

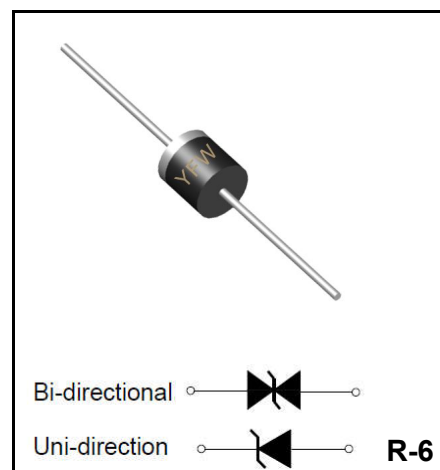
**Transient voltage suppressor power 5000 watts**

### FEATURES

- ◆  $P_{PP}$  5000W
- ◆  $V_{RWM}$  5.0V~220V
- ◆ Glass passivated chip

### MECHANICAL DATA

- ◆ Case: R-6
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 2.05g / 0.072oz



### Limiting Values(Absolute Maximum Rating)

| Parameter                                       | Symbol         | Conditions                                        | Value          | Unit               |
|-------------------------------------------------|----------------|---------------------------------------------------|----------------|--------------------|
| Peak power dissipation                          | $P_{PPM}$      | with a 10/1000us waveform                         | 5000           | W                  |
| Peak forward surge current                      | $I_{FSM}$      | 8.3 ms single half sine-wave unidirectional only  | 600            | A                  |
| Peak pulse current                              | $I_{PPM}$      | with a 10/1000us waveform                         | See Next Table | A                  |
| Power dissipation                               | $P_D$          | on infinite heat sink at $T_L=75^{\circ}\text{C}$ | 8.0            | W                  |
| Operating junction and storage emperature range | $T_J, T_{STG}$ |                                                   | -55 to +175    | $^{\circ}\text{C}$ |

### Electrical Characteristics( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| Parameter                                 | Symbol | Conditions                     | Value | Unit |
|-------------------------------------------|--------|--------------------------------|-------|------|
| Maximum instantaneous forward Voltage (1) | $V_F$  | at 25A for unidirectional only | 3.5   | V    |

