

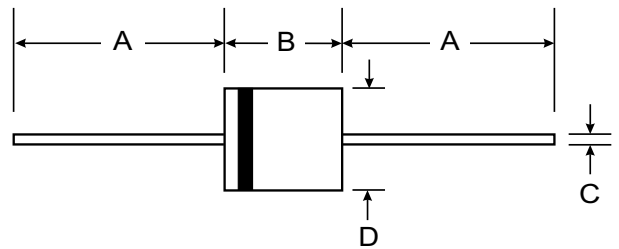
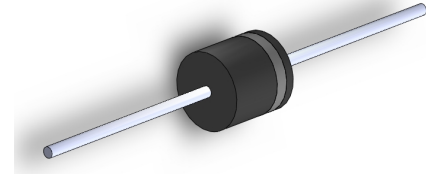
**VOLTAGE RANGE: 5.0 - 190 V**  
**POWER: 3000Watts**

### Features

- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

### Mechanical Data

- Case: R-6 Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-202, Method 208
- Polarity: Color Band Indicates Cathode
- Approx. Weight: 1.7 grams
- Mounting Position: Any



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

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

| Characteristic   | Symbol         | Value        | Unit             |
|--|----------------|--------------|------------------|
| Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ (Note 1, 2, 5) Figure 3 | PPPM           | 3000 Minimum | W                |
| Peak Forward Surge Current (Note 3)  | IFSM           | 250          | A                |
| Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 1           | IPPM           | See Table 1  | A                |
| Steady State Power Dissipation (Note 2, 4)                                       | PM(AV)         | 8.0          | W                |
| Operating and Storage Temperature Range  | $T_J, T_{STG}$ | -55 to +175  | $^\circ\text{C}$ |

- Note: 1. Non-repetitive current pulse, per Figure 1 and derated above  $T_A = 25^\circ\text{C}$  per Figure 4.  
 2. Mounted on 20mm<sup>2</sup> copper pad.  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.  
 4. Lead temperature at  $75^\circ\text{C} = T_L$ .  
 5. Peak pulse power waveform is 10/1000 $\mu\text{S}$ .

