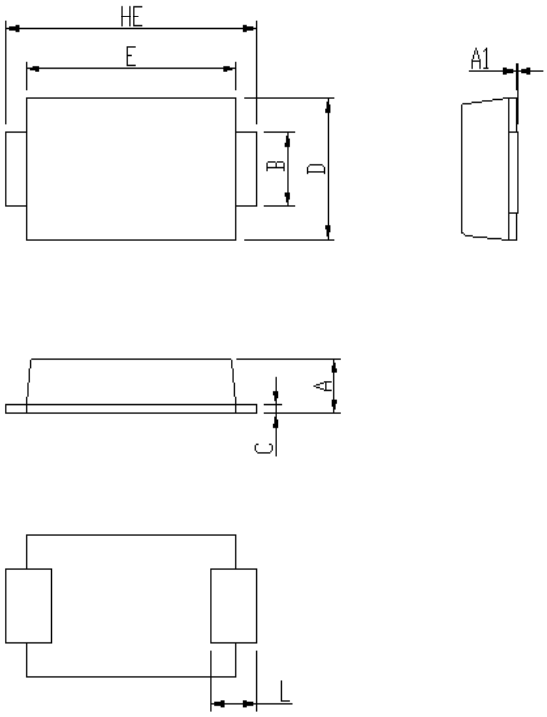



Figure 5. Peak Pulse Power Derating Curve

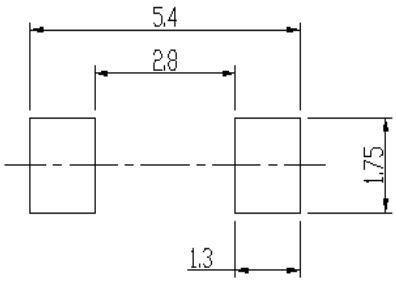
## Package Outline Dimensions

in inches (millimeters)




| DIM | Unit: mm | | Unit: inch | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 0.9 | 1.08 | 0.035 | 0.043 |
| A1 | 0 | 0.1 | 0.000 | 0.004 |
| B | 1.25 | 1.45 | 0.049 | 0.057 |
| C | 0.1 | 0.25 | 0.004 | 0.010 |
| D | 2.6 | 2.8 | 0.102 | 0.110 |
| E | 4.1 | 4.3 | 0.161 | 0.169 |
| L | 0.7 | 1.1 | 0.028 | 0.043 |
| HE | 4.8 | 5.2 | 0.189 | 0.205 |

Soldering footprint

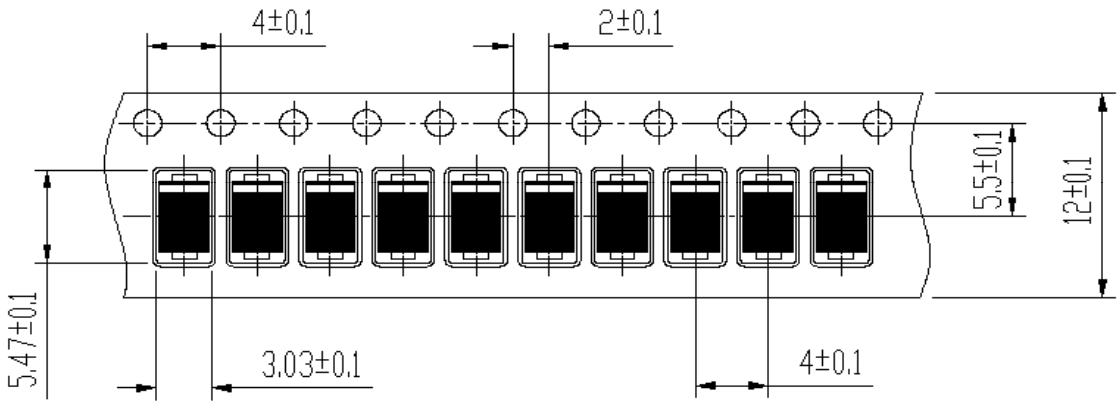



## Packing Information

**Packing quantities:**

10,000 pcs/Reel，12mm Tape, 13" Reel

**Tape & Reel Specification**



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