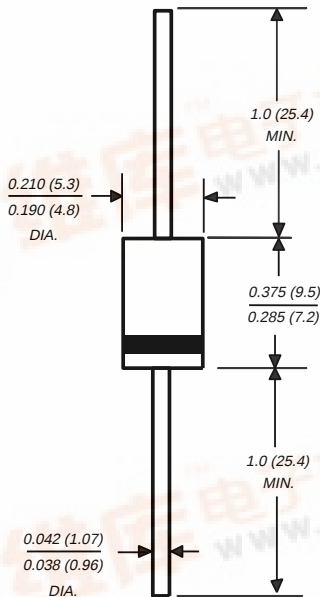


# 1.5KE6.8 THRU 1.5KE440CA

## TRANSZORB™ TRANSIENT VOLTAGE SUPPRESSOR

**Breakdown Voltage - 6.8 to 440 Volts    Peak Pulse Power - 1500 Watts**

### Case Style 1.5KE



Dimensions in inches and (millimeters)

### FEATURES

- ♦ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ♦ Glass passivated junction
- ♦ 1500W peak pulse power capability on 10/1000μs waveform repetition rate (duty cycle): 0.05%
- ♦ Excellent clamping capability
- ♦ Low incremental surge resistance
- ♦ Fast response time: typically less than 1.0ps from 0 Volts to  $V_{(BR)}$  for uni-directional and 5.0ns for bi-directional types
- ♦ For devices with  $V_{(BR)} > 10V$ ,  $I_D$  are typically less than 1.0μA
- ♦ High temperature soldering guaranteed: 265°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension
- ♦ Includes 1N6267 thru 1N6303

### MECHANICAL DATA

**Case:** Molded plastic body over passivated junction

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes positive end (cathode) except for bi-directional

**Mounting Position:** Any

**Weight:** 0.045 ounce, 1.2 grams

### DEVICES FOR BI-DIRECTIONAL APPLICATIONS

For bidirectional use C or CA suffix for types 1.5KE6.8 thru types 1.5KE440A (e.g. 1.5KE6.8C, 1.5KE440CA).  
Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                                | SYMBOL         | VALUE        | UNITS |
|--------------------------------------------------------------------------------------------------------------------------------|----------------|--------------|-------|
| Peak pulse power dissipation with a 10/1000μs waveform (NOTE 1, Fig. 1)                                                        | PPPM           | Minimum 1500 | Watts |
| Peak pulse current with a 10/1000μs waveform (NOTE 1)                                                                          | IPPM           | SEE TABLE 1  | Amps  |
| Steady state power dissipation at $T_L=75^\circ C$ lead lengths, 0.375" (9.5mm) (NOTE 2)                                       | $P_{M(AV)}$    | 6.5          | Watts |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) unidirectional only (NOTE 3) | $I_{FSM}$      | 200          | Amps  |
| Maximum instantaneous forward voltage at 100A for unidirectional only (NOTE 4)                                                 | $V_F$          | 3.5/5.0      | Volts |
| Operating junction and storage temperature range                                                                               | $T_J, T_{STG}$ | -55 to +175  | °C    |

- NOTES:**
- (1) Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ C$  per Fig. 2
  - (2) Mounted on copper pad area of 1.6 x 1.6" (40 x 40mm) per Fig. 5
  - (3) Measured on 8.3ms single half sine-wave or equivalent square wave duty cycle=4 pulses per minute maximum
  - (4)  $V_F=3.5V$  for devices of  $V_{(BR)} \leq 220V$  and  $V_F=5.0$  Volt max. for devices of  $V_{(BR)} > 220V$