#### NOTES:

1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

## Electrical Characteristics (T<sub>A</sub>=25°C)

| Part Number |          | Reverse Stand-Off Voltage | Breakdown Voltage @IT |            | Test Current | Maximum Clamping Voltage @IPP | Peak Pulse Current | Reverse Leakage @VR |
|-------------|----------|---------------------------|-----------------------|------------|--------------|-------------------------------|--------------------|---------------------|
| Uni.        | Bi.      | VR(V)                     | VB Min.(V)            | VB Max.(V) | IT(mA)       | VC(V)                         | IPP(A)             | IR(μA)              |
| 5KP5.0A     | 5KP5.0CA | 5.0                       | 6.40                  | 7.00       | 50           | 9.2                           | 554.3              | 3000                |
| 5KP6.0A     | 5KP6.0CA | 6.0                       | 6.67                  | 7.37       | 50           | 10.3                          | 495.1              | 2000                |
| 5KP6.5A     | 5KP6.5CA | 6.5                       | 7.22                  | 7.98       | 50           | 11.2                          | 455.4              | 1000                |
| 5KP7.0A     | 5KP7.0CA | 7.0                       | 7.78                  | 8.60       | 50           | 12.0                          | 425.0              | 800                 |
| 5KP7.5A     | 5KP7.5CA | 7.5                       | 8.33                  | 9.21       | 5            | 12.9                          | 395.3              | 250                 |
| 5KP8.0A     | 5KP8.0CA | 8.0                       | 8.89                  | 9.83       | 5            | 13.6                          | 375.0              | 150                 |
| 5KP8.5A     | 5KP8.5CA | 8.5                       | 9.44                  | 10.40      | 5            | 14.4                          | 354.2              | 50                  |
| 5KP9.0A     | 5KP9.0CA | 9.0                       | 10.00                 | 11.10      | 5            | 15.4                          | 331.2              | 20                  |
| 5KP10A      | 5KP10CA  | 10.0                      | 11.10                 | 12.30      | 5            | 17.0                          | 300.0              | 10                  |
| 5KP11A      | 5KP11CA  | 11.0                      | 12.20                 | 13.50      | 5            | 18.2                          | 280.2              | 2                   |
| 5KP12A      | 5KP12CA  | 12.0                      | 13.30                 | 14.70      | 5            | 19.9                          | 256.3              | 2                   |
| 5KP13A      | 5KP13CA  | 13.0                      | 14.40                 | 15.90      | 5            | 21.5                          | 237.2              | 2                   |
| 5KP14A      | 5KP14CA  | 14.0                      | 15.60                 | 17.20      | 5            | 23.2                          | 219.8              | 2                   |
| 5KP15A      | 5KP15CA  | 15.0                      | 16.70                 | 18.50      | 5            | 24.4                          | 209.0              | 2                   |
| 5KP16A      | 5KP16CA  | 16.0                      | 17.80                 | 19.70      | 5            | 26.0                          | 196.2              | 2                   |
| 5KP17A      | 5KP17CA  | 17.0                      | 18.90                 | 20.90      | 5            | 27.6                          | 184.8              | 2                   |
| 5KP18A      | 5KP18CA  | 18.0                      | 20.00                 | 22.10      | 5            | 29.2                          | 174.7              | 2                   |
| 5KP20A      | 5KP20CA  | 20.0                      | 22.20                 | 24.50      | 5            | 32.4                          | 157.4              | 2                   |
| 5KP22A      | 5KP22CA  | 22.0                      | 24.40                 | 26.90      | 5            | 35.5                          | 143.7              | 2                   |
| 5KP24A      | 5KP24CA  | 24.0                      | 26.70                 | 29.50      | 5            | 38.9                          | 131.1              | 2                   |
| 5KP26A      | 5KP26CA  | 26.0                      | 28.90                 | 28.90      | 5            | 42.1                          | 121.1              | 2                   |
| 5KP28A      | 5KP28CA  | 28.0                      | 31.10                 | 34.40      | 5            | 45.4                          | 112.3              | 2                   |
| 5KP30A      | 5KP30CA  | 30.0                      | 33.30                 | 36.80      | 5            | 48.4                          | 105.4              | 2                   |
| 5KP33A      | 5KP33CA  | 33.0                      | 36.70                 | 40.60      | 5            | 53.3                          | 95.7               | 2                   |
| 5KP36A      | 5KP36CA  | 36.0                      | 40.00                 | 44.20      | 5            | 58.1                          | 87.8               | 2                   |
| 5KP40A      | 5KP40CA  | 40.0                      | 44.40                 | 49.10      | 5            | 64.5                          | 79.1               | 2                   |

