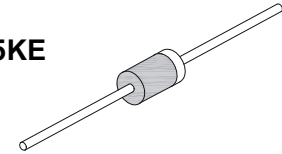


### 1500W Transient Voltage Suppressor

#### Features

- Glass passivated junction
- 1500W Peak Pulse Power capability on 10/1000µs waveform repetition rate(duty cycle): 0.05%
- Fast response time: typically less than 1.0ps from 0v to VBR for uni-direction and 5.0ns for bi-direction types
- Low incremental surge resistance, excellent clamping capability
- High temperature soldering guaranteed:  
265°C/10 seconds, 0.375" (9.5mm) lead length at 5lbs. (2.3kg tension)
- 1.5KE6.8A/CA -1.5KE550A/CA is UL recognized under component index. File number E315008
- RoHS Compliant

1.5KE



#### Mechanical Data

|                           |   |
|---------------------------|---|
| <b>Case:</b>              | Molded plastic black body, 1.5KE                                    |
| <b>Lead:</b>              | Plated axial leads, solderable per MIL-STD-750, Method 2026         |
| <b>Polarity:</b>          | Color band denoted positive end (cathode) except for Bi-directional |
| <b>Mounting position:</b> | Any   |
| <b>Weight:</b>            | 0.045 ounce, 1.2 grams  |

#### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| Symbol               | Description  | Value          | Unit | Conditions                         |
|----------------------|--|----------------|------|------------------------------------|
| <b>VWM</b>           | Maximum Recurrent Peak Reverse Voltage   | 6.8 to 600     | V    |                                    |
| <b>PPPM</b>          | Peak Pulse Power Dissipation on 10/1000µs waveform                                 | 1500           | W    | Note 1                             |
| <b>IPPM</b>          | Peak Pulse Current with a 10/1000µs waveform                                       | See Next Table | A    | Note 1                             |
| <b>PM(AV)</b>        | Steady State Power Dissipation at $T_L=75^{\circ}C$ , Lead Lengths 0.375", (9.5mm) | 6.5            | W    | Note 2                             |
| <b>IFSM</b>          | Peak Forward Surge Current, Uni-directional only (2)                               | 200            | A    | Note 3                             |
| <b>V<sub>F</sub></b> | Maximum Instantaneous Forward Voltage at 100A for Uni-directional only             | 3.5            | V    | 1.5KE6.8~1.5KE200<br>1N6267~1N6303 |
|                      |  | 5.0            |      | 1.5KE220~1.5KE600                  |

# 1500W Transient Voltage Suppressor

## 1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

| Symbol                            | Description                                      | Value      | Unit  | Conditions |
|-----------------------------------|--|------------|-------|------------|
| R <sub>thJA</sub>                 | Typical Thermal Resistance Junction to Ambient   | 75         | ° C/W |            |
| R <sub>thJL</sub>                 | Typical Thermal Resistance Junction to Lead      | 20         | ° C/W |            |
| T <sub>J</sub> , T <sub>STG</sub> | Operating Junction and Storage Temperature Range | -55 to 175 | ° C   |            |

- Notes:** (1) Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub> = 25°C per Fig. 2  
(2) Mounted on copper pad area of 1.6×1.6" (40×40mm) per Fig. 5.  
(3) 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes max.

