



# DATA SHEET

## 15KP SERIES

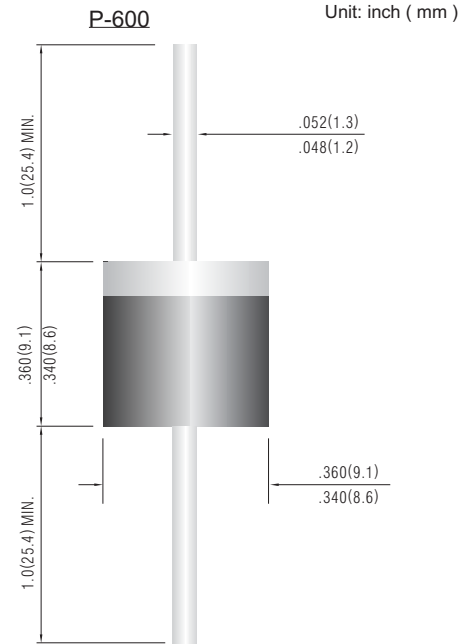
### GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE- 17 to 220 Volts    15000 Watt Peak Pulse Power

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated chip junction in P-600 package
- 15000W Peak Pulse Power capability on 10/1000µs waveform
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- High temperature soldering guaranteed: 300°C/10 seconds/.375", (9.5mm) lead length/5lbs., (2.3kg) tension

#### MECHANICAL DATA

Case: JEDEC P-600 Molded plastic  
 Terminals: Axial leads, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denotes positive end (cathode )  
 Mounting Position: Any  
 Weight: 0.07 ounce, 2.1 gram



#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types  
 Electrical characteristics apply in both directions.

#### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
 For Capacitive load derate current by 20%.

| RATING  | SYMBOL         | VALUE         | UNITS |
|---|----------------|---------------|-------|
| Peak Pulse Power Dissipation on 10/1000µs waveform ( Note 1,FIG. 1)                                       | $P_{PPM}$      | Minimum 15000 | Watts |
| Peak Pulse Current on 10/1000µs waveform ( Note 1,FIG. 3)   | $I_{PPM}$      | SEE TABLE 1   | Amps  |
| Steady State Power Dissipation at $T_L=50^\circ\text{C}$ Lead Lengths .375", (9.5mm) (Note 2)             | $P_{M(AV)}$    | 10            | Watts |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load(JECED Method) (Note 3) | $I_{FSM}$      | 400           | Amps  |
| Operating and Storage Temperature Range   | $T_J, T_{STG}$ | -55 to +175   | °C    |

#### NOTES:

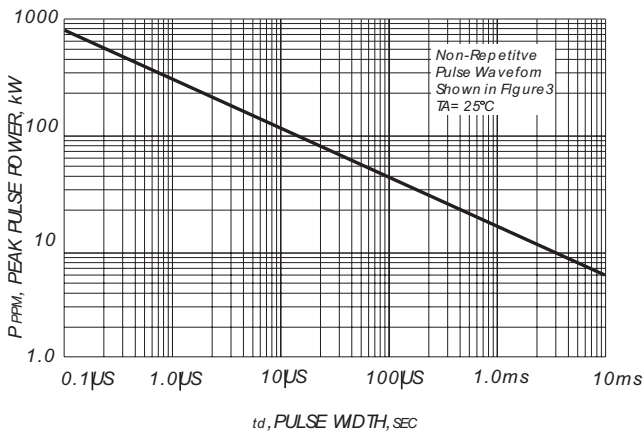
- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig.
- 2.Mounted on Copper Leaf area of 0.79 in<sup>2</sup>(20mm<sup>2</sup>).
- 3.8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.



