

**GLASS PASSIVATED
UNIDIRECTIONAL AND BIDIRECTIONAL
TRANSIENT VOLTAGE SUPPRESSORS**

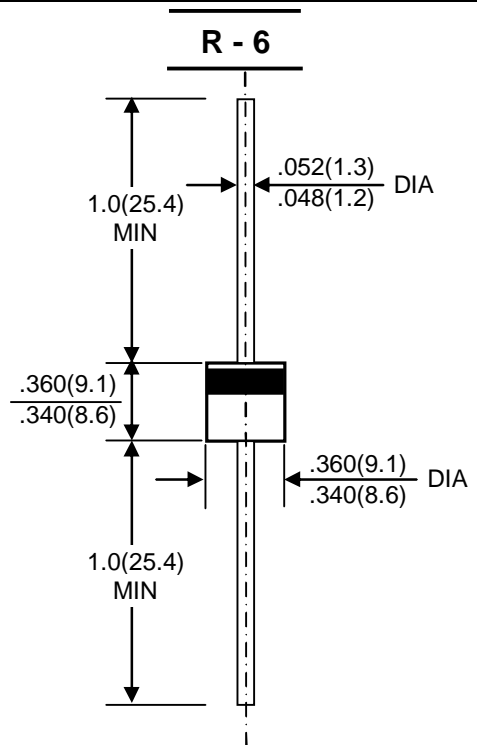
REVERSE VOLTAGE - 5.0 to 180Volts
POWER DISSIPATIO - 5000 Watts

FEATURES

- Glass passivated chip
- low leakage
- Uni and bidirectional unit
- Excellent clamping capability
- Plastic material has UL recognition 94V-0
- Fast response time

MECHANICAL DATA

- Case : Molded Plastic
- Marking : Unidirectional -type number and cathode band
Bidirectional-type number only
- Weight : 0.07ounces, 2.1 grams



Dimensions in inches and(millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| CHARACTERISTICS | SYMBOL | VALUE | UNIT |
|---|--------------------|--------------|-------|
| Peak Power Dissipation at T _A =25°C TP=1ms (NOTE1) | P _{PK} | Minimum 5000 | WATTS |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method) | I _{FSM} | 400 | AMPS |
| Steady State Power Dissipation at T _L =75°C Lead Lengths 0.375"(9.5mm),See Fig. 4 | P _{M(AV)} | 8.0 | WATTS |
| Maximum Instantaneous Forward Voltage at 100A for Unidirectional Devices Only (NOTE2) | V _F | See NOTE 3 | VOLTS |
| Operating Temperature Range | T _J | -55 to + 150 | °C |
| Storage Temperature Range | T _{STG} | -55 to + 175 | °C |

NOTES:1. Non-repetitive current pulse ,per Fig. 5 and derated above T_A=25°C per Fig. 1 .

2. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

3. V_F=3.5V on 5KP5.0 thru 5KP100A devices and V_F=5.0V on 5KP110 thru 5KP180 devices.

FIG.1-PULSE DERATING CURVE

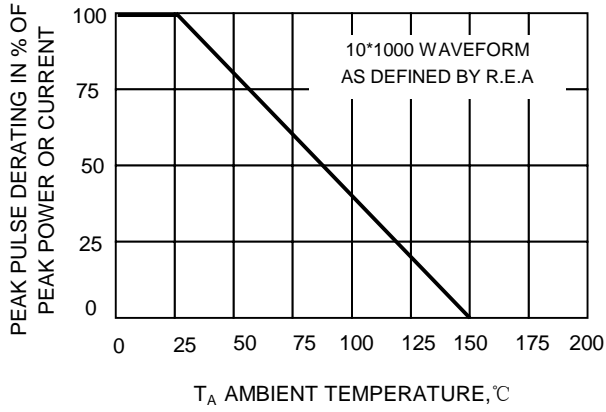


FIG.2-TYPICAL JUNCTION CAPACITANCE

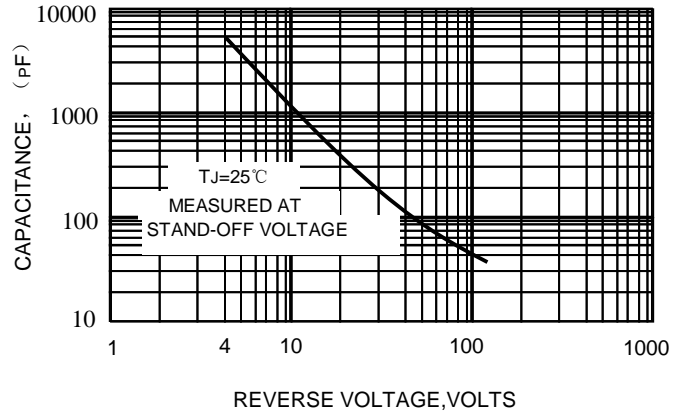


FIG.3-PULSE RATING CURVE

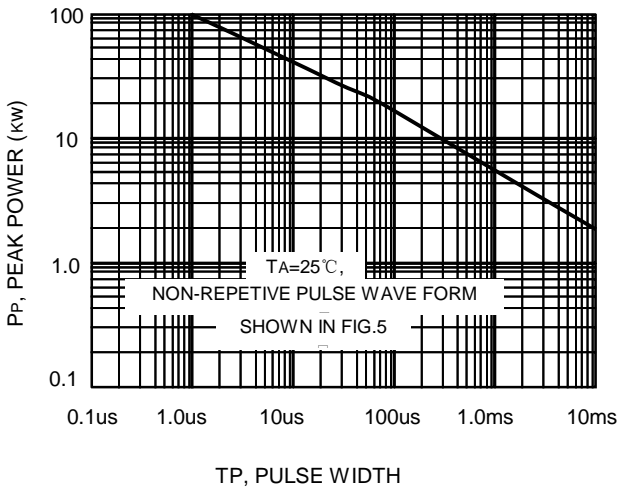


FIG.4-STEADY STATE POWER DERATING CURVE

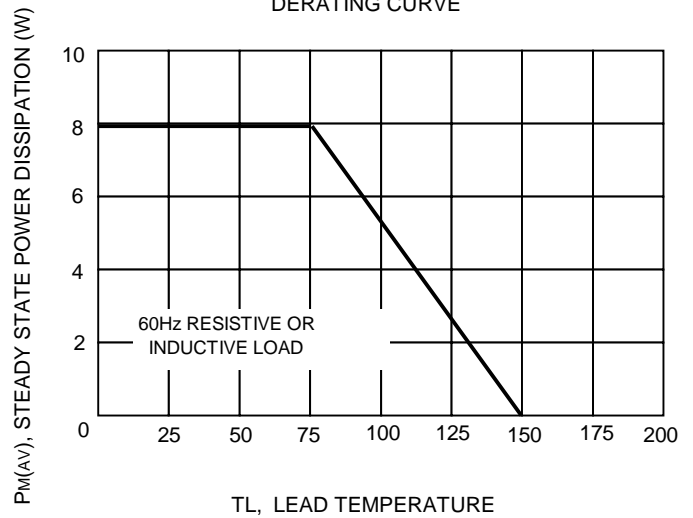
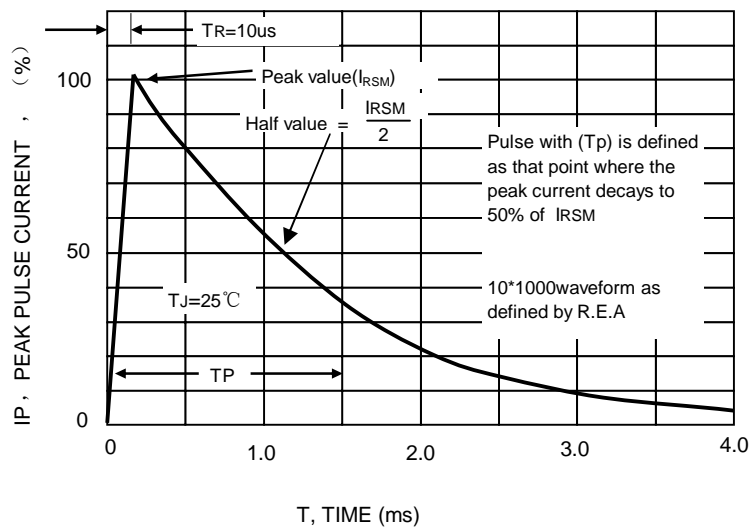