ELECTRICAL CHARACTERISTICS at (TA=25°C unless otherwise noted) TABLE 1

| JEDEC<br>TYPE<br>NUMBER | General<br>Semiconductor<br>PART<br>NUMBER | Breakdown Voltage<br>V <sub>(BR)</sub><br>(Volts) (NOTE 1) |      | Test<br>Current<br>at<br>I <sub>T</sub> (mA) | Stand-off<br>Voltage<br>V <sub>WM</sub><br>(Volts) | Maximum<br>Reverse<br>Leakage<br>at V <sub>WM</sub><br>I <sub>D</sub> (NOTE 4) (μA) | Maximum<br>Peak Pulse<br>Current I <sub>PPM</sub><br>(NOTE 2)<br>Amps | Maximum<br>Clamping<br>Voltage at I <sub>PPM</sub><br>V <sub>C</sub><br>(Volts) | Maximum<br>Temperature<br>Coefficient of V <sub>(BR)</sub><br>(% / °C) |
|-------------------------|--------------------------------------------|------------------------------------------------------------|------|----------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                         |                                            | Min                                                        | Max  |                                              |                                                    |                                                                                     |                                                                       |                                                                                 |                                                                        |
| 1N6267                  | +1.5KE6.8                                  | 6.12                                                       | 7.48 | 10                                           | 5.50                                               | 1000                                                                                | 139                                                                   | 10.8                                                                            | 0.057                                                                  |
| 1N6267A                 | +1.5KE6.8A                                 | 6.45                                                       | 7.14 | 10                                           | 5.80                                               | 1000                                                                                | 143                                                                   | 10.5                                                                            | 0.057                                                                  |
| 1N6268                  | +1.5KE7.5                                  | 6.75                                                       | 8.25 | 10                                           | 6.05                                               | 500                                                                                 | 128                                                                   | 11.7                                                                            | 0.061                                                                  |
| 1N6268A                 | +1.5KE7.5A                                 | 7.13                                                       | 7.88 | 10                                           | 6.40                                               | 500                                                                                 | 133                                                                   | 11.3                                                                            | 0.061                                                                  |
| 1N6269                  | +1.5KE8.2                                  | 7.38                                                       | 9.02 | 10                                           | 6.63                                               | 200                                                                                 | 120                                                                   | 12.5                                                                            | 0.065                                                                  |
| 1N6269A                 | +1.5KE8.2A                                 | 7.79                                                       | 8.61 | 10                                           | 7.02                                               | 200                                                                                 | 124                                                                   | 12.1                                                                            | 0.065                                                                  |
| 1N6270                  | +1.5KE9.1                                  | 8.19                                                       | 10.0 | 1.0                                          | 7.37                                               | 50                                                                                  | 109                                                                   | 13.8                                                                            | 0.068                                                                  |
| 1N6270A                 | +1.5KE9.1A                                 | 8.65                                                       | 9.55 | 1.0                                          | 7.78                                               | 50                                                                                  | 112                                                                   | 13.4                                                                            | 0.068                                                                  |
| 1N6271                  | +1.5KE10                                   | 9.00                                                       | 11.0 | 1.0                                          | 8.10                                               | 10                                                                                  | 100                                                                   | 15.0                                                                            | 0.073                                                                  |
| 1N6271A                 | +1.5KE10A                                  | 9.50                                                       | 10.5 | 1.0                                          | 8.55                                               | 10                                                                                  | 103                                                                   | 14.5                                                                            | 0.073                                                                  |
| 1N6272                  | +1.5KE11                                   | 9.90                                                       | 12.1 | 1.0                                          | 8.92                                               | 5.0                                                                                 | 92.6                                                                  | 16.2                                                                            | 0.075                                                                  |
| 1N6272A                 | +1.5KE11A                                  | 10.5                                                       | 11.6 | 1.0                                          | 9.40                                               | 5.0                                                                                 | 96.2                                                                  | 15.6                                                                            | 0.075                                                                  |
| 1N6273                  | +1.5KE12                                   | 10.8                                                       | 13.2 | 1.0                                          | 9.72                                               | 5.0                                                                                 | 86.7                                                                  | 17.3                                                                            | 0.076                                                                  |
| 1N6273A                 | +1.5KE12A                                  | 11.4                                                       | 12.6 | 1.0                                          | 10.2                                               | 5.0                                                                                 | 89.8                                                                  | 16.7                                                                            | 0.078                                                                  |
| 1N6274                  | +1.5KE13                                   | 11.7                                                       | 14.3 | 1.0                                          | 10.5                                               | 5.0                                                                                 | 78.9                                                                  | 19.0                                                                            | 0.081                                                                  |
| 1N6274A                 | +1.5KE13A                                  | 12.4                                                       | 13.7 | 1.0                                          | 11.1                                               | 5.0                                                                                 | 82.4                                                                  | 18.2                                                                            | 0.081                                                                  |
| 1N6275                  | +1.5KE15                                   | 13.5                                                       | 16.5 | 1.0                                          | 12.1                                               | 5.0                                                                                 | 68.2                                                                  | 22.0                                                                            | 0.084                                                                  |
| 1N6275A                 | +1.5KE15A                                  | 14.3                                                       | 15.8 | 1.0                                          | 12.8                                               | 5.0                                                                                 | 70.8                                                                  | 21.2                                                                            | 0.084                                                                  |
| 1N6276                  | +1.5KE16                                   | 14.4                                                       | 17.6 | 1.0                                          | 12.9                                               | 5.0                                                                                 | 63.8                                                                  | 23.5                                                                            | 0.086                                                                  |
| 1N6276A                 | +1.5KE16A                                  | 15.2                                                       | 16.8 | 1.0                                          | 13.6                                               | 5.0                                                                                 | 66.7                                                                  | 22.5                                                                            | 0.086                                                                  |
| 1N6277                  | +1.5KE18                                   | 16.2                                                       | 19.8 | 1.0                                          | 14.5                                               | 5.0                                                                                 | 56.6                                                                  | 26.5                                                                            | 0.088                                                                  |
| 1N6277A                 | +1.5KE18A                                  | 17.1                                                       | 18.9 | 1.0                                          | 15.3                                               | 5.0                                                                                 | 59.5                                                                  | 25.2                                                                            | 0.089                                                                  |
| 1N6278                  | +1.5KE20                                   | 18.0                                                       | 22.0 | 1.0                                          | 16.2                                               | 5.0                                                                                 | 51.5                                                                  | 29.1                                                                            | 0.090                                                                  |