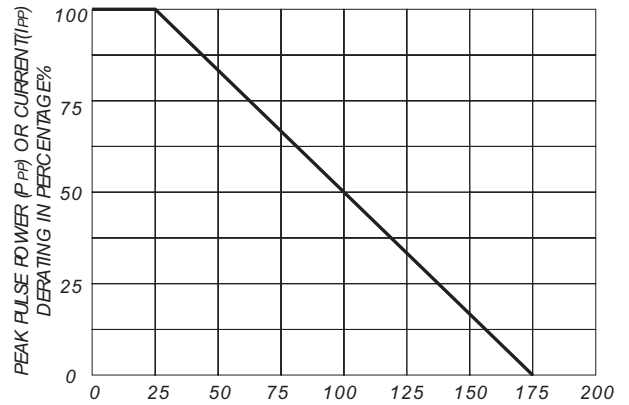
| PART NUMBER                                | VRWM | VBR @ IT |      |     | IR @ VRWM |      | VC @ IPP |     | PACKAGE |
|--|------|----------|------|-----|-----------|------|----------|-----|---------|
|  |      | MIN.     | MAX. | IT  | UNI-      | BI-  | V        | A   |         |
|  | V    | V        | MA   | UA  | UA        |      |          |     |         |
| <b>15000W TRANSIENT VOLTAGE SUPPRESSOR</b> |      |          |      |     |           |      |          |     |         |
| 15KPJ17(C)                                 | 17   | 18.9     | 23.9 | 50  | 5000      | 5000 | 30.5     | 520 | P-600   |
| 15KP17(C)A                                 | 17   | 18.9     | 21.7 | 50  | 5000      | 5000 | 27.6     | 543 | P-600   |
| 15KP18(C)                                  | 18   | 20.0     | 25.3 | 50  | 5000      | 5000 | 32.2     | 439 | P-600   |
| 15KP18(C)A                                 | 18   | 20.0     | 23.3 | 50  | 5000      | 5000 | 29.2     | 485 | P-600   |
| 15KP20(C)                                  | 20   | 22.2     | 28.1 | 20  | 1500      | 1500 | 35.8     | 396 | P-600   |
| 15KP20(C)A                                 | 20   | 22.2     | 25.5 | 20  | 1500      | 1500 | 32.4     | 437 | P-600   |
| 15KP22(C)                                  | 22   | 24.4     | 30.9 | 10  | 900       | 900  | 39.4     | 365 | P-600   |
| 15KP22(C)A                                 | 22   | 24.4     | 28.0 | 10  | 900       | 900  | 35.5     | 404 | P-600   |
| 15KP24(C)                                  | 24   | 26.7     | 33.8 | 5.0 | 800       | 800  | 43.0     | 333 | P-600   |
| 15KP24(C)A                                 | 24   | 26.7     | 30.7 | 5.0 | 800       | 800  | 38.9     | 369 | P-600   |
| 15KP26(C)                                  | 26   | 28.9     | 36.6 | 5.0 | 200       | 200  | 46.6     | 308 | P-600   |
| 15KP26(C)A                                 | 26   | 28.9     | 33.2 | 5.0 | 200       | 200  | 42.1     | 341 | P-600   |
| 15KP28(C)                                  | 28   | 31.1     | 39.4 | 5.0 | 125       | 125  | 50.0     | 286 | P-600   |
| 15KP28(C)A                                 | 28   | 31.1     | 35.8 | 5.0 | 125       | 125  | 45.4     | 316 | P-600   |
| 15KP30(C)                                  | 30   | 33.3     | 42.2 | 5.0 | 28        | 28   | 53.5     | 267 | P-600   |
| 15KP30(C)A                                 | 30   | 33.3     | 38.3 | 5.0 | 28        | 28   | 48.4     | 296 | P-600   |