FIG.5 -PULSE WAVEFORM





5KP SERIES

| Type Number | Type Number | Reverse Standoff Voltage | Breakdown Voltage BV Lolts@It | | | Max. Reverse Leakage | Max. Clamping Voltage | Max. Peak Pulse | Max. Voltage Temp. |
|-------------|-------------|--------------------------|-------------------------------|-------|-------|----------------------|-----------------------|-----------------|--------------------|
| | | | (UNI) | (BI) | VR(V) | | | | |
| 5KP5.0 | 5KP5.0C | 5.0 | 6.40 | 7.30 | 50 | 5000 | 9.6 | 520.0 | 4.0 |
| 5KP5.0A | 5KP5.0CA | 5.0 | 6.40 | 7.00 | 50 | 5000 | 9.2 | 543.0 | 4.0 |
| 5KP6.0 | 5KP6.0C | 6.0 | 6.67 | 8.15 | 50 | 5000 | 11.4 | 439.0 | 4.0 |
| 5KP6.0A | 5KP6.0CA | 6.0 | 6.67 | 7.37 | 50 | 5000 | 10.3 | 485.0 | 4.0 |
| 5KP6.5 | 5KP6.5C | 6.5 | 7.22 | 8.82 | 50 | 2000 | 12.3 | 407.0 | 4.0 |
| 5KP6.5A | 5KP6.5CA | 6.5 | 7.22 | 7.98 | 50 | 2000 | 11.2 | 447.0 | 4.0 |
| 5KP7.0 | 5KP7.0C | 7.0 | 7.78 | 9.51 | 50 | 1000 | 13.3 | 378.0 | 5.0 |
| 5KP7.0A | 5KP7.0CA | 7.0 | 7.78 | 8.60 | 50 | 1000 | 12.0 | 417.0 | 5.0 |
| 5KP7.5 | 5KP7.5C | 7.5 | 8.33 | 10.20 | 5.0 | 250 | 14.3 | 350.0 | 6.0 |
| 5KP7.5A | 5KP7.5CA | 7.5 | 8.33 | 9.21 | 5.0 | 250 | 12.9 | 388.0 | 6.0 |
| 5KP8.0 | 5KP8.0C | 8.0 | 8.89 | 10.90 | 5.0 | 150 | 15.0 | 333.0 | 6.0 |
| 5KP8.0A | 5KP8.0CA | 8.0 | 8.89 | 9.83 | 5.0 | 150 | 13.6 | 367.0 | 6.0 |
| 5KP8.5 | 5KP8.5C | 8.5 | 9.44 | 11.50 | 5.0 | 50 | 15.9 | 314.0 | 7.0 |
| 5KP8.5A | 5KP8.5CA | 8.5 | 9.44 | 10.40 | 5.0 | 50 | 14.4 | 347.0 | 7.0 |
| 5KP9.0 | 5KP9.0C | 9.0 | 10.00 | 12.20 | 5.0 | 20 | 16.9 | 295.0 | 8.0 |
| 5KP9.0A | 5KP9.0CA | 9.0 | 10.00 | 11.10 | 5.0 | 20 | 15.4 | 325.0 | 8.0 |
| 5KP10 | 5KP10C | 10.0 | 11.10 | 13.60 | 5.0 | 15 | 18.8 | 266.0 | 9.0 |
| 5KP10A | 5KP10CA | 10.0 | 11.10 | 12.30 | 5.0 | 15 | 17.0 | 294.0 | 9.0 |
| 5KP11 | 5KP11C | 10.7 | 12.20 | 14.90 | 5.0 | 10 | 20.1 | 249.0 | 10.0 |
| 5KP11A | 5KP11CA | 11.2 | 12.20 | 13.50 | 5.0 | 10 | 18.2 | 274.0 | 10.0 |
