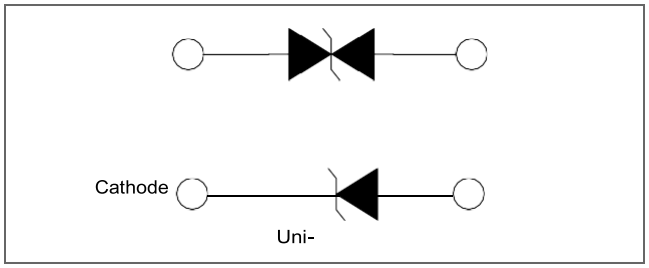
## Features

- 1500W peak pulse power capability at 10/1000μs waveform,
  repetition rate (duty cycles):0.01%
- Excellent clamping capability
- Typical failure mode is a short circuit condition for current events exceeding component rating
- Plastic package is flammability rated V-0 per UL-94
- Meet MSL level1, per J-STD-020, lead-frame maximum peak of 260°C
- High reliability application and automotive grade AEC-Q101 qualified

## Applications

TVS devices are ideal for the transient voltage clamp protection of I/O Interfaces, DC power line bus and other circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

## Function Diagram

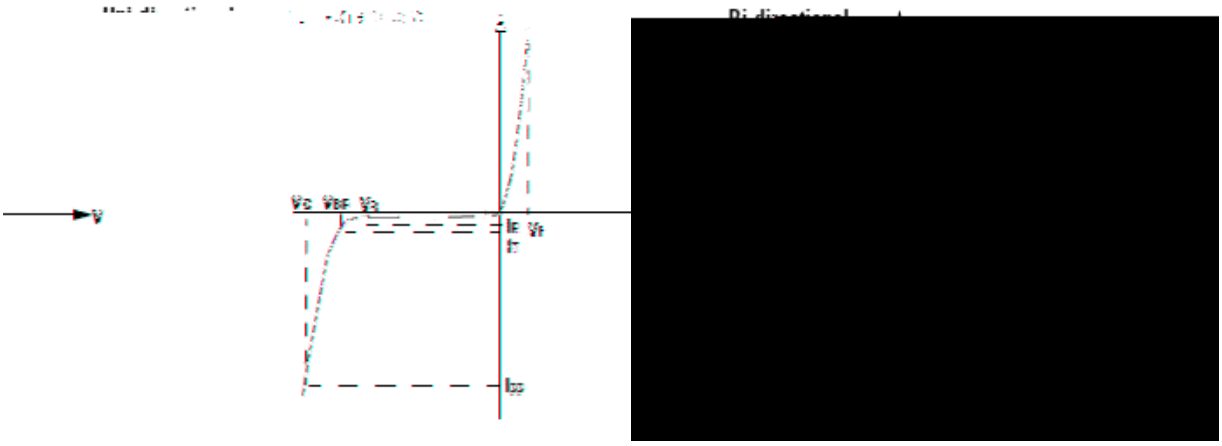



| Maximum Ratings and Thermal Characteristics ($T_A$=25°C unless otherwise noted) | | | |
|---|---|---|---|
| Parameter | Symbol | Value | Unit |
| Peak Pulse Power Dissipation at $T_A$=25°C by 10/1000μs Waveform (Fig.3) | $P_{PPM}$ | 1500 | W |
| Power Dissipation on Infinite Heat Sink at $T_L$=50°C | $P_D$ | 6.5 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 1) | $I_{FSM}$ | 200 | A |
| Maximum Instantaneous Forward Voltage at 50A for Unidirectional Only(Note 2) | $V_F$ | 3.5/5 | V |
| Operating Temperature Range | $T_J$ | -55 to 150 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to 150 | °C |

## Characteristics (T =25°C unless otherwise noted)

| Part Number (Uni) | Part Number (Bi) | Key Marking UNI | Key Marking BI | Reverse Stand off Voltage $V_R$ (Volts) |
|---|---|---|---|---|