| 15KP33(C)                                  | 33   | 36.7     | 46.5 | 5.0 | 10        | 10   | 59.0     | 248 | P-600   |
| 15KP33(C)A                                 | 33   | 36.7     | 42.2 | 5.0 | 10        | 10   | 53.3     | 274 | P-600   |
| 15KP36(C)                                  | 36   | 40.0     | 50.7 | 5.0 | 10        | 10   | 64.3     | 227 | P-600   |
| 15KP36(C)A                                 | 36   | 40.0     | 46.0 | 5.0 | 10        | 10   | 58.1     | 251 | P-600   |
| 15KP40(C)                                  | 40   | 44.4     | 56.3 | 5.0 | 10        | 10   | 71.4     | 206 | P-600   |
| 15KP40(C)A                                 | 40   | 44.4     | 51.1 | 5.0 | 10        | 10   | 64.5     | 228 | P-600   |
| 15KP43(C)                                  | 43   | 47.8     | 60.5 | 5.0 | 10        | 10   | 76.7     | 195 | P-600   |
| 15KP43(C)A                                 | 43   | 47.8     | 54.9 | 5.0 | 10        | 10   | 69.4     | 215 | P-600   |
| 15KP45(C)                                  | 45   | 50.0     | 63.3 | 5.0 | 10        | 10   | 80.3     | 186 | P-600   |
| 15KP45(C)A                                 | 45   | 50.0     | 57.5 | 5.0 | 10        | 10   | 72.7     | 205 | P-600   |
| 15KP48(C)                                  | 48   | 53.3     | 67.5 | 5.0 | 10        | 10   | 85.5     | 175 | P-600   |
| 15KP48(C)A                                 | 48   | 53.3     | 61.3 | 5.0 | 10        | 10   | 77.4     | 193 | P-600   |
| 15KP51(C)                                  | 51   | 56.7     | 71.8 | 5.0 | 10        | 10   | 91.1     | 164 | P-600   |
| 15KP51(C)A                                 | 51   | 56.7     | 65.2 | 5.0 | 10        | 10   | 82.4     | 181 | P-600   |
| 15KP54(C)                                  | 54   | 60.0     | 76.0 | 5.0 | 10        | 10   | 96.3     | 155 | P-600   |
| 15KP54(C)A                                 | 54   | 60.0     | 69.0 | 5.0 | 10        | 10   | 87.1     | 171 | P-600   |
| 15KP58(C)                                  | 58   | 64.4     | 81.6 | 5.0 | 10        | 10   | 103      | 144 | P-600   |
| 15KP58(C)A                                 | 58   | 64.4     | 74.1 | 5.0 | 10        | 10   | 93.6     | 160 | P-600   |
| 15KP60(C)                                  | 60   | 66.7     | 84.5 | 5.0 | 10        | 10   | 107      | 140 | P-600   |
| 15KP60(C)A                                 | 60   | 66.7     | 76.7 | 5.0 | 10        | 10   | 96.8     | 154 | P-600   |