**Electrical Characteristics (T<sub>A</sub>=25°C)**

| Part Number |          | Reverse Stand-Off Voltage | Breakdown Voltage @IT |            | Test Current | Maximum Clamping Voltage @IPP | Peak Pulse Current | Reverse Leakage @VR |
|-------------|----------|---------------------------|-----------------------|------------|--------------|-------------------------------|--------------------|---------------------|
| Uni.        | Bi.      | VR(V)                     | VB Min.(V)            | VB Max.(V) | IT(mA)       | VC(V)                         | IPP(A)             | IR(μA)              |
| 5KP43A      | 5KP43CA  | 43.0                      | 47.80                 | 52.80      | 5            | 69.4                          | 73.5               | 2                   |
| 5KP45A      | 5KP45CA  | 45.0                      | 50.00                 | 55.30      | 5            | 72.7                          | 70.2               | 2                   |
| 5KP48A      | 5KP48CA  | 48.0                      | 53.30                 | 58.90      | 5            | 77.4                          | 65.9               | 2                   |
| 5KP51A      | 5KP51CA  | 51.0                      | 56.70                 | 62.70      | 5            | 82.4                          | 61.9               | 2                   |
| 5KP54A      | 5KP54CA  | 54.0                      | 60.00                 | 66.30      | 5            | 87.1                          | 58.6               | 2                   |
| 5KP58A      | 5KP58CA  | 58.0                      | 64.40                 | 71.20      | 5            | 93.6                          | 54.5               | 2                   |
| 5KP60A      | 5KP60CA  | 60.0                      | 66.70                 | 73.70      | 5            | 96.8                          | 52.7               | 2                   |
| 5KP64A      | 5KP64CA  | 64.0                      | 71.10                 | 78.60      | 5            | 103.0                         | 49.5               | 2                   |
| 5KP70A      | 5KP70CA  | 70.0                      | 77.80                 | 86.00      | 5            | 113.0                         | 45.1               | 2                   |
| 5KP75A      | 5KP75CA  | 75.0                      | 83.30                 | 92.10      | 5            | 121.0                         | 42.1               | 2                   |
| 5KP78A      | 5KP78CA  | 78.0                      | 86.70                 | 95.80      | 5            | 126.0                         | 40.5               | 2                   |
| 5KP85A      | 5KP85CA  | 85.0                      | 94.40                 | 104.0      | 5            | 137.0                         | 37.2               | 2                   |
| 5KP90A      | 5KP90CA  | 90.0                      | 100.0                 | 111.0      | 5            | 146.0                         | 34.9               | 2                   |
| 5KP100A     | 5KP100CA | 100.0                     | 110.0                 | 123.0      | 5            | 162.0                         | 31.5               | 2                   |
| 5KP110A     | 5KP110CA | 110.0                     | 122.0                 | 135.0      | 5            | 177.0                         | 28.8               | 2                   |
| 5KP120A     | 5KP120CA | 120.0                     | 133.0                 | 147.0      | 5            | 193.0                         | 26.4               | 2                   |
| 5KP130A     | 5KP130CA | 130.0                     | 144.0                 | 159.0      | 5            | 209.0                         | 24.4               | 2                   |
| 5KP150A     | 5KP150CA | 150.0                     | 167.0                 | 185.0      | 5            | 243.0                         | 21.0               | 2                   |
| 5KP160A     | 5KP160CA | 160.0                     | 178.0                 | 197.0      | 5            | 259.0                         | 19.7               | 2                   |
| 5KP170A     | 5KP170CA | 170.0                     | 189.0                 | 209.0      | 5            | 275.0                         | 18.5               | 2                   |
| 5KP180A     | 5KP180CA | 180.0                     | 201.0                 | 222.0      | 5            | 292.0                         | 17.5               | 2                   |
| 5KP190A     | 5KP190CA | 190.0                     | 211.0                 | 233.0      | 5            | 310.0                         | 16.5               | 2                   |
| 5KP200A     | 5KP200CA | 200.0                     | 224.0                 | 247.0      | 5            | 329.2                         | 15.5               | 2                   |
| 5KP210A     | 5KP210CA | 210.0                     | 237.0                 | 263.0      | 5            | 349.5                         | 14.6               | 2                   |
| 5KP220A     | 5KP220CA | 220.0                     | 246.0                 | 272.0      | 5            | 371.1                         | 13.7               | 2                   |
| 5KP250A     | 5KP250CA | 250.0                     | 277.0                 | 306.0      | 5            | 425.0                         | 12.0               | 2                   |