| 1N6278A                 | +1.5KE20A                                  | 19.0                                                       | 21.0 | 1.0                                          | 17.1                                               | 5.0                                                                                 | 54.2                                                                  | 27.7                                                                            | 0.090                                                                  |
| 1N6279                  | +1.5KE22                                   | 19.8                                                       | 24.2 | 1.0                                          | 17.8                                               | 5.0                                                                                 | 47.0                                                                  | 31.9                                                                            | 0.092                                                                  |
| 1N6279A                 | +1.5KE22A                                  | 20.9                                                       | 23.1 | 1.0                                          | 18.8                                               | 5.0                                                                                 | 49.0                                                                  | 30.6                                                                            | 0.092                                                                  |
| 1N6280                  | +1.5KE24                                   | 21.6                                                       | 26.4 | 1.0                                          | 19.4                                               | 5.0                                                                                 | 43.2                                                                  | 34.7                                                                            | 0.094                                                                  |
| 1N6280A                 | +1.5KE24A                                  | 22.8                                                       | 25.2 | 1.0                                          | 20.5                                               | 5.0                                                                                 | 45.2                                                                  | 33.2                                                                            | 0.094                                                                  |
| 1N6281                  | +1.5KE27                                   | 24.3                                                       | 29.7 | 1.0                                          | 21.8                                               | 5.0                                                                                 | 38.4                                                                  | 39.1                                                                            | 0.096                                                                  |
| 1N6281A                 | +1.5KE27A                                  | 25.7                                                       | 28.4 | 1.0                                          | 23.1                                               | 5.0                                                                                 | 40.0                                                                  | 37.5                                                                            | 0.096                                                                  |
| 1N6282                  | +1.5KE30                                   | 27.0                                                       | 33.0 | 1.0                                          | 24.3                                               | 5.0                                                                                 | 34.5                                                                  | 43.5                                                                            | 0.097                                                                  |
| 1N6282A                 | +1.5KE30A                                  | 28.5                                                       | 31.5 | 1.0                                          | 25.6                                               | 5.0                                                                                 | 36.2                                                                  | 41.4                                                                            | 0.097                                                                  |
| 1N6283                  | +1.5KE33                                   | 29.7                                                       | 36.3 | 1.0                                          | 26.8                                               | 5.0                                                                                 | 31.4                                                                  | 47.7                                                                            | 0.098                                                                  |
| 1N6283A                 | +1.5KE33A                                  | 31.4                                                       | 34.7 | 1.0                                          | 28.2                                               | 5.0                                                                                 | 32.8                                                                  | 45.7                                                                            | 0.098                                                                  |
| 1N6284                  | +1.5KE36                                   | 32.4                                                       | 39.6 | 1.0                                          | 29.1                                               | 5.0                                                                                 | 28.8                                                                  | 52.0                                                                            | 0.099                                                                  |
| 1N6284A                 | +1.5KE36A                                  | 34.2                                                       | 37.8 | 1.0                                          | 30.8                                               | 5.0                                                                                 | 30.1                                                                  | 49.9                                                                            | 0.099                                                                  |
| 1N6285                  | +1.5KE39                                   | 35.1                                                       | 42.9 | 1.0                                          | 31.6                                               | 5.0                                                                                 | 26.6                                                                  | 56.4                                                                            | 0.100                                                                  |
| 1N6285A                 | +1.5KE39A                                  | 37.1                                                       | 41.0 | 1.0                                          | 33.3                                               | 5.0                                                                                 | 27.8                                                                  | 53.9                                                                            | 0.100                                                                  |
| 1N6286                  | +1.5KE43                                   | 38.7                                                       | 47.3 | 1.0                                          | 34.8                                               | 5.0                                                                                 | 24.2                                                                  | 61.9                                                                            | 0.101                                                                  |
| 1N6286A                 | +1.5KE43A                                  | 40.9                                                       | 45.2 | 1.0                                          | 36.8                                               | 5.0                                                                                 | 25.3                                                                  | 59.3                                                                            | 0.101                                                                  |
| 1N6287                  | +1.5KE47                                   | 42.3                                                       | 51.7 | 1.0                                          | 38.1                                               | 5.0                                                                                 | 22.1                                                                  | 67.8                                                                            | 0.101                                                                  |
| 1N6287A                 | +1.5KE47A                                  | 44.7                                                       | 49.4 | 1.0                                          | 40.2                                               | 5.0                                                                                 | 23.1                                                                  | 64.8                                                                            | 0.101                                                                  |
| 1N6288                  | 1.5KE51                                    | 45.9                                                       | 56.1 | 1.0                                          | 41.3                                               | 5.0                                                                                 | 20.4                                                                  | 73.5                                                                            | 0.102                                                                  |
| 1N6288A                 | 1.5KE51A                                   | 48.5                                                       | 53.6 | 1.0                                          | 43.6                                               | 5.0                                                                                 | 21.4                                                                  | 70.1                                                                            | 0.102                                                                  |
| 1N6289                  | 1.5KE56                                    | 50.4                                                       | 61.8 | 1.0                                          | 45.4                                               | 5.0                                                                                 | 18.6                                                                  | 80.5                                                                            | 0.103                                                                  |
| 1N6289A                 | 1.5KE56A                                   | 53.2                                                       | 58.8 | 1.0                                          | 47.8                                               | 5.0                                                                                 | 19.5                                                                  | 77.0                                                                            | 0.103                                                                  |
| 1N6290                  | 1.5KE62                                    | 55.8                                                       | 68.2 | 1.0                                          | 50.2                                               | 5.0                                                                                 | 16.9                                                                  | 89.0                                                                            | 0.104                                                                  |
| 1N6290A                 | 1.5KE62A                                   | 58.9                                                       | 65.1 | 1.0                                          | 53.0                                               | 5.0                                                                                 | 17.6                                                                  | 85.0                                                                            | 0.104                                                                  |
| 1N6291                  | 1.5KE68                                    | 61.2                                                       | 74.8 | 1.0                                          | 55.1                                               | 5.0                                                                                 | 15.3                                                                  | 98.0                                                                            | 0.104                                                                  |