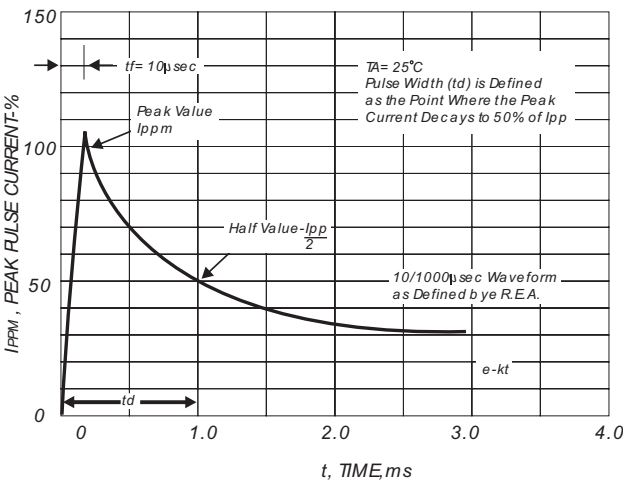
| PART NUMBER                                | VRWM | VBR @ IT |       |     | IR @ VRWM |     | VC @ IPP |     | PACKAGE |
|--|------|----------|-------|-----|-----------|-----|----------|-----|---------|
|  |      | MIN.     | MAX.  | IT  | UNI-      | BI- | V        | A   |         |
|  | V    | V        | MA    | UA  | UA        |     |          |     |         |
| <b>15000W TRANSIENT VOLTAGE SUPPRESSOR</b> |      |          |       |     |           |     |          |     |         |
| 15KP64(C)                                  | 64   | 71.1     | 90.1  | 5.0 | 10        | 10  | 114      | 130 | P-600   |
| 15KP64(C)A                                 | 64   | 71.1     | 81.8  | 5.0 | 10        | 10  | 103      | 144 | P-600   |
| 15KP70(C)                                  | 70   | 77.8     | 98.6  | 5.0 | 10        | 10  | 125      | 119 | P-600   |
| 15KP70(C)A                                 | 70   | 77.8     | 89.5  | 5.0 | 10        | 10  | 113      | 132 | P-600   |
| 15KP75(C)                                  | 75   | 83.3     | 105.7 | 5.0 | 10        | 10  | 134      | 111 | P-600   |
| 15KP75(C)A                                 | 75   | 83.3     | 95.8  | 5.0 | 10        | 10  | 121      | 123 | P-600   |
| 15KP78(C)                                  | 78   | 86.7     | 109.8 | 5.0 | 10        | 10  | 139      | 107 | P-600   |
| 15KP78(C)A                                 | 78   | 86.7     | 99.7  | 5.0 | 10        | 10  | 126      | 119 | P-600   |
| 15KP85(C)                                  | 85   | 94.4     | 119.2 | 5.0 | 10        | 10  | 151      | 99  | P-600   |
| 15KP85(C)A                                 | 85   | 94.4     | 108.2 | 5.0 | 10        | 10  | 137      | 109 | P-600   |
| 15KP90(C)                                  | 90   | 100      | 126.5 | 5.0 | 10        | 10  | 160      | 94  | P-600   |
| 15KP90(C)A                                 | 90   | 100      | 115.5 | 5.0 | 10        | 10  | 146      | 103 | P-600   |
| 15KP100(C)                                 | 100  | 111      | 141.0 | 5.0 | 10        | 10  | 179      | 84  | P-600   |
| 15KP100(C)A                                | 100  | 111      | 128.0 | 5.0 | 10        | 10  | 162      | 93  | P-600   |
| 15KP110(C)                                 | 110  | 122      | 154.5 | 5.0 | 10        | 10  | 196      | 77  | P-600   |
| 15KP110(C)A                                | 110  | 122      | 140.5 | 5.0 | 10        | 10  | 177      | 85  | P-600   |
| 15KP120(C)                                 | 120  | 133      | 169.0 | 5.0 | 10        | 10  | 214      | 70  | P-600   |
| 15KP120(C)A                                | 120  | 133      | 153.0 | 5.0 | 10        | 10  | 193      | 78  | P-600   |
| 15KP130(C)                                 | 130  | 144      | 182.5 | 5.0 | 10        | 10  | 231      | 65  | P-600   |
| 15KP130(C)A                                | 130  | 144      | 165.5 | 5.0 | 10        | 10  | 209      | 72  | P-600   |
| 15KP150(C)                                 | 150  | 167      | 211.5 | 5.0 | 10        | 10  | 268      | 56  | P-600   |
| 15KP150(C)A                                | 150  | 167      | 192.5 | 5.0 | 10        | 10  | 243      | 62  | P-600   |
| 15KP160(C)                                 | 160  | 178      | 226.0 | 5.0 | 10        | 10  | 287      | 52  | P-600   |
| 15KP160(C)A                                | 160  | 178      | 205.0 | 5.0 | 10        | 10  | 259      | 58  | P-600   |
| 15KP170(C)                                 | 170  | 189      | 239.5 | 5.0 | 10        | 10  | 304      | 49  | P-600   |
| 15KP170(C)A                                | 170  | 189      | 217.5 | 5.0 | 10        | 10  | 275      | 55  | P-600   |
| 15KP180(C)                                 | 180  | 198      | 253.8 | 1.0 | 5         | 5   | 322      | 47  | P-600   |
| 15KP180(C)A                                | 180  | 198      | 230.4 | 1.0 | 5         | 5   | 292      | 51  | P-600   |
| 15KP190(C)                                 | 190  | 209      | 267.9 | 1.0 | 5         | 5   | 340      | 44  | P-600   |
| 15KP190(C)A                                | 190  | 209      | 243.2 | 1.0 | 5         | 5   | 308      | 49  | P-600   |
| 15KP200(C)                                 | 200  | 220      | 282.0 | 1.0 | 5         | 5   | 358      | 42  | P-600   |
| 15KP200(C)A                                | 200  | 220      | 256.0 | 1.0 | 5         | 5   | 324      | 46  | P-600   |
| 15KP210(C)                                 | 210  | 231      | 296.1 | 1.0 | 5         | 5   | 376      | 40  | P-600   |
| 15KP210(C)A                                | 210  | 231      | 268.8 | 1.0 | 5         | 5   | 340      | 44  | P-600   |
| 15KP220(C)                                 | 220  | 242      | 310.2 | 1.0 | 5         | 5   | 394      | 38  | P-600   |
| 15KP220(C)A                                | 220  | 242      | 281.6 | 1.0 | 5         | 5   | 356      | 42  | P-600   |