### Electrical Characteristics (*T<sub>Ambient</sub>*=25°C unless noted otherwise)

| P/N       |          |           |            | Stand-Off Voltage   | Breakdown Voltage @ Test Current (note1) |      |                     | Max. Reverse Leakage Current @ V <sub>WM</sub> | Max. Clamping Voltage @ I <sub>PPM</sub> | Max. Peak Pulse Current | Max. Temperature Coefficient of VBR (%/° C) |
|-----------|----------|-----------|------------|---------------------|--|------|---------------------|--|--|-------------------------|---|
| Uni-Polar | Bi-Polar | Uni-Polar | Bi-Polar   |                     | VBR                                      |      | I <sub>T</sub> (mA) |  |  |                         |   |
|           |          |           |            | V <sub>WM</sub> (V) | Min.                                     | Max. |                     | I <sub>D</sub> (μA)                            | V <sub>C</sub> (V)                       | I <sub>PPM</sub> (A)    |   |
| 1N6267A   | 1N6267CA | 1.5KE6.8A | 1.5KE6.8CA | 5.8                 | 6.45                                     | 7.14 | 10                  | 1000   | 10.5                                     | 144.8                   | 0.057                                       |
| 1N6268A   | 1N6268CA | 1.5KE7.5A | 1.5KE7.5CA | 6.4                 | 7.13                                     | 7.88 | 10                  | 500  | 11.3                                     | 134.5                   | 0.061                                       |
| 1N6269A   | 1N6269CA | 1.5KE8.2A | 1.5KE8.2CA | 7.02                | 7.79                                     | 8.61 | 10                  | 200  | 12.1                                     | 125.6                   | 0.065                                       |
| 1N6270A   | 1N6270CA | 1.5KE9.1A | 1.5KE9.1CA | 7.78                | 8.65                                     | 9.50 | 1.0                 | 50   | 13.4                                     | 113.4                   | 0.068                                       |
| 1N6271A   | 1N6271CA | 1.5KE10A  | 1.5KE10CA  | 8.55                | 9.5                                      | 10.5 | 1.0                 | 10   | 14.5                                     | 104.8                   | 0.073                                       |
| 1N6272A   | 1N6272CA | 1.5KE11A  | 1.5KE11CA  | 9.4                 | 10.5                                     | 11.6 | 1.0                 | 5.0  | 15.6                                     | 97.4                    | 0.075                                       |
| 1N6273A   | 1N6273CA | 1.5KE12A  | 1.5KE12CA  | 10.2                | 11.4                                     | 12.6 | 1.0                 | 5.0  | 16.7                                     | 91.0                    | 0.078                                       |
| 1N6274A   | 1N6274CA | 1.5KE13A  | 1.5KE13CA  | 11.1                | 12.4                                     | 13.7 | 1.0                 | 1.0  | 18.2                                     | 83.5                    | 0.081                                       |
| 1N6275A   | 1N6275CA | 1.5KE15A  | 1.5KE15CA  | 12.8                | 14.3                                     | 15.8 | 1.0                 | 1.0  | 21.2                                     | 71.7                    | 0.084                                       |
| 1N6276A   | 1N6276CA | 1.5KE16A  | 1.5KE16CA  | 13.6                | 15.2                                     | 16.8 | 1.0                 | 1.0  | 22.5                                     | 67.6                    | 0.086                                       |
| 1N6277A   | 1N6277CA | 1.5KE18A  | 1.5KE18CA  | 15.3                | 17.1                                     | 18.9 | 1.0                 | 1.0  | 25.2                                     | 60.3                    | 0.089                                       |
| 1N6278A   | 1N6278CA | 1.5KE20A  | 1.5KE20CA  | 17.1                | 19.0                                     | 21.0 | 1.0                 | 1.0  | 27.7                                     | 54.9                    | 0.090                                       |
| 1N6279A   | 1N6279CA | 1.5KE22A  | 1.5KE22CA  | 18.8                | 20.9                                     | 23.1 | 1.0                 | 1.0  | 30.6                                     | 49.7                    | 0.092                                       |
| 1N6280A   | 1N6280CA | 1.5KE24A  | 1.5KE24CA  | 20.5                | 22.8                                     | 25.2 | 1.0                 | 1.0  | 33.2                                     | 45.8                    | 0.094                                       |
| 1N6281A   | 1N6281CA | 1.5KE27A  | 1.5KE27CA  | 23.1                | 25.7                                     | 28.4 | 1.0                 | 1.0  | 37.5                                     | 40.5                    | 0.096                                       |
| 1N6282A   | 1N6282CA | 1.5KE30A  | 1.5KE30CA  | 25.6                | 28.5                                     | 31.5 | 1.0                 | 1.0  | 41.4                                     | 36.7                    | 0.097                                       |
| 1N6283A   | 1N6283CA | 1.5KE33A  | 1.5KE33CA  | 28.2                | 31.4                                     | 34.7 | 1.0                 | 1.0  | 45.7                                     | 33.3                    | 0.098                                       |