FIG1: Peak Pulse Power Rating Curve

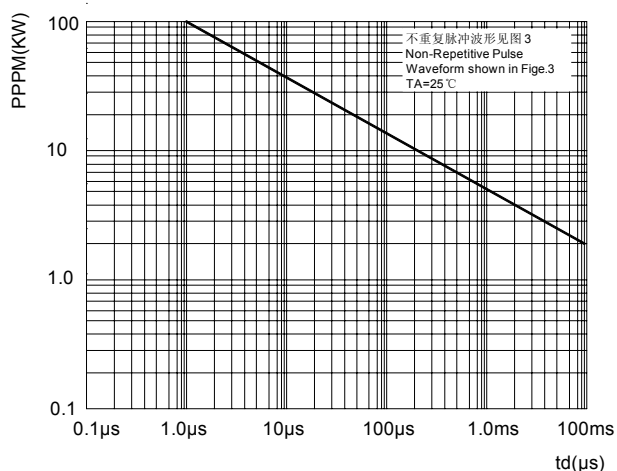


FIG2: Pulse Power or Current vs. Initial Junction Temperature

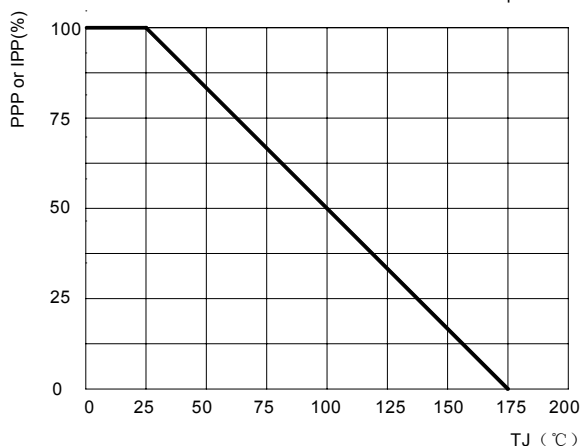


FIG3: Pulse Waveform

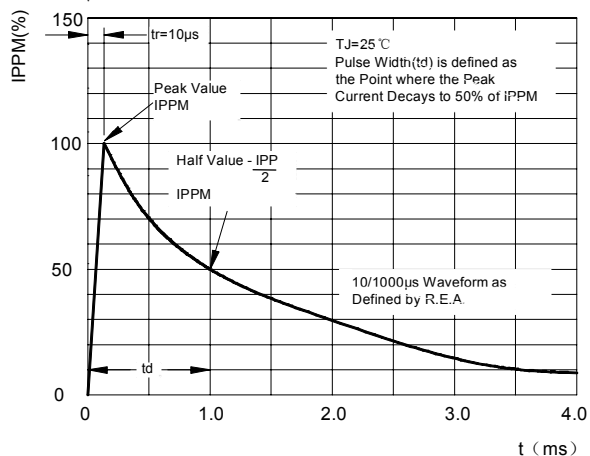


FIG4: Power Derating Curve

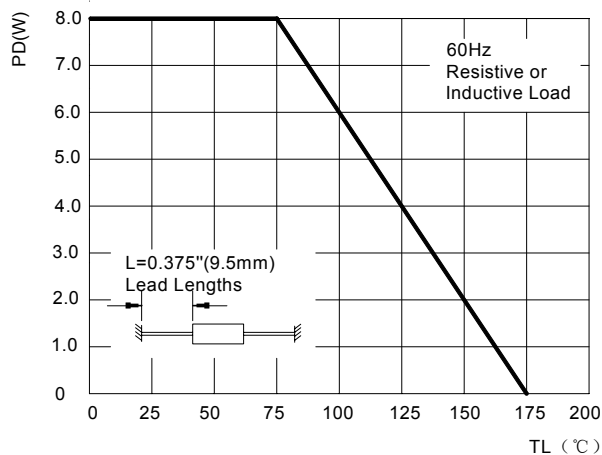
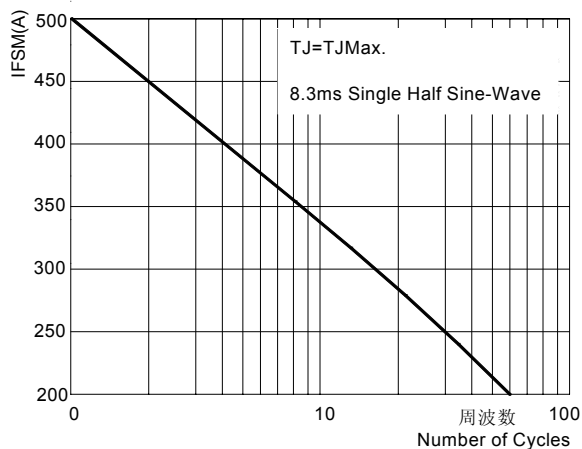


FIG5: Maximum Non-Repetitive Surge Current



### Ordering information

| Package | Packing Description | Packing Quantity          |
|---------|---------------------|---------------------------|
| R-6     | braid               | 500PCS/Box 5000PCS/Carton |

### Package Dimensions

#### R-6

| Dim. | Millimeter(mm) |      | INCHES |       |
|------|----------------|------|--------|-------|
|      | Min.           | Max. | Min.   | Max.  |
| A    | 8.60           | 9.10 | 0.340  | 0.360 |
| B    | 8.60           | 9.10 | 0.340  | 0.360 |
| C    | 1.20           | 1.30 | 0.048  | 0.052 |
| D    | 25.40          | -    | 1.00   | -     |

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