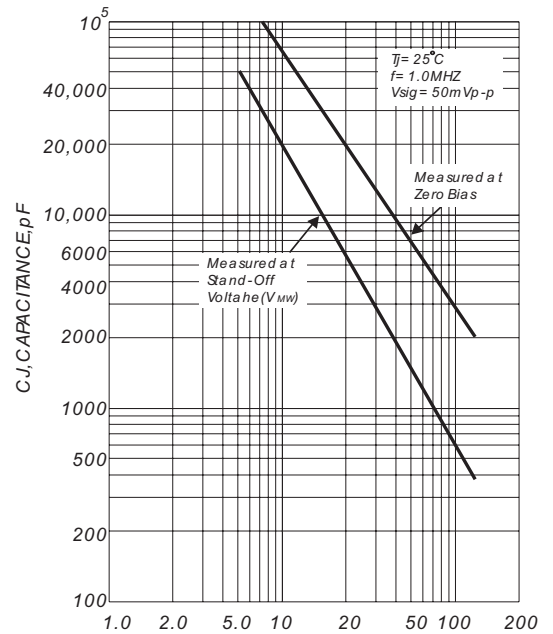
td, PULSE WIDTH, SEC  
**FIGURE 1-PEAK PULSE POWER VS PULSE TIME**



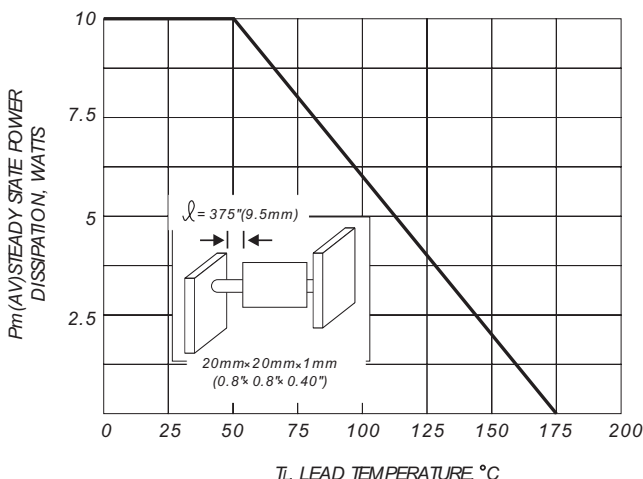
TA, AMBIENT TEMPERATURE °C  
**FIGURE 2 DERATING CURVE**



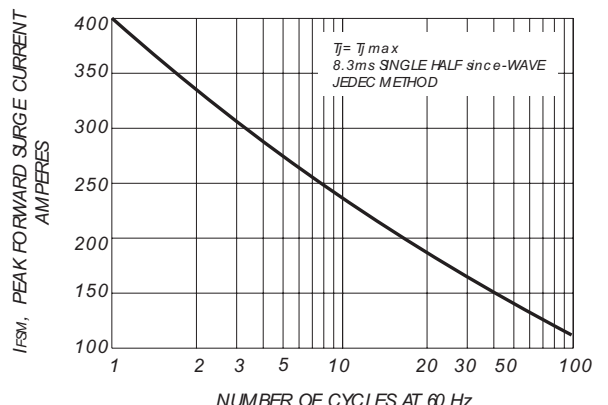
t, TIME, ms  
**FIGURE 3-PULSE WAVEFORM**



V(BR), BREAKDOWN VOLTAGE, VOLTS  
**FIGURE 4 TYPICAL CAPACITANCE VS STAND-OFF VOLTAGE**



T<sub>L</sub>, LEAD TEMPERATURE °C  
**FIG. 5-STEADY STATE POWER DERATING CURVE**



NUMBER OF CYCLES AT 60 Hz  
**FIG. 6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**