# 1500W Transient Voltage Suppressor

## 1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| P/N       |          |           |            | Stand-Off Voltage | Breakdown Voltage @ Test Current (note1) |       |            | Max. Reverse Leakage Current @ $V_{WM}$ | Max. Clamping Voltage @ $I_{PPM}$ | Max. Peak Pulse Current | Max. Temperature Coefficient of VBR (%/°C) |
|-----------|----------|-----------|------------|-------------------|--|-------|------------|---|-----------------------------------|-------------------------|--|
|           |          |           |            |                   | VBR                                      |       | $I_T$ (mA) |   |                                   |                         |  |
| Uni-Polar | Bi-Polar | Uni-Polar | Bi-Polar   | $V_{WM}$ (V)      | Min.                                     | Max.  |            |   | $I_D$ ( $\mu A$ )                 | $V_C$ (V)               | $I_{PPM}$ (A)                              |
| 1N6284A   | 1N6284CA | 1.5KE36A  | 1.5KE36CA  | 30.8              | 34.2                                     | 37.8  | 1.0        | 1.0                                     | 49.9                              | 30.5                    | 0.099                                      |
| 1N6285A   | 1N6285CA | 1.5KE39A  | 1.5KE39CA  | 33.3              | 37.1                                     | 41.0  | 1.0        | 1.0                                     | 53.9                              | 28.2                    | 0.100                                      |
| 1N6286A   | 1N6286CA | 1.5KE43A  | 1.5KE43CA  | 36.8              | 40.9                                     | 45.2  | 1.0        | 1.0                                     | 59.3                              | 25.6                    | 0.101                                      |
| 1N6287A   | 1N6287CA | 1.5KE47A  | 1.5KE47CA  | 40.2              | 44.7                                     | 49.4  | 1.0        | 1.0                                     | 64.8                              | 23.5                    | 0.101                                      |
| 1N6288A   | 1N6288CA | 1.5KE51A  | 1.5KE51CA  | 43.6              | 48.5                                     | 53.6  | 1.0        | 1.0                                     | 70.1                              | 21.7                    | 0.102                                      |
| 1N6289A   | 1N6289CA | 1.5KE56A  | 1.5KE56CA  | 47.8              | 53.2                                     | 58.8  | 1.0        | 1.0                                     | 77.0                              | 19.7                    | 0.103                                      |
| 1N6290A   | 1N6290CA | 1.5KE62A  | 1.5KE62CA  | 53.0              | 58.9                                     | 65.1  | 1.0        | 1.0                                     | 85.0                              | 17.9                    | 0.104                                      |
| 1N6291A   | 1N6291CA | 1.5KE68A  | 1.5KE68CA  | 58.1              | 64.6                                     | 71.4  | 1.0        | 1.0                                     | 92.0                              | 16.5                    | 0.104                                      |
| 1N6292A   | 1N6292CA | 1.5KE75A  | 1.5KE75CA  | 64.1              | 71.3                                     | 78.8  | 1.0        | 1.0                                     | 103.0                             | 14.8                    | 0.105                                      |
| 1N6293A   | 1N6293CA | 1.5KE82A  | 1.5KE82CA  | 70.1              | 77.9                                     | 86.1  | 1.0        | 1.0                                     | 113.0                             | 13.5                    | 0.105                                      |
| 1N6294A   | 1N6294CA | 1.5KE91A  | 1.5KE91CA  | 77.8              | 86.5                                     | 95.5  | 1.0        | 1.0                                     | 125.0                             | 12.2                    | 0.106                                      |
| 1N6295A   | 1N6295CA | 1.5KE100A | 1.5KE100CA | 85.5              | 95.0                                     | 105.0 | 1.0        | 1.0                                     | 137.0                             | 11.1                    | 0.106                                      |
| 1N6296A   | 1N6296CA | 1.5KE110A | 1.5KE110CA | 94.0              | 105.0                                    | 116.0 | 1.0        | 1.0                                     | 152.0                             | 10.0                    | 0.107                                      |
| 1N6297A   | 1N6297CA | 1.5KE120A | 1.5KE120CA | 102.0             | 114.0                                    | 126.0 | 1.0        | 1.0                                     | 165.0                             | 9.2                     | 0.107                                      |
| 1N6298A   | 1N6298CA | 1.5KE130A | 1.5KE130CA | 111.0             | 124.0                                    | 137.0 | 1.0        | 1.0                                     | 179.0                             | 8.5                     | 0.107                                      |
| 1N6299A   | 1N6299CA | 1.5KE150A | 1.5KE150CA | 128.0             | 143.0                                    | 158.0 | 1.0        | 1.0                                     | 207.0                             | 7.3                     | 0.108                                      |
| 1N6300A   | 1N6300CA | 1.5KE160A | 1.5KE160CA | 136.0             | 152.0                                    | 168.0 | 1.0        | 1.0                                     | 219.0                             | 6.9                     | 0.108                                      |
| 1N6301A   | 1N6301CA | 1.5KE170A | 1.5KE170CA | 145.0             | 162.0                                    | 179.0 | 1.0        | 1.0                                     | 234.0                             | 6.5                     | 0.108                                      |
| 1N6302A   | 1N6302CA | 1.5KE180A | 1.5KE180CA | 154.0             | 171.0                                    | 189.0 | 1.0        | 1.0                                     | 246.0                             | 6.2                     | 0.108                                      |
| 1N6303A   | 1N6303CA | 1.5KE200A | 1.5KE200CA | 171.0             | 190.0                                    | 210.0 | 1.0        | 1.0                                     | 274.0                             | 5.5                     | 0.108                                      |
| -         | -        | 1.5KE220A | 1.5KE220CA | 185.0             | 209.0                                    | 231.0 | 1.0        | 1.0                                     | 328.0                             | 4.6                     | 0.108                                      |
| -         | -        | 1.5KE250A | 1.5KE250CA | 214.0             | 237.0                                    | 263.0 | 1.0        | 1.0                                     | 344.0                             | 4.4                     | 0.110                                      |
| -         | -        | 1.5KE300A | 1.5KE300CA | 256.0             | 285.0                                    | 315.0 | 1.0        | 1.0                                     | 414.0                             | 3.7                     | 0.110                                      |
| -         | -        | 1.5KE320A | 1.5KE320CA | 273.0             | 304.0                                    | 336.0 | 1.0        | 1.0                                     | 441.0                             | 3.5                     | 0.110                                      |
| -         | -        | 1.5KE350A | 1.5KE350CA | 300.0             | 332.0                                    | 368.0 | 1.0        | 1.0                                     | 482.0                             | 3.2                     | 0.110                                      |