ELECTRICAL CHARACTERISTICS at (T<sub>A</sub>=25 °C unless otherwise noted) TABLE 1 (Cont'd)

| JEDEC<br>TYPE<br>NUMBER | General<br>Semiconductor<br>PART<br>NUMBER | Breakdown Voltage<br>V <sub>(BR)</sub><br>(Volts) (NOTE 1) |       | Test<br>Current<br>at<br>(mA) I <sub>T</sub> | Stand-off<br>Voltage<br>V <sub>WM</sub><br>(Volts) | Maximum<br>Reverse<br>Leakage<br>at V <sub>WM</sub><br>I <sub>D</sub> (NOTE 4) (μA) | Maximum<br>Peak Pulse<br>Current I <sub>PPM</sub><br>(NOTE 2)<br>Amps | Maximum<br>Clamping<br>Voltage at I <sub>PPM</sub><br>V <sub>C</sub><br>(Volts) | Maximum<br>Temperature<br>Coefficient of V <sub>(BR)</sub><br>(% / °C) |
|-------------------------|--------------------------------------------|------------------------------------------------------------|-------|----------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                         |                                            | Min                                                        | Max   |                                              |                                                    |                                                                                     |                                                                       |                                                                                 |                                                                        |
| 1N6291A                 | 1.5KE68A                                   | 64.6                                                       | 71.4  | 1.0                                          | 58.1                                               | 5.0                                                                                 | 16.3                                                                  | 92.0                                                                            | 0.104                                                                  |
| 1N6292                  | 1.5KE75                                    | 67.5                                                       | 82.5  | 1.0                                          | 60.7                                               | 5.0                                                                                 | 13.9                                                                  | 109                                                                             | 0.105                                                                  |
| 1N6292A                 | 1.5KE75A                                   | 71.3                                                       | 78.8  | 1.0                                          | 64.1                                               | 5.0                                                                                 | 14.6                                                                  | 104                                                                             | 0.105                                                                  |
| 1N6293                  | 1.5KE82                                    | 73.8                                                       | 90.2  | 1.0                                          | 66.4                                               | 5.0                                                                                 | 12.7                                                                  | 118                                                                             | 0.105                                                                  |
| 1N6293A                 | 1.5KE82A                                   | 77.9                                                       | 86.1  | 1.0                                          | 70.1                                               | 5.0                                                                                 | 13.3                                                                  | 113                                                                             | 0.105                                                                  |
| 1N6294                  | 1.5KE91                                    | 81.9                                                       | 100.0 | 1.0                                          | 73.7                                               | 5.0                                                                                 | 11.5                                                                  | 131                                                                             | 0.106                                                                  |
| 1N6294A                 | 1.5KE91A                                   | 86.5                                                       | 95.5  | 1.0                                          | 77.8                                               | 5.0                                                                                 | 12.0                                                                  | 125                                                                             | 0.106                                                                  |
| 1N6295                  | 1.5KE100                                   | 90.0                                                       | 110   | 1.0                                          | 81.0                                               | 5.0                                                                                 | 10.4                                                                  | 144                                                                             | 0.106                                                                  |
| 1N6295A                 | 1.5KE100A                                  | 95.0                                                       | 105   | 1.0                                          | 85.5                                               | 5.0                                                                                 | 10.9                                                                  | 137                                                                             | 0.106                                                                  |
| 1N6296                  | 1.5KE110                                   | 99.0                                                       | 121   | 1.0                                          | 89.2                                               | 5.0                                                                                 | 9.5                                                                   | 158                                                                             | 0.107                                                                  |
| 1N6296A                 | 1.5KE 110A                                 | 105                                                        | 116   | 1.0                                          | 94.0                                               | 5.0                                                                                 | 9.9                                                                   | 152                                                                             | 0.107                                                                  |
| 1N6297                  | 1.5KE120                                   | 108                                                        | 132   | 1.0                                          | 97.2                                               | 5.0                                                                                 | 8.7                                                                   | 173                                                                             | 0.107                                                                  |
| 1N6297A                 | 1.5KE120A                                  | 114                                                        | 126   | 1.0                                          | 102                                                | 5.0                                                                                 | 9.1                                                                   | 165                                                                             | 0.107                                                                  |
| 1N6298                  | 1.5KE130                                   | 117                                                        | 143   | 1.0                                          | 105                                                | 5.0                                                                                 | 8.0                                                                   | 187                                                                             | 0.107                                                                  |
| 1N6298A                 | 1.5KE130A                                  | 124                                                        | 137   | 1.0                                          | 111                                                | 5.0                                                                                 | 8.4                                                                   | 179                                                                             | 0.107                                                                  |
| 1N6299                  | 1.5KE150                                   | 136                                                        | 165   | 1.0                                          | 121                                                | 5.0                                                                                 | 7.0                                                                   | 215                                                                             | 0.108                                                                  |
| 1N6299A                 | 1.5KE150A                                  | 143                                                        | 158   | 1.0                                          | 128                                                | 5.0                                                                                 | 7.2                                                                   | 207                                                                             | 0.106                                                                  |