| TYPE    |          | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RWM</sub> |
|---------|----------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (UNI)   | (BI)     | V <sub>RWM</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> (uA)               |
| 3KP5.0  | 3KP5.0C  | 5.0                       | 6.40                                   | 7.55                                    | 10                  | 9.6                                       | 312.5               | 1000.0                            |
| 3KP5.0A | 3KP5.0CA | 5.0                       | 6.40                                   | 7.25                                    | 10                  | 9.2                                       | 326.1               | 1000.0                            |
| 3KP6.0  | 3KP6.0C  | 6.0                       | 6.67                                   | 8.45                                    | 10                  | 11.4                                      | 263.2               | 1000.0                            |
| 3KP6.0A | 3KP6.0CA | 6.0                       | 6.67                                   | 7.67                                    | 10                  | 10.3                                      | 291.3               | 1000.0                            |
| 3KP6.5  | 3KP6.5C  | 6.5                       | 7.22                                   | 9.14                                    | 10                  | 12.3                                      | 243.9               | 500.0                             |
| 3KP6.5A | 3KP6.5CA | 6.5                       | 7.22                                   | 8.30                                    | 10                  | 11.2                                      | 267.9               | 500.0                             |
| 3KP7.0  | 3KP7.0C  | 7.0                       | 7.78                                   | 9.86                                    | 10                  | 13.3                                      | 225.6               | 200.0                             |
| 3KP7.0A | 3KP7.0CA | 7.0                       | 7.78                                   | 8.95                                    | 10                  | 12.0                                      | 250.0               | 200.0                             |
| 3KP7.5  | 3KP7.5C  | 7.5                       | 8.33                                   | 10.67                                   | 1.0                 | 14.3                                      | 209.8               | 50.0                              |
| 3KP7.5A | 3KP7.5CA | 7.5                       | 8.33                                   | 9.58                                    | 1.0                 | 12.9                                      | 232.6               | 50.0                              |
| 3KP8.0  | 3KP8.0C  | 8.0                       | 8.89                                   | 11.3                                    | 1.0                 | 15.0                                      | 200.0               | 10.0                              |
| 3KP8.0A | 3KP8.0CA | 8.0                       | 8.89                                   | 10.23                                   | 1.0                 | 13.6                                      | 220.6               | 10.0                              |
| 3KP8.5  | 3KP8.5C  | 8.5                       | 9.44                                   | 11.92                                   | 1.0                 | 15.9                                      | 188.7               | 5.0                               |
| 3KP8.5A | 3KP8.5CA | 8.5                       | 9.44                                   | 10.82                                   | 1.0                 | 14.4                                      | 208.3               | 5.0                               |
| 3KP9.0  | 3KP9.0C  | 9.0                       | 10.0                                   | 12.6                                    | 1.0                 | 16.9                                      | 177.5               | 5.0                               |
| 3KP9.0A | 3KP9.0CA | 9.0                       | 10.0                                   | 11.5                                    | 1.0                 | 15.4                                      | 194.8               | 5.0                               |
| 3KP10   | 3KP10C   | 10                        | 11.1                                   | 14.1                                    | 1.0                 | 18.8                                      | 159.6               | 5.0                               |
| 3KP10A  | 3KP10CA  | 10                        | 11.1                                   | 12.8                                    | 1.0                 | 17.0                                      | 176.5               | 5.0                               |
| 3KP11   | 3KP11C   | 11                        | 12.2                                   | 15.4                                    | 1.0                 | 20.1                                      | 149.3               | 5.0                               |
| 3KP11A  | 3KP11CA  | 11                        | 12.2                                   | 14.0                                    | 1.0                 | 18.2                                      | 164.8               | 5.0                               |
| 3KP12   | 3KP12C   | 12                        | 13.3                                   | 16.9                                    | 1.0                 | 22.0                                      | 136.4               | 5.0                               |
| 3KP12A  | 3KP12CA  | 12                        | 13.3                                   | 15.3                                    | 1.0                 | 19.9                                      | 150.8               | 5.0                               |
| 3KP13   | 3KP13C   | 13                        | 14.4                                   | 18.2                                    | 1.0                 | 23.8                                      | 126.1               | 5.0                               |
| 3KP13A  | 3KP13CA  | 13                        | 14.4                                   | 16.5                                    | 1.0                 | 21.5                                      | 139.5               | 5.0                               |
| 3KP14   | 3KP14C   | 14                        | 15.6                                   | 19.8                                    | 1.0                 | 25.8                                      | 116.3               | 5.0                               |
| 3KP14A  | 3KP14CA  | 14                        | 15.6                                   | 17.9                                    | 1.0                 | 23.2                                      | 129.3               | 5.0                               |
| 3KP15   | 3KP15C   | 15                        | 16.7                                   | 21.1                                    | 1.0                 | 26.9                                      | 111.5               | 5.0                               |
| 3KP15A  | 3KP15CA  | 15                        | 16.7                                   | 19.2                                    | 1.0                 | 24.4                                      | 123.0               | 5.0                               |
| 3KP16   | 3KP16C   | 16                        | 17.8                                   | 22.6                                    | 1.0                 | 28.8                                      | 104.2               | 5.0                               |
| 3KP16A  | 3KP16CA  | 16                        | 17.8                                   | 20.5                                    | 1.0                 | 26.0                                      | 115.4               | 5.0                               |
| 3KP17   | 3KP17C   | 17                        | 18.9                                   | 23.9                                    | 1.0                 | 30.5                                      | 98.4                | 5.0                               |
| 3KP17A  | 3KP17CA  | 17                        | 18.9                                   | 21.7                                    | 1.0                 | 27.6                                      | 108.7               | 5.0                               |
| 3KP18   | 3KP18C   | 18                        | 20.0                                   | 25.3                                    | 1.0                 | 32.2                                      | 93.2                | 5.0                               |
| 3KP18A  | 3KP18CA  | 18                        | 20.0                                   | 23.3                                    | 1.0                 | 29.2                                      | 102.7               | 5.0                               |
| 3KP20   | 3KP20C   | 20                        | 22.2                                   | 28.1                                    | 1.0                 | 35.8                                      | 83.8                | 5.0                               |
| 3KP20A  | 3KP20CA  | 20                        | 22.2                                   | 25.5                                    | 1.0                 | 32.4                                      | 92.6                | 5.0                               |