# 1500W Transient Voltage Suppressor

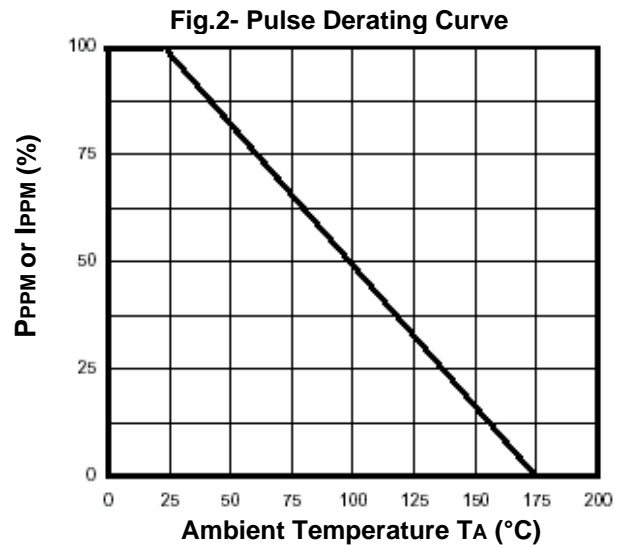
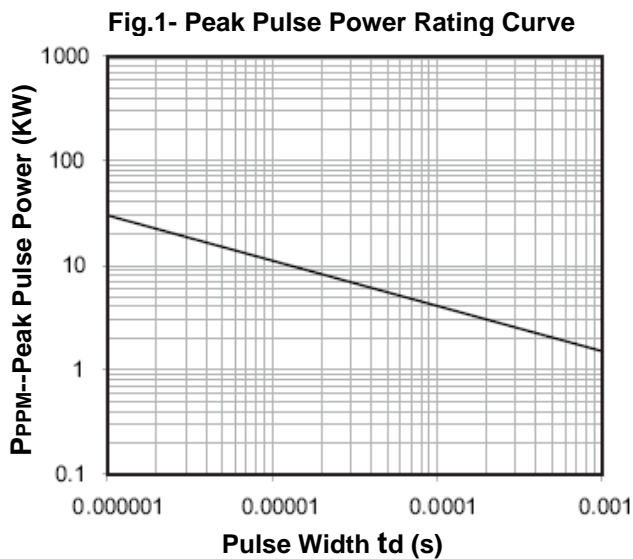
1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

## Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

| P/N       |          |           |            | Stand-Off Voltage | Breakdown Voltage @ Test Current (note1) |       |            | Max. Reverse Leakage Current @ $V_{WM}$ | Max. Clamping Voltage @ $I_{PPM}$ | Max. Peak Pulse Current | Max. Temperature Coefficient of VBR (%/°C) |
|-----------|----------|-----------|------------|-------------------|--|-------|------------|---|-----------------------------------|-------------------------|--|
|           |          |           |            |                   | VBR                                      |       | $I_T$ (mA) |   |                                   |                         |  |
| Uni-Polar | Bi-Polar | Uni-Polar | Bi-Polar   | $V_{WM}$ (V)      | Min.                                     | Max.  |            | $I_D$ ( $\mu A$ )                       | $V_C$ (V)                         | $I_{PPM}$ (A)           |  |
| -         | -        | 1.5KE400A | 1.5KE400CA | 342.0             | 380.0                                    | 420.0 | 1.0        | 1.0                                     | 548.0                             | 2.8                     | 0.110                                      |
| -         | -        | 1.5KE440A | 1.5KE440CA | 376.0             | 418.0                                    | 462.0 | 1.0        | 1.0                                     | 602.0                             | 2.5                     | 0.110                                      |
| -         | -        | 1.5KE480A | 1.5KE480CA | 408.0             | 456.0                                    | 504.0 | 1.0        | 1.0                                     | 658.0                             | 2.3                     | 0.110                                      |
| -         | -        | 1.5KE510A | 1.5KE510CA | 434.0             | 485.0                                    | 535.0 | 1.0        | 1.0                                     | 698.0                             | 2.1                     | 0.110                                      |
| -         | -        | 1.5KE530A | 1.5KE530CA | 477.0             | 503.5                                    | 556.5 | 1.0        | 1.0                                     | 725.0                             | 2.1                     | 0.110                                      |
| -         | -        | 1.5KE540A | 1.5KE540CA | 486.0             | 513.0                                    | 567.0 | 1.0        | 1.0                                     | 740.0                             | 2.0                     | 0.110                                      |
| -         | -        | 1.5KE550A | 1.5KE550CA | 495.0             | 522.5                                    | 577.5 | 1.0        | 1.0                                     | 760.0                             | 2.0                     | 0.110                                      |
| -         | -        | 1.5KE600A | 1.5KE600CA | 512.0             | 570.0                                    | 630.0 | 1.0        | 1.0                                     | 828.0                             | 1.8                     | 0.110                                      |

**Note:** (1) For Bi-directional type having  $V_{rwm}$  of 10 volts and less, the  $I_R$  limit is doubled.  
 (2) For parts without A the  $V_{BR}$  is  $\pm 10\%$ .