| 1N6300                  | 1.5KE160                                   | 144                                                        | 176   | 1.0                                          | 130                                                | 5.0                                                                                 | 6.5                                                                   | 230                                                                             | 0.106                                                                  |
| 1N6300A                 | 1.5KE160A                                  | 152                                                        | 168   | 1.0                                          | 136                                                | 5.0                                                                                 | 6.8                                                                   | 219                                                                             | 0.108                                                                  |
| 1N6301                  | 1.5KE170                                   | 153                                                        | 187   | 1.0                                          | 138                                                | 5.0                                                                                 | 6.1                                                                   | 244                                                                             | 0.108                                                                  |
| 1N6301A                 | 1.5KE170A                                  | 162                                                        | 179   | 1.0                                          | 145                                                | 5.0                                                                                 | 6.4                                                                   | 234                                                                             | 0.108                                                                  |
| 1N6302                  | 1.5KE180                                   | 162                                                        | 198   | 1.0                                          | 146                                                | 5.0                                                                                 | 5.8                                                                   | 258                                                                             | 0.108                                                                  |
| 1N6302A                 | 1.5KE180A                                  | 171                                                        | 189   | 1.0                                          | 154                                                | 5.0                                                                                 | 6.1                                                                   | 246                                                                             | 0.108                                                                  |
| 1N6303                  | 1.5KE200                                   | 180                                                        | 220   | 1.0                                          | 162                                                | 5.0                                                                                 | 5.2                                                                   | 287                                                                             | 0.108                                                                  |
| 1N6303A                 | 1.5KE200A*                                 | 190                                                        | 210   | 1.0                                          | 171                                                | 5.0                                                                                 | 5.5                                                                   | 274                                                                             | 0.108                                                                  |
|                         | 1.5KE220                                   | 198                                                        | 242   | 1.0                                          | 175                                                | 5.0                                                                                 | 4.4                                                                   | 344                                                                             | 0.108                                                                  |
|                         | 1.5KE220A*                                 | 209                                                        | 231   | 1.0                                          | 185                                                | 5.0                                                                                 | 4.6                                                                   | 328                                                                             | 0.108                                                                  |
|                         | 1.5KE250                                   | 225                                                        | 275   | 1.0                                          | 202                                                | 5.0                                                                                 | 4.2                                                                   | 360                                                                             | 0.110                                                                  |
|                         | 1.5KE250A                                  | 237                                                        | 263   | 1.0                                          | 214                                                | 5.0                                                                                 | 4.4                                                                   | 344                                                                             | 0.110                                                                  |
|                         | 1.5KE300                                   | 270                                                        | 330   | 1.0                                          | 243                                                | 5.0                                                                                 | 3.5                                                                   | 430                                                                             | 0.110                                                                  |
|                         | 1.5KE300A                                  | 285                                                        | 315   | 1.0                                          | 256                                                | 5.0                                                                                 | 3.6                                                                   | 414                                                                             | 0.110                                                                  |
|                         | 1.5KE350                                   | 315                                                        | 385   | 1.0                                          | 284                                                | 5.0                                                                                 | 3.0                                                                   | 504                                                                             | 0.110                                                                  |
|                         | 1.5KE350A                                  | 333                                                        | 368   | 1.0                                          | 300                                                | 5.0                                                                                 | 3.1                                                                   | 482                                                                             | 0.110                                                                  |
|                         | 1.5KE400                                   | 360                                                        | 440   | 1.0                                          | 324                                                | 5.0                                                                                 | 2.6                                                                   | 574                                                                             | 0.110                                                                  |
|                         | 1.5KE400A                                  | 380                                                        | 420   | 1.0                                          | 342                                                | 5.0                                                                                 | 2.7                                                                   | 548                                                                             | 0.110                                                                  |
|                         | 1.5KE440                                   | 396                                                        | 484   | 1.0                                          | 356                                                | 5.0                                                                                 | 2.4                                                                   | 631                                                                             | 0.110                                                                  |
|                         | 1.5KE440A                                  | 418                                                        | 462   | 1.0                                          | 376                                                | 5.0                                                                                 | 2.5                                                                   | 602                                                                             | 0.110                                                                  |