| 5KP12 | 5KP12C | 11.7 | 13.30 | 16.30 | 5.0 | 10 | 22.0 | 227.0 | 11.0 |
| 5KP12A | 5KP12CA | 12.2 | 13.30 | 14.70 | 5.0 | 10 | 19.9 | 251.0 | 11.0 |
| 5KP13 | 5KP13C | 12.7 | 14.40 | 17.60 | 5.0 | 10 | 23.8 | 210.0 | 12.0 |
| 5KP13A | 5KP13CA | 13.2 | 14.40 | 15.90 | 5.0 | 10 | 21.5 | 232.0 | 12.0 |
| 5KP14 | 5KP14C | 13.7 | 15.60 | 19.10 | 5.0 | 10 | 25.8 | 194.0 | 13.0 |
| 5KP14A | 5KP14CA | 14.2 | 15.60 | 17.20 | 5.0 | 10 | 23.2 | 215.0 | 13.0 |
| 5KP15 | 5KP15C | 14.7 | 16.70 | 20.40 | 5.0 | 10 | 26.9 | 188.0 | 15.0 |
| 5KP15A | 5KP15CA | 15.2 | 16.70 | 18.50 | 5.0 | 10 | 24.4 | 206.0 | 15.0 |
| 5KP16 | 5KP16C | 15.7 | 17.80 | 21.80 | 5.0 | 10 | 28.8 | 176.0 | 18.0 |
| 5KP16A | 5KP16CA | 16.2 | 17.80 | 19.70 | 5.0 | 10 | 26.0 | 192.0 | 16.0 |
| 5KP17 | 5KP17C | 16.7 | 18.90 | 23.10 | 5.0 | 10 | 30.5 | 164.0 | 19.0 |
| 5KP17A | 5KP17CA | 17.2 | 18.90 | 20.90 | 5.0 | 10 | 27.6 | 181.0 | 18.0 |
| 5KP18 | 5KP18C | 17.7 | 20.00 | 24.40 | 5.0 | 10 | 32.2 | 155.0 | 20.0 |
| 5KP18A | 5KP18CA | 18.2 | 20.00 | 22.10 | 5.0 | 10 | 29.2 | 172.0 | 19.0 |
| 5KP20 | 5KP20C | 20.0 | 22.20 | 27.10 | 5.0 | 10 | 35.8 | 139.0 | 24.0 |
| 5KP20A | 5KP20CA | 20.0 | 22.20 | 24.50 | 5.0 | 10 | 32.4 | 154.0 | 22.0 |
| 5KP22 | 5KP22C | 22.0 | 24.40 | 29.80 | 5.0 | 10 | 39.4 | 127.0 | 27.0 |
| 5KP22A | 5KP22CA | 22.0 | 24.40 | 26.90 | 5.0 | 10 | 35.5 | 141.0 | 24.0 |
| 5KP24 | 5KP24C | 24.0 | 26.70 | 32.60 | 5.0 | 10 | 43.0 | 116.0 | 30.0 |
| 5KP24A | 5KP24CA | 24.0 | 26.70 | 29.50 | 5.0 | 10 | 38.9 | 128.0 | 27.0 |
| 5KP26 | 5KP26C | 26.0 | 28.90 | 35.30 | 5.0 | 10 | 46.6 | 107.0 | 33.0 |
| 5KP26A | 5KP26CA | 26.0 | 28.90 | 31.90 | 5.0 | 10 | 42.1 | 119.0 | 29.0 |
| 5KP28 | 5KP28C | 28.0 | 31.10 | 38.00 | 5.0 | 10 | 50.1 | 99.0 | 34.0 |
| 5KP28A | 5KP28CA | 28.0 | 31.10 | 34.40 | 5.0 | 10 | 45.5 | 110.0 | 30.0 |
| 5KP30 | 5KP30C | 30.0 | 33.30 | 40.70 | 5.0 | 10 | 53.5 | 93.0 | 38.0 |
| 5KP30A | 5KP30CA | 30.0 | 33.30 | 36.80 | 5.0 | 10 | 48.4 | 103.0 | 35.0 |