## Typical Characteristics Curves



# 1500W Transient Voltage Suppressor

1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

Fig.3- Pulse Waveform

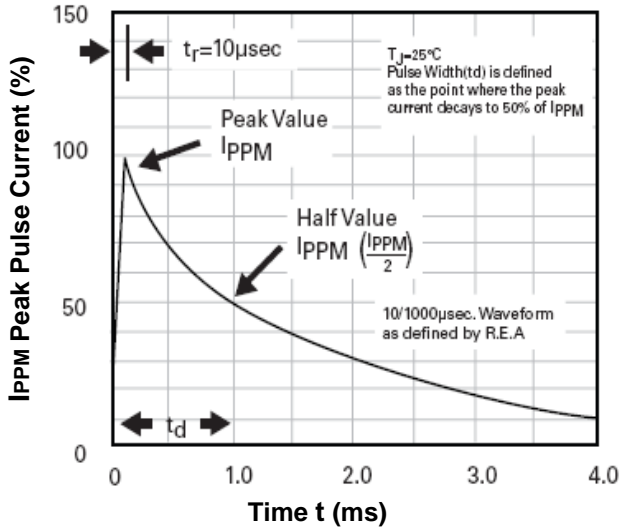


Fig.4- Max. Non-Repetitive Forward Surge Current Uni-directional only

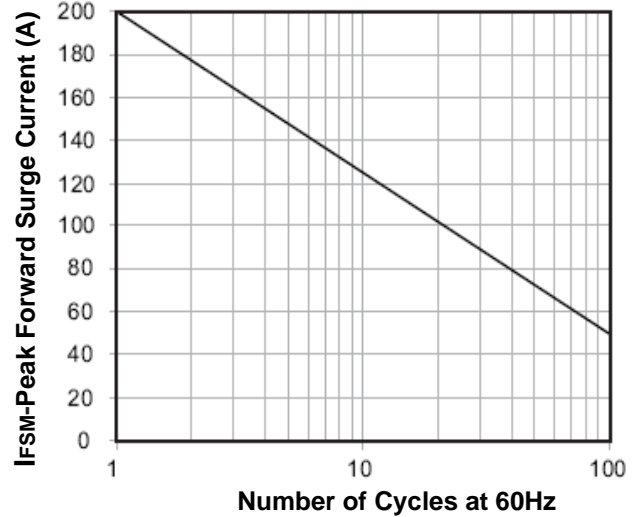


Fig.5- Steady State Power Derating Curve

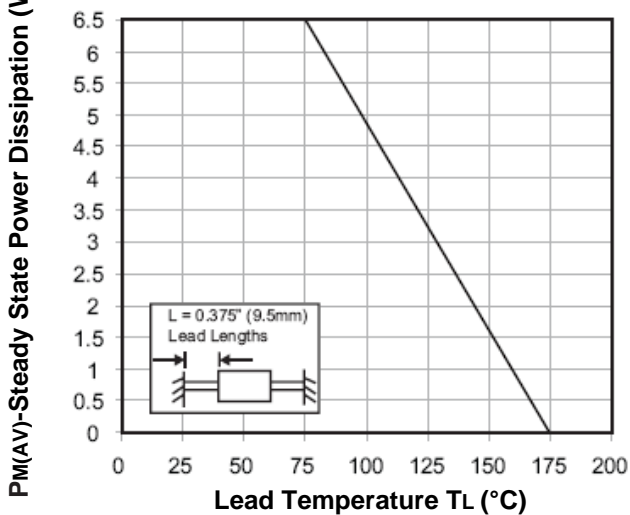
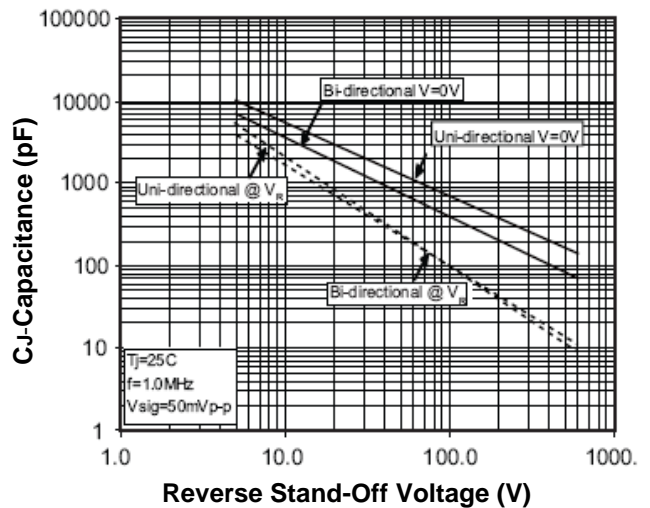


Fig.6- Typical Junction Capacitance

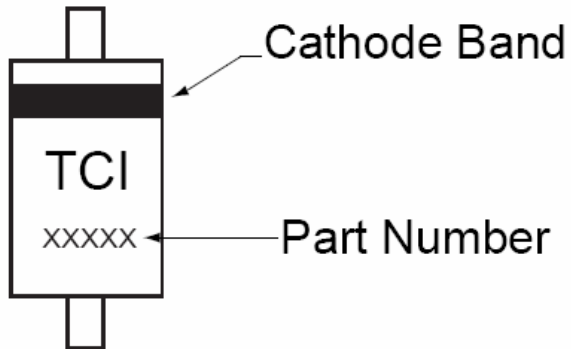


# 1500W Transient Voltage Suppressor

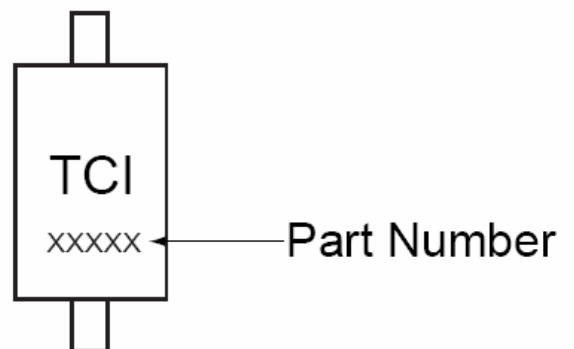
1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