**NOTES:**(1) V<sub>(BR)</sub> measured after I<sub>T</sub> applied for 300μs, I<sub>T</sub>=square wave pulse or equivalent

(2) Surge current waveform per Fig. 3 and derate per Fig. 2

(3) All terms and symbols are consistent with ANSI/IEEE CA62.35

(4) For bidirectional types with V<sub>R</sub> 10 volts and less the I<sub>D</sub> limit is doubled\* Bidirectional versions are UL approved under component across the line protection, ULV1414 file number E108274  
(1.5KE200CA, 1.5KE220CA)

+ UL listed for Telecom applications protection, 497B, file number E136766 for both uni-directional and bi-directional devices

**APPLICATION**

This series of Silicon Transient Suppressors is used in applications where large voltage transients can permanently damage voltage-sensitive components.

The TVS diode can be used in applications where induced lightning on rural or remote transmission lines presents a hazard to electronic circuitry  
(ref: R.E.A. specification P.E. 60).This Transient Voltage Suppressor diode has a pulse power rating of 1500 watts for one millisecond. The response time of TVS diode clamping action is effectively instantaneous (1 × 10<sup>-9</sup> seconds bidirectional); therefore, they can protect integrated circuits, MOS devices, hybrids, and other voltage sensitive semiconductors and components. TVS diodes can also be used in series or parallel to increase the peak power ratings.