| TYPE   |         | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RWM</sub> |
|--------|---------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (UNI)  | (BI)    | V <sub>RWM</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> (uA)               |
| 3KP22  | 3KP22C  | 22                        | 24.4                                   | 30.9                                    | 1.0                 | 39.4                                      | 76.1                | 5.0                               |
| 3KP22A | 3KP22CA | 22                        | 24.4                                   | 28.0                                    | 1.0                 | 35.5                                      | 84.5                | 5.0                               |
| 3KP24  | 3KP24C  | 24                        | 26.7                                   | 33.8                                    | 1.0                 | 43.0                                      | 69.8                | 5.0                               |
| 3KP24A | 3KP24CA | 24                        | 26.7                                   | 30.7                                    | 1.0                 | 38.9                                      | 77.1                | 5.0                               |
| 3KP26  | 3KP26C  | 26                        | 28.9                                   | 36.6                                    | 1.0                 | 46.6                                      | 64.4                | 5.0                               |
| 3KP26A | 3KP26CA | 26                        | 28.9                                   | 33.2                                    | 1.0                 | 42.1                                      | 71.3                | 5.0                               |
| 3KP28  | 3KP28C  | 28                        | 31.1                                   | 39.4                                    | 1.0                 | 50.0                                      | 60.0                | 5.0                               |
| 3KP28A | 3KP28CA | 28                        | 31.1                                   | 35.8                                    | 1.0                 | 45.4                                      | 66.1                | 5.0                               |
| 3KP30  | 3KP30C  | 30                        | 33.3                                   | 42.2                                    | 1.0                 | 53.5                                      | 56.1                | 5.0                               |
| 3KP30A | 3KP30CA | 30                        | 33.3                                   | 38.3                                    | 1.0                 | 48.4                                      | 62.0                | 5.0                               |
| 3KP33  | 3KP33C  | 33                        | 36.7                                   | 46.5                                    | 1.0                 | 59.0                                      | 50.8                | 5.0                               |
| 3KP33A | 3KP33CA | 33                        | 36.7                                   | 42.2                                    | 1.0                 | 53.3                                      | 56.3                | 5.0                               |
| 3KP36  | 3KP36C  | 36                        | 40.0                                   | 50.7                                    | 1.0                 | 64.3                                      | 46.7                | 5.0                               |
| 3KP36A | 3KP36CA | 36                        | 40.0                                   | 46.0                                    | 1.0                 | 58.1                                      | 51.6                | 5.0                               |
| 3KP40  | 3KP40C  | 40                        | 44.4                                   | 56.3                                    | 1.0                 | 71.4                                      | 42.0                | 5.0                               |
| 3KP40A | 3KP40CA | 40                        | 44.4                                   | 51.1                                    | 1.0                 | 64.5                                      | 46.5                | 5.0                               |
| 3KP43  | 3KP43C  | 43                        | 47.8                                   | 60.5                                    | 1.0                 | 76.7                                      | 39.1                | 5.0                               |
| 3KP43A | 3KP43CA | 43                        | 47.8                                   | 54.9                                    | 1.0                 | 69.4                                      | 43.2                | 5.0                               |
