

# Unidirectional and Bidirectional Surface Mount Transient Voltage Suppressor

**multicomp**PRO



## Features:

- Rating to 200V  $V_{BR}$
- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL recognition 94V-0
- Typical IR less than 1 $\mu$ A above 10V
- Fast response time : typically less than 1ns for Uni-direction, less than 5ns of Bi-direction, from 0 Volts to BV min

## Mechanical Data:

|                   |                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------|
| Case              | : Molded Plastic                                                                               |
| Polarity          | : Cathode band denotes uni-directional device<br>No cathode band denotes bi-directional device |
| Weight            | : 0.007 ounces, 0.21 grams                                                                     |
| Reverse Voltage   | : 5 to 440 Volts                                                                               |
| Power Dissipation | : 1500 Watts                                                                                   |

## Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Characteristics                                                                                         | Symbol          | Values      | Unit  |
|---------------------------------------------------------------------------------------------------------|-----------------|-------------|-------|
| Peak pulse power dissipation with a 10/1000 $\mu$ s waveform                                            | PPPM            | 1500        | Watts |
| Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load (JEDEC Method) | $I_{FSM}$       | 200         | Amps  |
| Typical Thermal Resistance, Junction to Ambient (Note1)                                                 | $R_{\theta JA}$ | 75          | °C/W  |
| Typical Thermal Resistance, Junction to Lead (Note1)                                                    | $R_{\theta JL}$ | 15          |       |
| Operating Temperature Range                                                                             | $T_J$           | -55 to +150 | °C    |
| Storage Temperature Range                                                                               | $T_{STG}$       |             |       |

## Notes:

1. Mounted on P.C.B. with 0.32" × 0.32" (8mm × 8mm) copper pad areas.
2. The typical data above is for reference only

| Part Number |     | Marking |     | Reverse Stand off Voltage | Breakdown Voltage $V_{BR}$ Volts @ $I_T$ |          | Test Current $I_T$ | Max. Clamping Voltage $V_C$ @ $I_{PP}$ | Max. Peak Pulse Current | Max. Reverse Leakage at $V_R$ |
|-------------|-----|---------|-----|---------------------------|------------------------------------------|----------|--------------------|----------------------------------------|-------------------------|-------------------------------|
| Uni.        | Bi. | Uni.    | Bi. | $V_R$ (V)                 | Min. (V)                                 | Max. (V) | @ $I_T$ (mA)       | $V_C$ (V)                              | $I_{PP}$ (A)            | $I_R$ ( $\mu$ A)              |
| SMCJ15A+    | -   | GEM     | -   | 15                        | 16.7                                     | 18.5     | 1                  | 24.4                                   | 61.5                    | 1                             |
| SMCJ17A+    | -   | GER     | -   | 17                        | 18.9                                     | 20.9     | 1                  | 27.6                                   | 54.3                    | 1                             |

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

**multicomp**PRO

## Notes:

1. Pulse test :  $T_P \leq 50\text{ms}$ .
2. Surge current waveform Per Fig. 3 and derate Per Fig. 1.
3.  $V_F = 3.5\text{V}$  at  $I_F = 25\text{A}$  (uni-directional only)
4. For bi-directional types with  $V_{WM}$  of  $10\text{V}$  and less, the  $I_D$  limit is doubled