## I-V Curve Characteristics



$P_{PPM}$ Peak Pulse Power Dissipation -- Max power dissipation

$V_R$ Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation

$V_{BR}$ Breakdown Voltage -- Maximum voltage that flows though the TVS at a specified test current ($I_T$)

$V_C$ Clamping Voltage -- Peak voltage measured across the TVS at a specified $I_{PPM}$ (peak impulse current)

$I_R$ Reverse Leakage Current -- Current measured at $V_R$

$V_F$ Forward Voltage Drop for Uni-directional

## Ratings and Characteristic Curves (T =25°C unless otherwise noted)

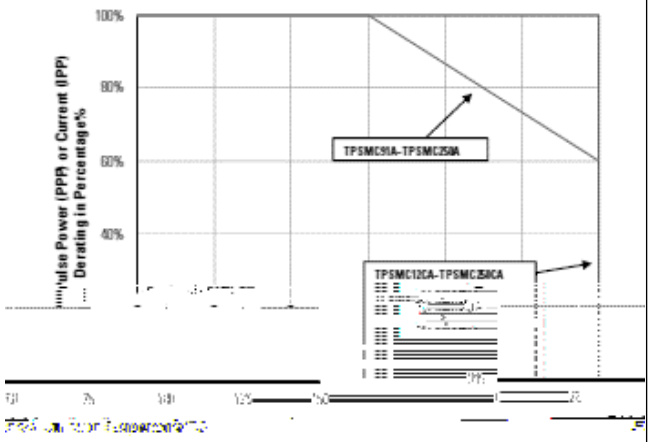



Figure 1. Peak pulse power derating curve

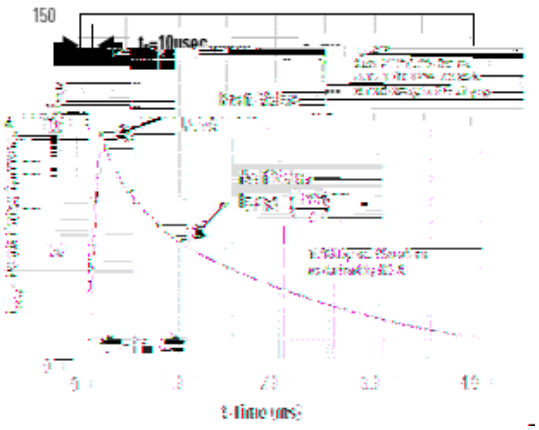



Figure2. Pulse waveform




Figure 3. Peak pulse power rating curve

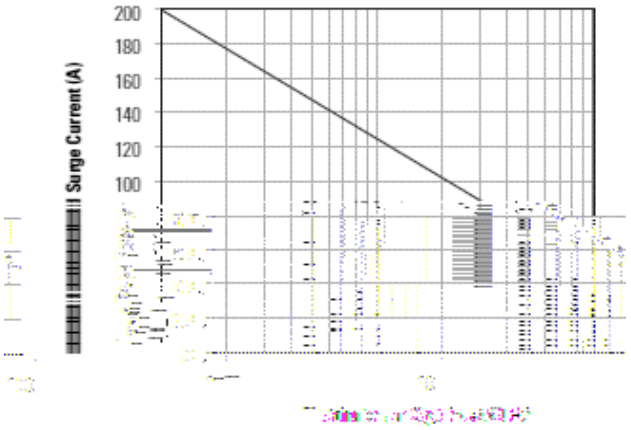



Figure 4. Maximum non-repetitive surge current

## Soldering Parameters

| | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## Soldering profile

## Dimensions



| UNIT | A | A1 | b | c | D | E | E1 | L |
|---|---|---|---|---|---|---|---|---|
| Max | 2.83 | 0.30 | 3.10 | 0.25 | 6.15 | 8.15 | 7.05 | 1.60 |
| Min | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

Remark: Dimensions D and E1 do not include mold flash & gate remain

## Part Numbering

TPSMC xx xx

## Part Marking

## Packing