| 3KP45  | 3KP45C  | 45                        | 50.0                                   | 63.3                                    | 1.0                 | 80.3                                      | 37.4                | 5.0                               |
| 3KP45A | 3KP45CA | 45                        | 50.0                                   | 57.5                                    | 1.0                 | 72.7                                      | 41.3                | 5.0                               |
| 3KP48  | 3KP48C  | 48                        | 53.3                                   | 67.5                                    | 1.0                 | 85.5                                      | 35.1                | 5.0                               |
| 3KP48A | 3KP48CA | 48                        | 53.3                                   | 61.3                                    | 1.0                 | 77.4                                      | 38.8                | 5.0                               |
| 3KP51  | 3KP51C  | 51                        | 56.7                                   | 71.8                                    | 1.0                 | 91.1                                      | 32.9                | 5.0                               |
| 3KP51A | 3KP51CA | 51                        | 56.7                                   | 65.2                                    | 1.0                 | 82.4                                      | 36.4                | 5.0                               |
| 3KP54  | 3KP54C  | 54                        | 60.0                                   | 76.0                                    | 1.0                 | 96.3                                      | 31.2                | 5.0                               |
| 3KP54A | 3KP54CA | 54                        | 60.0                                   | 69.0                                    | 1.0                 | 87.1                                      | 34.4                | 5.0                               |
| 3KP58  | 3KP58C  | 58                        | 64.4                                   | 81.6                                    | 1.0                 | 103                                       | 29.1                | 5.0                               |
| 3KP58A | 3KP58CA | 58                        | 64.4                                   | 74.1                                    | 1.0                 | 93.6                                      | 32.1                | 5.0                               |
| 3KP60  | 3KP60C  | 60                        | 66.7                                   | 84.5                                    | 1.0                 | 107                                       | 28.0                | 5.0                               |
| 3KP60A | 3KP60CA | 60                        | 66.7                                   | 76.7                                    | 1.0                 | 96.8                                      | 31.0                | 5.0                               |
| 3KP64  | 3KP64C  | 64                        | 71.1                                   | 90.1                                    | 1.0                 | 114                                       | 26.3                | 5.0                               |
| 3KP64A | 3KP64CA | 64                        | 71.1                                   | 81.8                                    | 1.0                 | 103                                       | 29.1                | 5.0                               |
| 3KP70  | 3KP70C  | 70                        | 77.8                                   | 98.6                                    | 1.0                 | 125                                       | 24.0                | 5.0                               |
| 3KP70A | 3KP70CA | 70                        | 77.8                                   | 89.5                                    | 1.0                 | 113                                       | 26.5                | 5.0                               |
| 3KP75  | 3KP75C  | 75                        | 83.0                                   | 105.7                                   | 1.0                 | 134                                       | 22.4                | 5.0                               |
| 3KP75A | 3KP75CA | 75                        | 83.0                                   | 95.8                                    | 1.0                 | 121                                       | 24.8                | 5.0                               |
| 3KP78  | 3KP78C  | 78                        | 86.0                                   | 109.8                                   | 1.0                 | 139                                       | 21.6                | 5.0                               |
| 3KP78A | 3KP78CA | 78                        | 86.0                                   | 99.7                                    | 1.0                 | 126                                       | 23.8                | 5.0                               |