5KP SERIES



| Type Number | Type Number | Reverse Standoff Voltage | Breakdown Voltage BV Lolts@It | | | Max. Reverse Leakage | Max. Clamping Voltage | Max. Peak Pulse | Max. Voltage Temp. |
|-------------|-------------|--------------------------|-------------------------------|--------|-------|----------------------|-----------------------|-----------------|--------------------|
| | | | (UNI) | (BI) | VR(V) | | | | |
| 5KP33 | 5KP33C | 33.00 | 36.70 | 44.90 | 5.0 | 10 | 59.0 | 86.00 | 41 |
| 5KP33A | 5KP33CA | 33.00 | 36.70 | 40.60 | 5.0 | 10 | 53.3 | 94.00 | 38 |
| 5KP36 | 5KP36C | 36.00 | 40.00 | 48.90 | 5.0 | 10 | 64.3 | 78.00 | 45 |
| 5KP36A | 5KP36CA | 36.00 | 40.00 | 44.20 | 5.0 | 10 | 58.1 | 86.00 | 40 |
| 5KP40 | 5KP40C | 40.00 | 44.40 | 54.30 | 5.0 | 10 | 71.4 | 70.00 | 50 |
| 5KP40A | 5KP40CA | 40.00 | 44.40 | 49.10 | 5.0 | 10 | 64.5 | 78.00 | 45 |
| 5KP43 | 5KP43C | 43.00 | 47.80 | 58.40 | 5.0 | 10 | 76.7 | 65.00 | 54 |
| 5KP43A | 5KP43CA | 43.00 | 47.80 | 52.80 | 5.0 | 10 | 69.4 | 72.00 | 49 |
| 5KP45 | 5KP45C | 45.00 | 50.00 | 61.10 | 5.0 | 10 | 80.3 | 62.00 | 57 |
| 5KP45A | 5KP45CA | 45.00 | 50.00 | 55.30 | 5.0 | 10 | 72.7 | 69.00 | 51 |
| 5KP48 | 5KP48C | 48.00 | 53.30 | 65.10 | 5.0 | 10 | 85.5 | 58.00 | 62 |
| 5KP48A | 5KP48CA | 48.00 | 53.30 | 58.90 | 5.0 | 10 | 77.4 | 65.00 | 55 |
| 5KP51 | 5KP51C | 51.00 | 56.70 | 69.30 | 5.0 | 10 | 91.1 | 55.00 | 65 |
| 5KP51A | 5KP51CA | 51.00 | 56.70 | 62.70 | 5.0 | 10 | 82.4 | 61.00 | 60 |
| 5KP54 | 5KP54C | 54.00 | 60.00 | 73.30 | 5.0 | 10 | 96.3 | 52.00 | 70 |
| 5KP54A | 5KP54CA | 54.00 | 60.00 | 66.30 | 5.0 | 10 | 87.1 | 57.00 | 64 |
| 5KP58 | 5KP58C | 58.00 | 64.40 | 78.70 | 5.0 | 10 | 103.0 | 49.00 | 77 |
| 5KP58A | 5KP58CA | 58.00 | 64.40 | 71.20 | 5.0 | 10 | 93.6 | 53.00 | 69 |
| 5KP60 | 5KP60C | 60.00 | 66.70 | 81.50 | 5.0 | 10 | 107.0 | 47.00 | 79 |
| 5KP60A | 5KP60CA | 60.00 | 66.70 | 73.70 | 5.0 | 10 | 96.8 | 52.00 | 70 |
| 5KP64 | 5KP64C | 64.00 | 71.10 | 86.90 | 5.0 | 10 | 114.0 | 44.00 | 85 |
| 5KP64A | 5KP64CA | 64.00 | 71.10 | 78.60 | 5.0 | 10 | 103.0 | 49.00 | 75 |
| 5KP70 | 5KP70C | 70.00 | 77.80 | 95.10 | 5.0 | 10 | 125.0 | 40.00 | 93 |
| 5KP70A | 5KP70CA | 70.00 | 77.80 | 86.00 | 5.0 | 10 | 113.0 | 44.00 | 84 |
| 5KP75 | 5KP75C | 75.00 | 83.30 | 102.00 | 5.0 | 10 | 134.0 | 37.00 | 100 |
| 5KP75A | 5KP75CA | 75.00 | 83.30 | 92.10 | 5.0 | 10 | 121.0 | 41.00 | 90 |
| 5KP78 | 5KP78C | 78.00 | 86.70 | 106.00 | 5.0 | 10 | 139.0 | 36.00 | 104 |
| 5KP78A | 5KP78CA | 78.00 | 86.70 | 95.80 | 5.0 | 10 | 126.0 | 40.00 | 94 |
| 5KP85 | 5KP85C | 85.00 | 94.40 | 115.00 | 5.0 | 10 | 151.0 | 33.00 | 113 |
| 5KP85A | 5KP85CA | 85.00 | 94.40 | 104.00 | 5.0 | 10 | 137.0 | 36.00 | 102 |
| 5KP90 | 5KP90C | 90.00 | 100.00 | 122.00 | 5.0 | 10 | 160.0 | 31.00 | 120 |
| 5KP90A | 5KP90CA | 90.00 | 100.00 | 111.00 | 5.0 | 10 | 146.0 | 34.00 | 109 |
| 5KP100 | 5KP100C | 100.00 | 111.00 | 136.00 | 5.0 | 10 | 179.0 | 28.00 | 134 |
| 5KP110 | 5KP110C | 110.00 | 122.00 | 149.00 | 5.0 | 10 | 196.0 | 26.00 | 147 |
| 5KP120 | 5KP120C | 120.00 | 133.00 | 163.00 | 5.0 | 10 | 215.0 | 23.00 | 158 |
| 5KP150 | 5KP150C | 150.00 | 166.00 | 204.00 | 5.0 | 10 | 268.0 | 18.50 | 200 |
| 5KP180 | 5KP180C | 180.00 | 200.00 | 244.00 | 5.0 | 10 | 320.0 | 15.00 | 240 |

NOTES: Suffix'C' denotes bidirectional device . Suffix'A' denotes 5% tolerance device .no suffix denotes 10% tolerance device .

1. For bidirectional devices having VR of 10volts and under ,the IR limit is doubled .