# RATINGS AND CHARACTERISTIC CURVES 1.5KE6.8 THRU 1.5KE440CA

FIG. 1 - PEAK PULSE POWER RATING CURVE

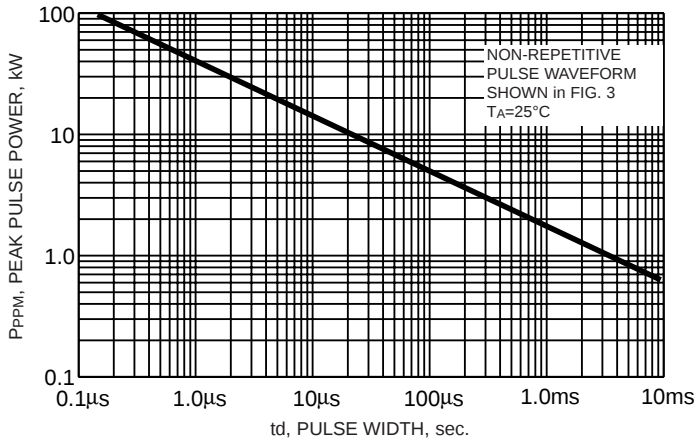


FIG. 2 - PULSE DERATING CURVE

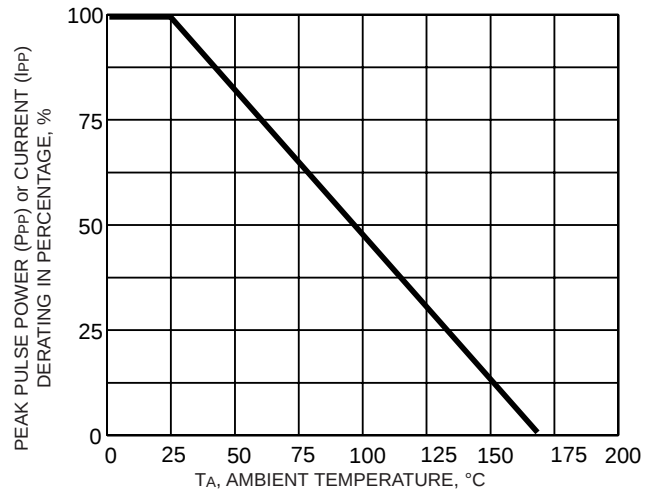


FIG. 3 - PULSE WAVEFORM

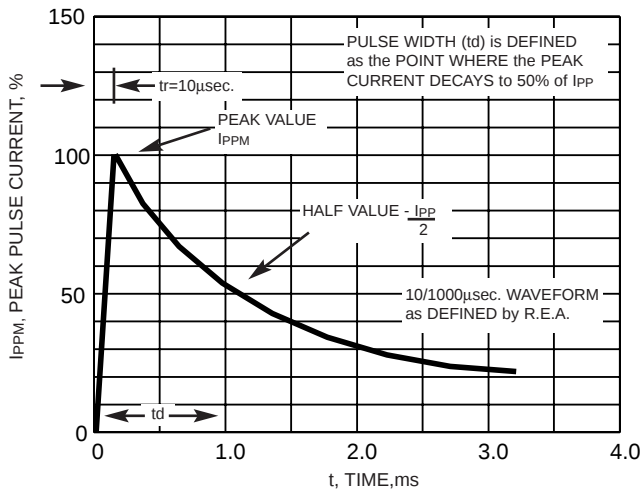


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

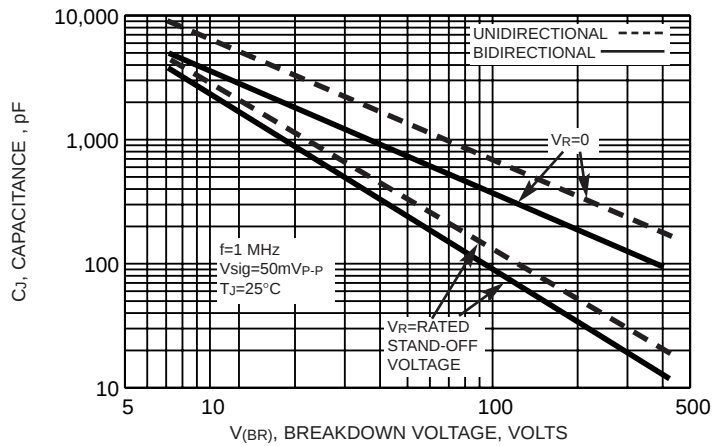


FIG. 5 - STEADY STATE POWER DERATING CURVE

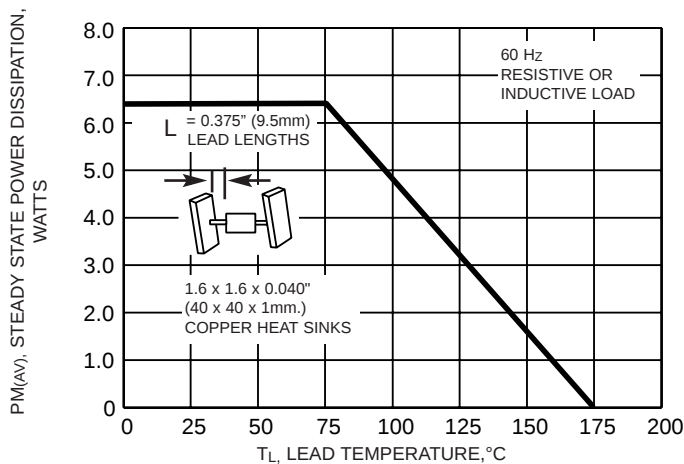
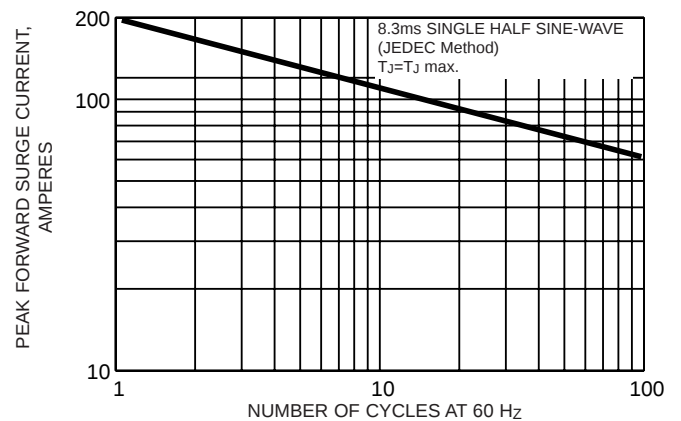