| TYPE    |          | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I <sub>T</sub> | Breakdown Voltage Max. @ I <sub>T</sub> | Test Current        | Maximum Clamping Voltage @I <sub>PP</sub> | Peak Pulse Current  | Reverse Leakage @V <sub>RWM</sub> |
|---------|----------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (UNI)   | (BI)     | V <sub>RWM</sub> (V)      | V <sub>BR MIN</sub> (V)                | V <sub>BR MAX</sub> (V)                 | I <sub>T</sub> (mA) | V <sub>C</sub> (V)                        | I <sub>PP</sub> (A) | I <sub>R</sub> (uA)               |
| 3KP85   | 3KP85C   | 85                        | 94.0                                   | 119.2                                   | 1.0                 | 151                                       | 19.9                | 5.0                               |
| 3KP85A  | 3KP85CA  | 85                        | 94.0                                   | 108.2                                   | 1.0                 | 137                                       | 21.9                | 5.0                               |
| 3KP90   | 3KP90C   | 90                        | 100                                    | 126.5                                   | 1.0                 | 160                                       | 18.8                | 5.0                               |
| 3KP90A  | 3KP90CA  | 90                        | 100                                    | 115.5                                   | 1.0                 | 146                                       | 20.5                | 5.0                               |
| 3KP100  | 3KP100C  | 100                       | 111                                    | 141.0                                   | 1.0                 | 179                                       | 16.8                | 5.0                               |
| 3KP100A | 3KP100CA | 100                       | 111                                    | 128.0                                   | 1.0                 | 162                                       | 18.5                | 5.0                               |
| 3KP110  | 3KP110C  | 110                       | 122                                    | 154.5                                   | 1.0                 | 196                                       | 15.3                | 5.0                               |
| 3KP110A | 3KP110CA | 110                       | 122                                    | 140.5                                   | 1.0                 | 177                                       | 16.9                | 5.0                               |
| 3KP120  | 3KP120C  | 120                       | 133                                    | 169.0                                   | 1.0                 | 214                                       | 14.0                | 5.0                               |
| 3KP120A | 3KP120CA | 120                       | 133                                    | 153.0                                   | 1.0                 | 193                                       | 15.5                | 5.0                               |
| 3KP130  | 3KP130C  | 130                       | 144                                    | 182.5                                   | 1.0                 | 231                                       | 13.0                | 5.0                               |
| 3KP130A | 3KP130CA | 130                       | 144                                    | 165.5                                   | 1.0                 | 209                                       | 14.4                | 5.0                               |
| 3KP150  | 3KP150C  | 150                       | 167                                    | 211.5                                   | 1.0                 | 268                                       | 11.2                | 5.0                               |
| 3KP150A | 3KP150CA | 150                       | 167                                    | 192.5                                   | 1.0                 | 243                                       | 12.3                | 5.0                               |
| 3KP160  | 3KP160C  | 160                       | 178                                    | 226.0                                   | 1.0                 | 287                                       | 10.5                | 5.0                               |
| 3KP160A | 3KP160CA | 160                       | 178                                    | 205.0                                   | 1.0                 | 259                                       | 11.6                | 5.0                               |
| 3KP170  | 3KP170C  | 170                       | 189                                    | 239.5                                   | 1.0                 | 304                                       | 9.9                 | 5.0                               |
| 3KP170A | 3KP170CA | 170                       | 189                                    | 217.5                                   | 1.0                 | 275                                       | 10.9                | 5.0                               |
| 3KP180  | 3KP180C  | 180                       | 200                                    | 253.8                                   | 1.0                 | 321                                       | 9.3                 | 5.0                               |
| 3KP180A | 3KP180CA | 180                       | 200                                    | 230.4                                   | 1.0                 | 290                                       | 10.3                | 5.0                               |
| 3KP190  | 3KP190C  | 190                       | 211                                    | 267.9                                   | 1.0                 | 339                                       | 8.8                 | 5.0                               |
| 3KP190A | 3KP190CA | 190                       | 211                                    | 243.2                                   | 1.0                 | 306                                       | 9.8                 | 5.0                               |