## Marking Information

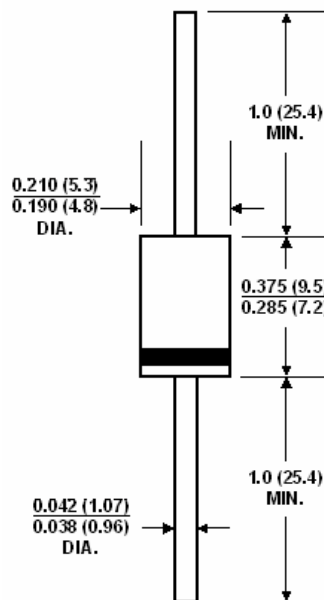
Uni-directional



Bi-directional



## Dimensions in inch (mm)



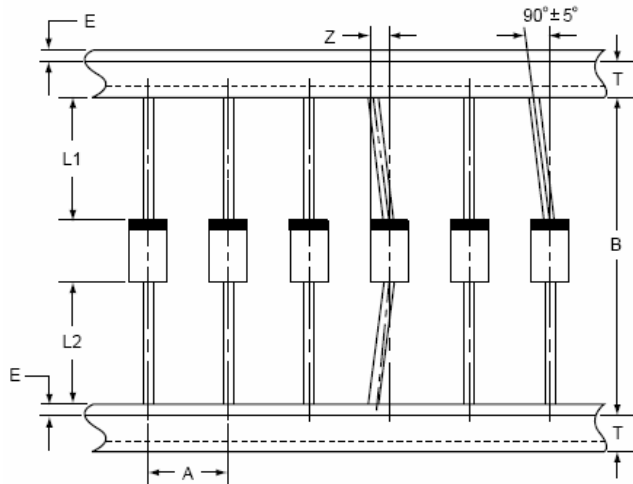
1.5KE

# 1500W Transient Voltage Suppressor

1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

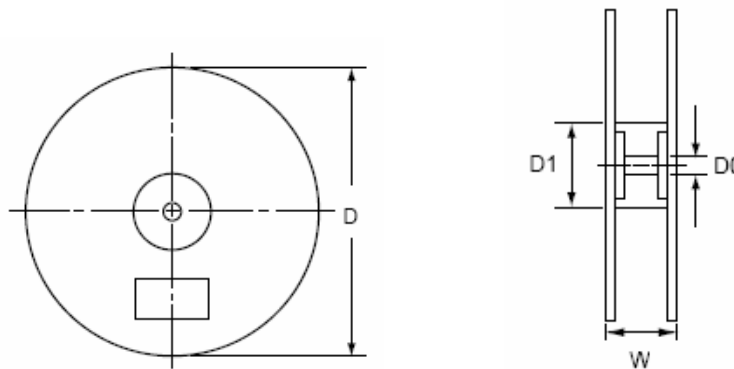
## Packing Information:

### Carrier Tape Dimensions (in mm)



| Components Outline | A      | B      | L1- L2  | T     | E       | Z       |
|--------------------|--------|--------|---------|-------|---------|---------|
| 1.5KE              | 10±0.5 | 52.4±1 | Max.1.0 | 6±0.4 | Max.0.8 | Max.1.2 |

### Reel Dimensions (in mm)



| D         | D0       | D1       | W        |
|-----------|----------|----------|----------|
| 330.0±2.0 | 16.6±0.4 | 85.7±0.3 | 79.0±1.0 |

# 1500W Transient Voltage Suppressor

1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA

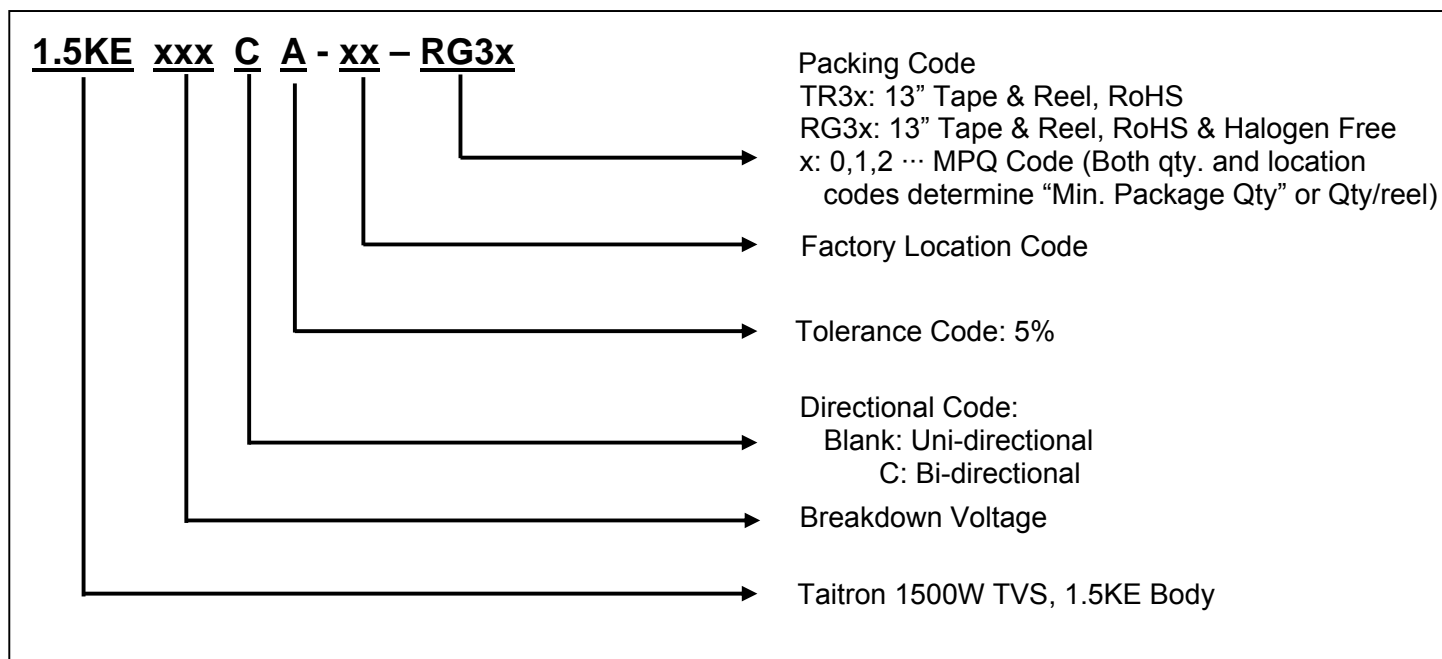
## Packing Quantity Information:

