

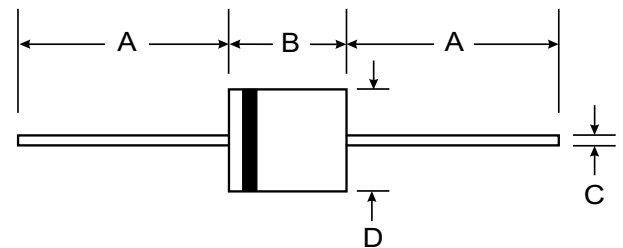
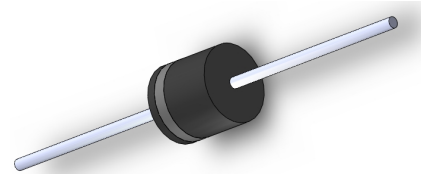
**VOLTAGE RANGE: 20 - 300V**  
**POWER: 20000Watts**

### Features

- Glass passivated junction 20000W Peak Pulse Power capability on 10/1000  $\mu$ s waveform
- Excellent clamping capability
- Repetition rate (duty cycle): 0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0 ps from 0 volts to BV  
 Typical  $I_d$  less than 1  $\mu$ A above 10V

### Mechanical Data

- Case: R-6
- Polarity: Color band denoted positive end (cathode) except Bipolar
- Terminals: Plated Axial leads, solderable per
- Mounting Position: Any
- Weight: 2.10 grams (approx.)



| R-6                  |      |     |
|----------------------|------|-----|
| Dim                  | Min  | Max |
| A                    | 25.4 | —   |
| B                    | 8.6  | 9.1 |
| C                    | 1.2  | 1.3 |
| All Dimensions in mm |      |     |

### Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

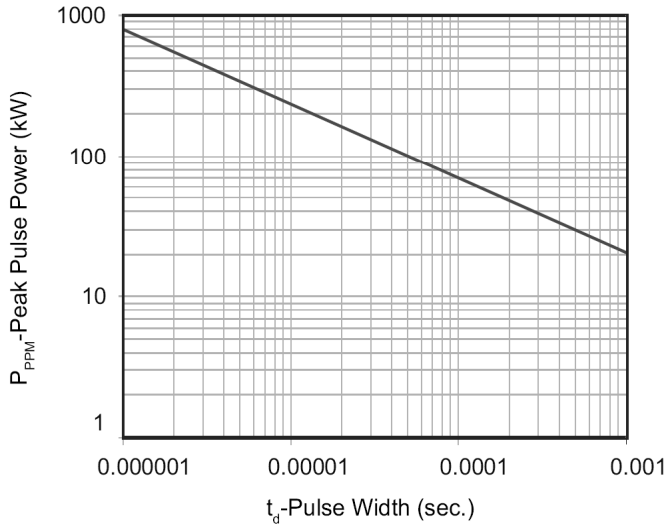
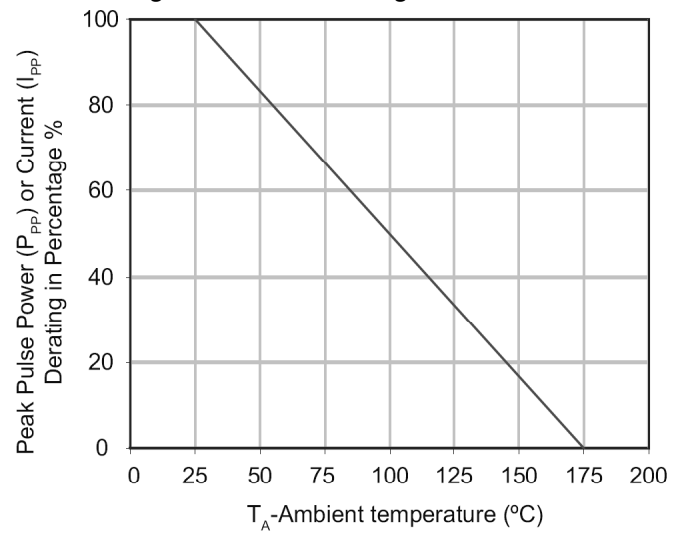
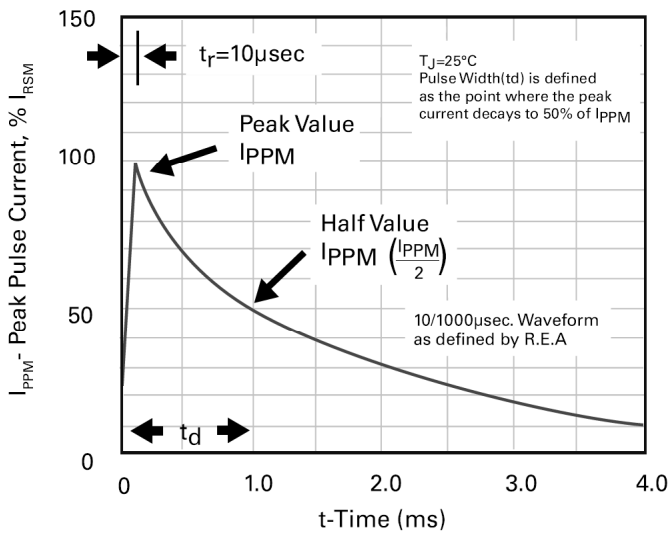
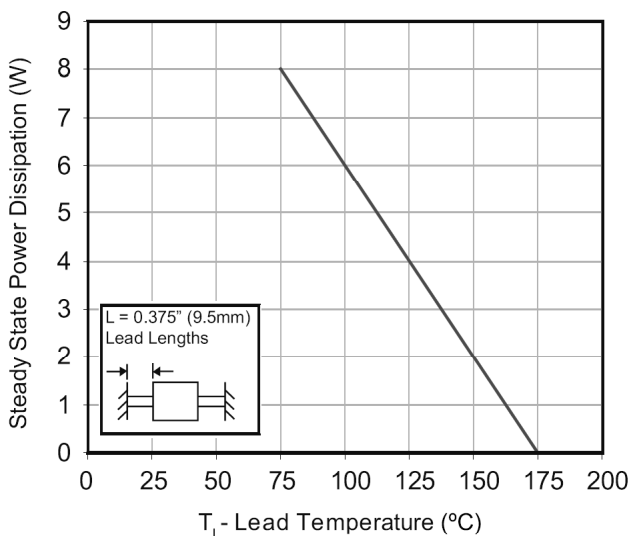
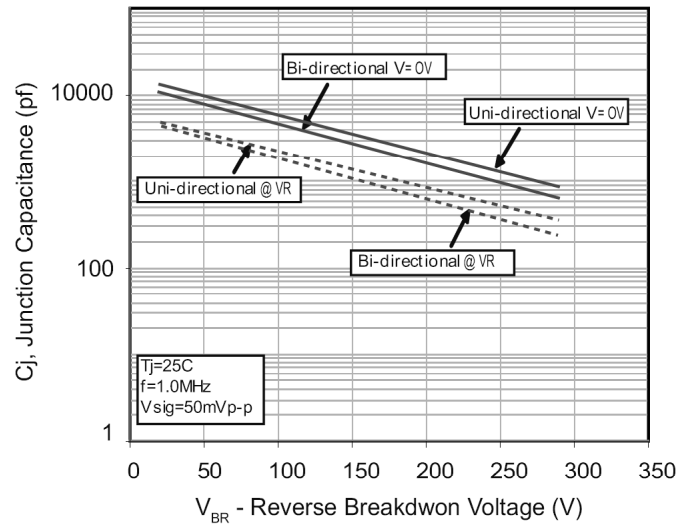
| Characteristic                                                                                     | Symbol                            | Value         | Unit             |
|----------------------------------------------------------------------------------------------------|-----------------------------------|---------------|------------------|
| Peak Pulse Power Dissipation on 10/1000 $\mu$ s waveform (NOTE 1)                                  | P <sub>ppm</sub>                  | Minimum 20000 | Watts            |
| Peak Pulse Current of on 10-1000 $\mu$ s waveform (NOTE 1)                                         | I <sub>ppm</sub>                  | SEE TABLE 1   | Amps             |
| Steady State Power Dissipation at $T_l = 75^\circ\text{C}$<br>Lead Lengths.375", (9.5mm)(NOTE 2)   | P <sub>m(AV)</sub>                | 8.0           | Watts            |
| Peak Forward Surge Current, 8.3ms Sine-Wave<br>Superimposed on Rated Load, (JEDEC Method) (NOTE 3) | I <sub>FSM</sub>                  | 400.0         | Amps             |
| Operatings and Storage Temperature Range                                                           | T <sub>j</sub> , T <sub>stg</sub> | -55 to +175   | $^\circ\text{C}$ |

#### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum

| TYPE      |            | Reverse Stand-Off Voltage | Breakdown Voltage Min. @ $I_T$ | Breakdown Voltage Max. @ $I_T$ | Test Current | Peak Pulse Current | Reverse Leakage @ $V_{RWM}$ | Maximum Clamping Voltage @ $I_{PP}$ |
|-----------|------------|---------------------------|--------------------------------|--------------------------------|--------------|--------------------|-----------------------------|-------------------------------------|
| (UNI)     | (BI)       | $V_{RWM}(V)$              | $V_{BR\ MIN}(V)$               | $V_{BR\ MAX}(V)$               | $I_T\ (mA)$  | $I_{PP}(A)$        | $I_R(\mu A)$                | $V_C(V)$                            |
| 20KPA20A  | 20KPA20CA  | 20                        | 22.34                          | 24.38                          | 50           | 548.9              | 5000                        | 36.8                                |
| 20KPA24A  | 20KPA24CA  | 24                        | 26.81                          | 29.26                          | 50           | 490.3              | 5000                        | 41.2                                |
| 20KPA26A  | 20KPA26CA  | 26                        | 29.04                          | 31.69                          | 50           | 451.9              | 2000                        | 44.7                                |
| 20KPA28A  | 20KPA28CA  | 28                        | 31.28                          | 34.13                          | 50           | 420.8              | 1000                        | 48.0                                |
| 20KPA30A  | 20KPA30CA  | 30                        | 33.51                          | 36.57                          | 5            | 392.2              | 250                         | 51.5                                |
| 20KPA32A  | 20KPA32CA  | 32                        | 35.74                          | 39.01                          | 5            | 372.0              | 150                         | 54.3                                |
| 20KPA34A  | 20KPA34CA  | 34                        | 38.0                           | 41.4                           | 5            | 351.3              | 50                          | 57.5                                |
| 20KPA36A  | 20KPA36CA  | 36                        | 40.2                           | 43.9                           | 5            | 328.5              | 20                          | 61.5                                |
| 20KPA40A  | 20KPA40CA  | 40                        | 44.7                           | 48.8                           | 5            | 297.9              | 15                          | 67.8                                |
| 20KPA44A  | 20KPA44CA  | 44                        | 49.1                           | 53.6                           | 5            | 277.9              | 2                           | 72.7                                |
| 20KPA48A  | 20KPA48CA  | 48                        | 53.6                           | 58.5                           | 5            | 254.4              | 2                           | 79.4                                |
| 20KPA52A  | 20KPA52CA  | 52                        | 58.1                           | 63.4                           | 5            | 235.4              | 2                           | 85.8                                |
| 20KPA56A  | 20KPA56CA  | 56                        | 62.6                           | 68.3                           | 5            | 218.1              | 2                           | 92.6                                |
| 20KPA60A  | 20KPA60CA  | 60                        | 67.0                           | 73.1                           | 5            | 207.0              | 2                           | 97.6                                |
| 20KPA64A  | 20KPA64CA  | 64                        | 71.5                           | 78.0                           | 5            | 194.2              | 2                           | 104.0                               |
| 20KPA68A  | 20KPA68CA  | 68                        | 76.0                           | 82.9                           | 5            | 183.6              | 2                           | 110.0                               |
| 20KPA72A  | 20KPA72CA  | 72                        | 80.4                           | 87.8                           | 5            | 174.1              | 2                           | 116.0                               |
| 20KPA80A  | 20KPA80CA  | 80                        | 89.4                           | 97.5                           | 5            | 155.4              | 2                           | 130.0                               |
| 20KPA88A  | 20KPA88CA  | 88                        | 98.3                           | 107.3                          | 5            | 142.3              | 2                           | 142.0                               |
| 20KPA96A  | 20KPA96CA  | 96                        | 107.2                          | 117.0                          | 5            | 130.3              | 2                           | 155.0                               |
| 20KPA104A | 20KPA104CA | 104                       | 116.2                          | 126.8                          | 5            | 120.2              | 2                           | 168.0                               |
| 20KPA112A | 20KPA112CA | 112                       | 125.1                          | 136.5                          | 5            | 111.0              | 2                           | 182.0                               |
| 20KPA120A | 20KPA120CA | 120                       | 134.0                          | 146.3                          | 5            | 104.1              | 2                           | 194.0                               |
| 20KPA132A | 20KPA132CA | 132                       | 147.4                          | 160.9                          | 5            | 94.8               | 2                           | 213.0                               |
| 20KPA144A | 20KPA144CA | 144                       | 160.8                          | 175.5                          | 5            | 87.1               | 2                           | 232.0                               |
| 20KPA160A | 20KPA160CA | 160                       | 178.7                          | 195.0                          | 5            | 78.3               | 2                           | 258.0                               |
| 20KPA172A | 20KPA172CA | 172                       | 192.1                          | 209.7                          | 5            | 72.9               | 2                           | 277.0                               |
| 20KPA180A | 20KPA180CA | 180                       | 201.1                          | 219.4                          | 5            | 69.4               | 2                           | 291.0                               |
| 20KPA192A | 20KPA192CA | 192                       | 214.5                          | 234.0                          | 5            | 65.4               | 2                           | 309.0                               |
| 20KPA204A | 20KPA204CA | 204                       | 227.9                          | 248.7                          | 5            | 61.4               | 2                           | 329.0                               |
| 20KPA216A | 20KPA216CA | 216                       | 241.3                          | 263.3                          | 5            | 58.0               | 2                           | 348.0                               |
| 20KPA232A | 20KPA232CA | 232                       | 259.1                          | 282.8                          | 5            | 54.0               | 2                           | 374.0                               |
| 20KPA240A | 20KPA240CA | 240                       | 268.1                          | 292.6                          | 5            | 52.2               | 2                           | 387.0                               |
| 20KPA256A | 20KPA256CA | 256                       | 286.0                          | 312.1                          | 5            | 49.0               | 2                           | 412.0                               |
| 20KPA280A | 20KPA280CA | 280                       | 312.8                          | 341.3                          | 5            | 44.8               | 2                           | 451.0                               |
| 20KPA300A | 20KPA300CA | 300                       | 335.1                          | 365.7                          | 5            | 41.8               | 2                           | 483.0                               |

For bidirectional type having  $V_{RWM}$  of 40 volts and less, the  $I_R$  limit is double. For parts with A, the  $V_{BR}$  is  $\pm 5\%$

**Figure 1 - Peak Pulse Power Rating Curve**

**Figure 2 - Pulse Derating Curve**

**Figure 3 - Pulse Waveform**

**Figure 5 - Steady State Power Derating Curve**

**Figure 4 - Typical Junction Capacitance**

**Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current**