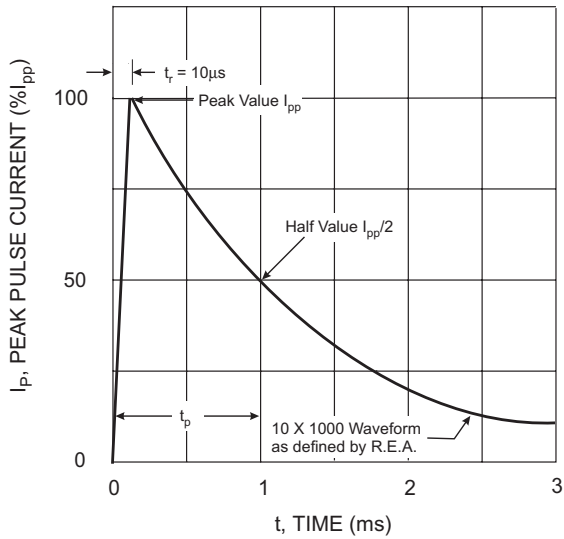


Fig. 1 Pulse Waveform

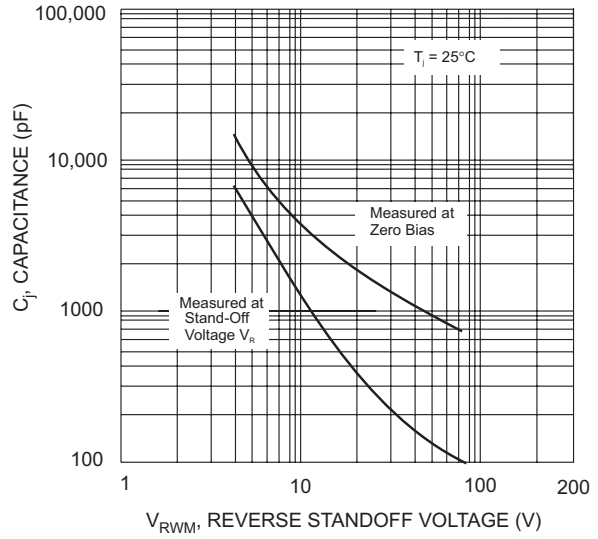


Fig. 2 Typical Junction Capacitance

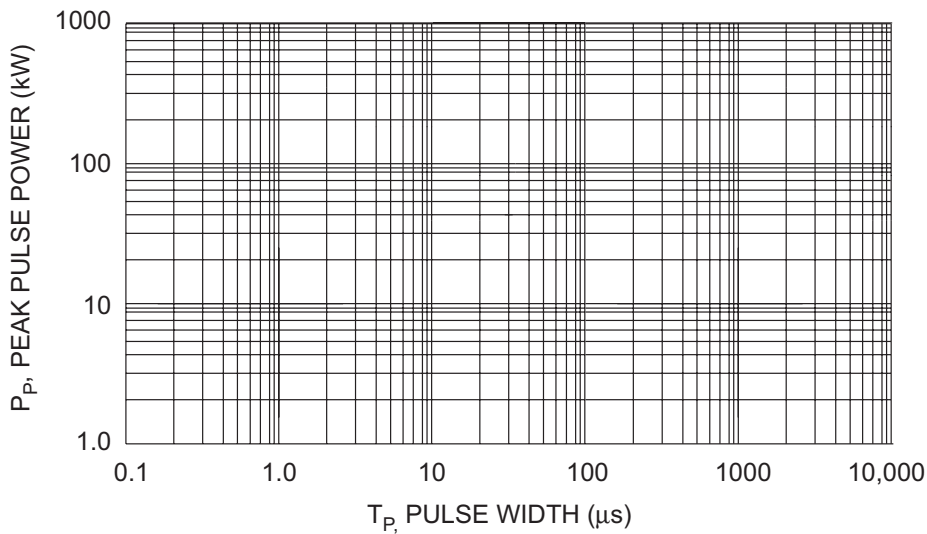


Fig. 3 Pulse Derating Curve

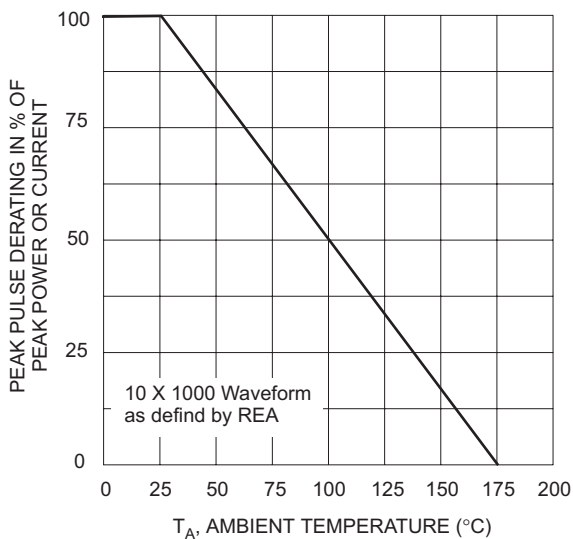


Fig. 4 Pulse Derating Curve

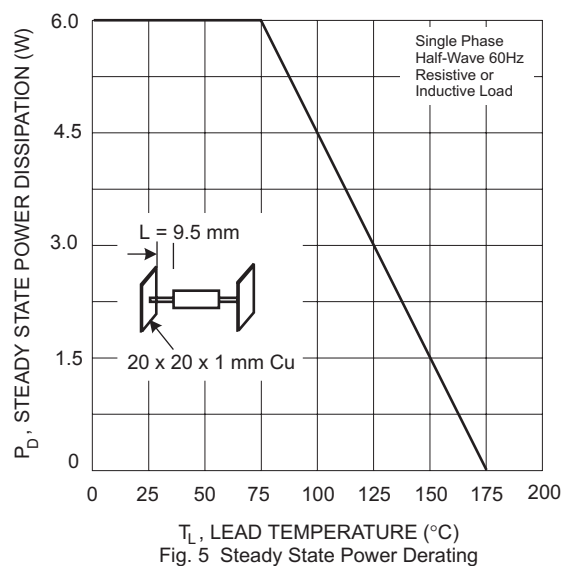


Fig. 5 Steady State Power Derating