| Quantity        | PCS per Inner Box | PCS per Carton |
|-----------------|-------------------|----------------|
| 13' Tape & Reel | 1400/Reel         | 5600           |

## Carton Size Information: (in mm)

| Carton Size |
|-------------|
| 350X350X350 |

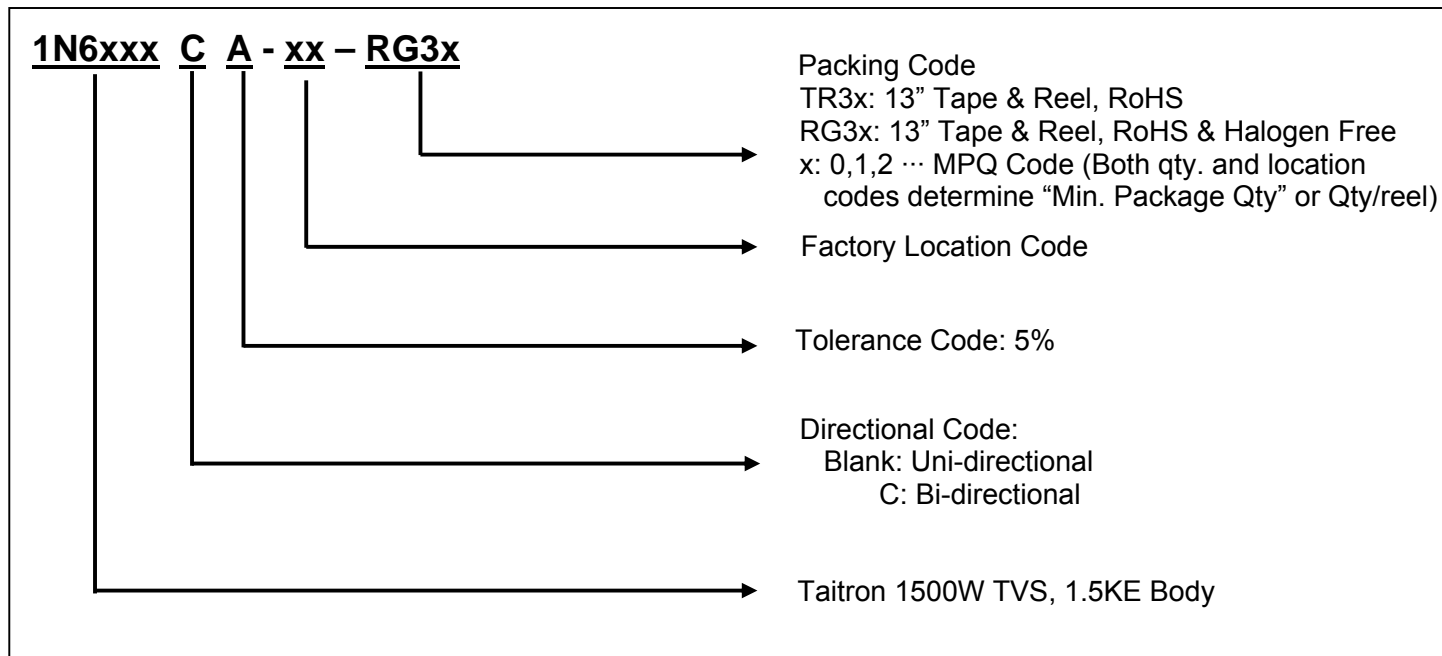
## How to Order





# 1500W Transient Voltage Suppressor

1.5KE6.8A - 1.5KE600CA/1N6267A -1N6303CA



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