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNI-DIRECTIONAL ONLY



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FIG. 7 - INCREMENTAL CLAMPING VOLTAGE CURVE  
UNI-DIRECTIONAL

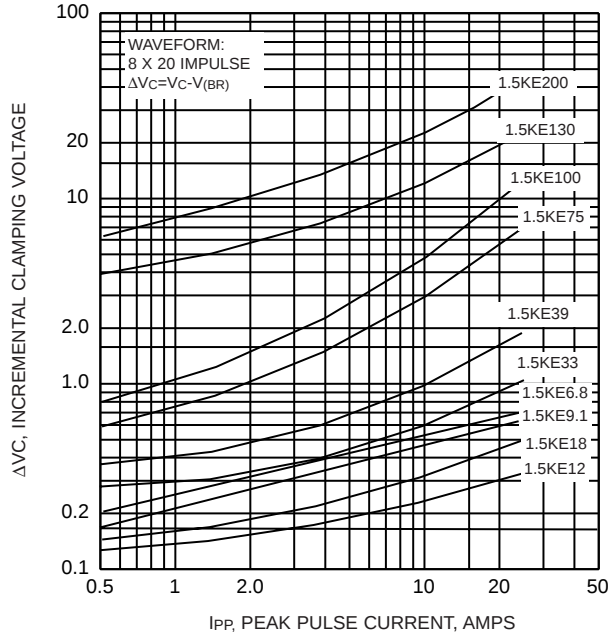


FIG. 8 - INCREMENTAL CLAMPING VOLTAGE CURVE  
UNI-DIRECTIONAL

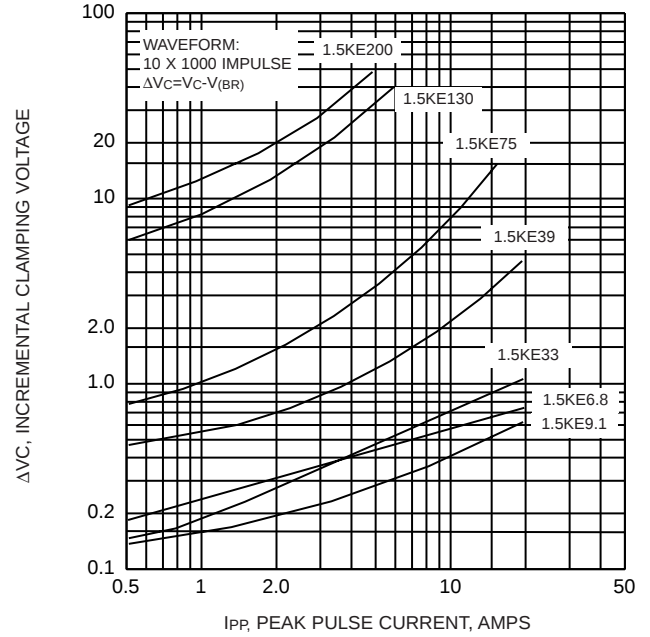


FIG. 9 - INCREMENTAL CLAMPING VOLTAGE CURVE  
BI-DIRECTIONAL

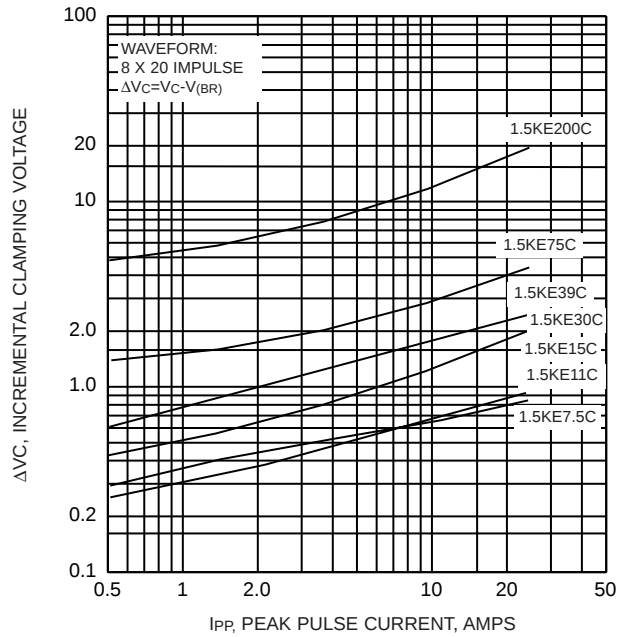
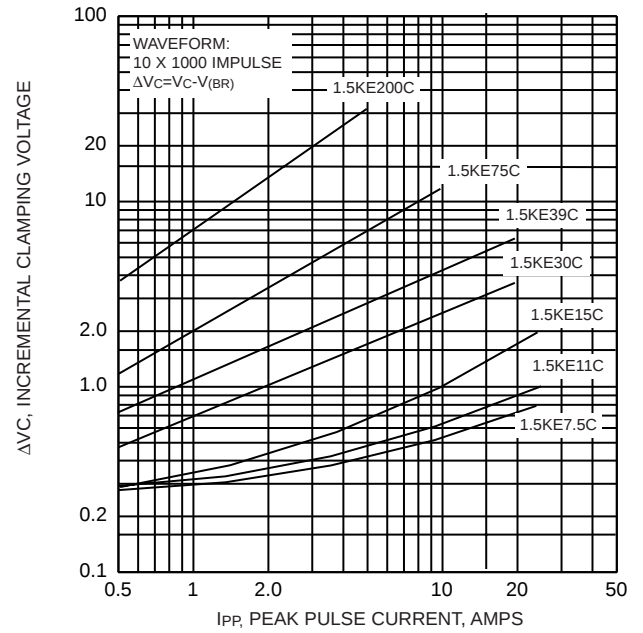


FIG. 10 - INCREMENTAL CLAMPING VOLTAGE CURVE  
BI-DIRECTIONAL



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FIG. 11 - INSTANTANEOUS FORWARD VOLTAGE CHARACTERISTICS CURVE

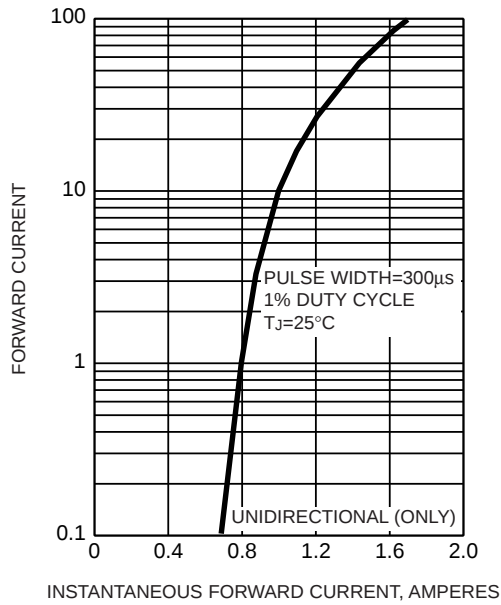


FIG. 12 - BREAKDOWN VOLTAGE TEMPERATURE COEFFICIENT CURVE