## Ratings and Characteristic Curves

FIG.1-PULSE DERATING CURVE

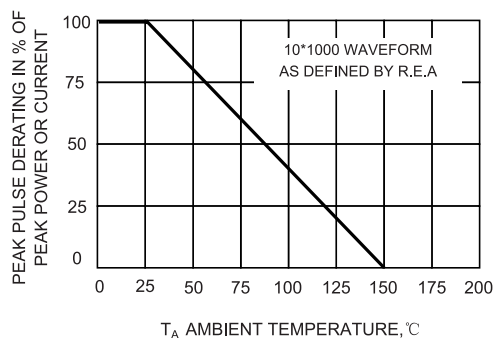


FIG.2-MAXIMUM NON-REPETITIVE PEAK  
FORWARD SURGE CURRENT

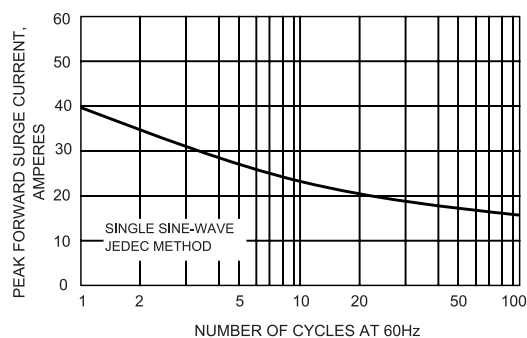


FIG.3-PULSE WAVEFORM

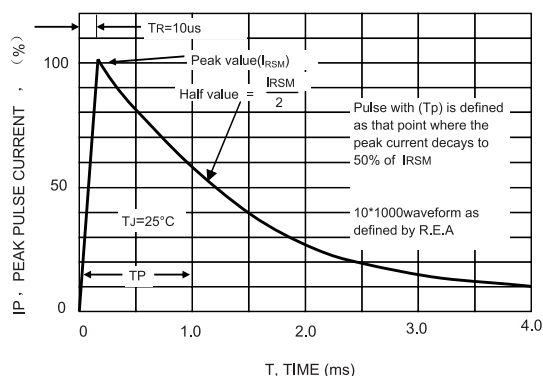


FIG.4-TYPICAL JUNCTION CAPACITANCE

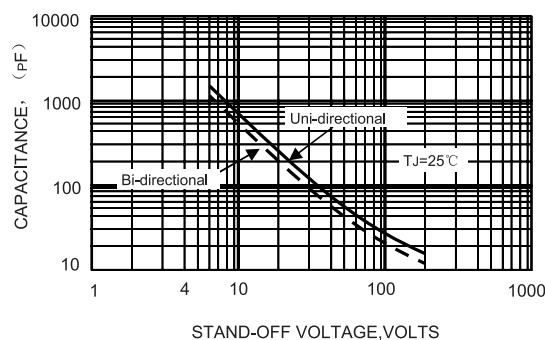


FIG.5-PULSE RATING CURVE

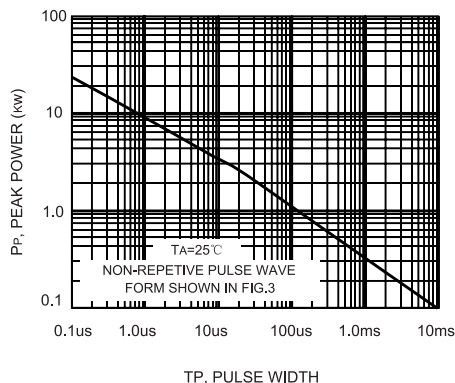
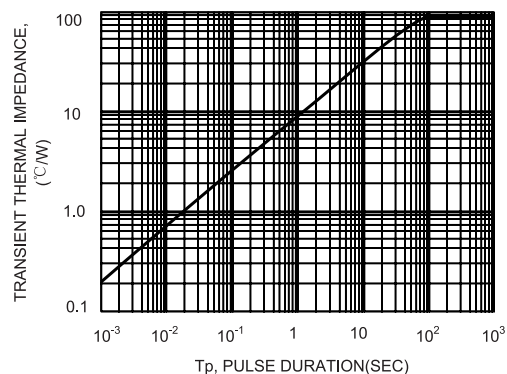


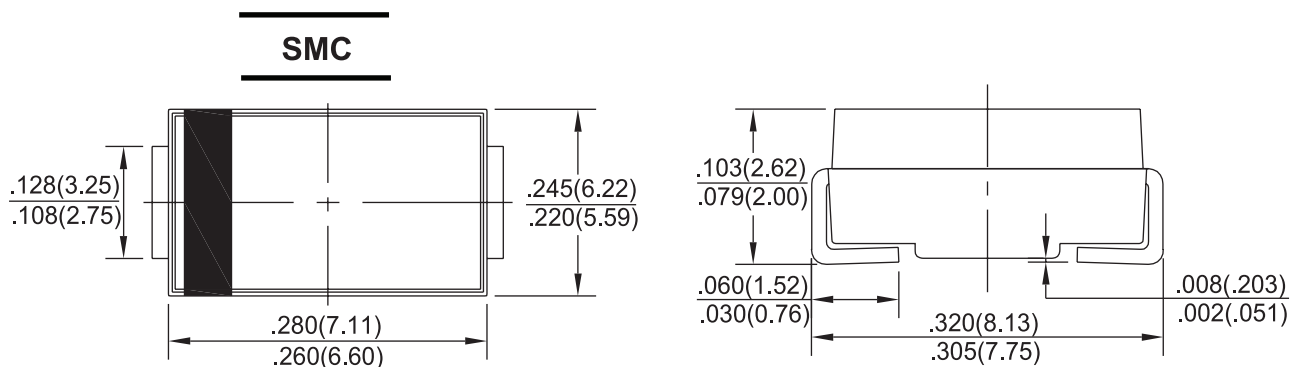
FIG.6-TYPICAL TANSIENT THERMAL IMPEDANCE



# Unidirectional and Bidirectional Surface Mount Transient Voltage Suppressor

**multicomp**PRO

## Dimensions:



Dimensions : Inches (Millimetres)

## Part Number Table

| Description                            | Part Number |
|----------------------------------------|-------------|
| TVS - Diodes 1500W 15V Uni-Directional | SMCJ15A+    |
| TVS - Diodes 1500W 17V Uni-Directional | SMCJ17A+    |

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

**multicomp**PRO