

GLASS PASSIVATED UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE - **6.8 to 550** Volts
POWER DISSIPATION - **600** WATTS

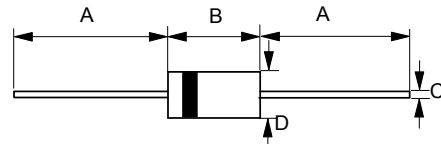
FEATURES

- Glass passivated chip
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- The plastic material has U/L recognition 94V-0
- Fast response time

MECHANICAL DATA

- Case : Molded Plastic
- Marking : Unidirectional - type number and cathode band Bidirectional - type number only
- Weight : 0.4 grams

DO-15



| DO-15 | | |
|------------------------------|--------------------|--------------------|
| Dim. | Min. | Max. |
| A | 25.4 | - |
| B | 5.80 | 7.60 |
| C | 0.71 \varnothing | 0.86 \varnothing |
| D | 2.60 \varnothing | 3.60 \varnothing |
| All Dimensions in millimeter | | |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS | SYMBOLS | VALUE | UNIT |
|--|---|----------------|-------|
| PEAK POWER DISSIPATION AT TA = 25°C, TP = 1ms (Note 1) | PPK | 600 | WATTS |
| Peak Forward Surge Current 8.3ms single half sine-wave @ TA = 25°C (Note 2) | IFSM | 100 | AMPS. |
| Steady State Power Dissipation at TL =100°C on infinite heatsink | PM(AV) | 5.0 | WATTS |
| Maximum Instantaneous forward voltage at 50A for unidirectional devices only | VF | SEE NOTE 3 | Volts |
| Typical Thermal Resistance (Note 4) | R θ JC R θ JL R θ JA | 20 15 50 | °C/W |
| Operating Temperature Range | TJ | -55 to +175 | °C |
| Storage Temperature Range | TSTG | -55 to +175 | °C |

- NOTES : 1. Non-repetitive current pulse, per fig. 5 and derated above TJ= 25°C per fig. 1
 2. 8.3ms single half sine-wave duty cycle= 4 pulses per minutes maximum (uni-directional units only).
 3. VF= 3.5V on P6KE6.8A thru P6KE200A devices and VF= 5.0V on P6KE220A thru P6KE550A devices.
 4. Thermal Resistance Junction to Case, Lead and Ambient.

REV. 11, Oct-2010, KDID02

FIG.1 - PULSE DERATING CURVE

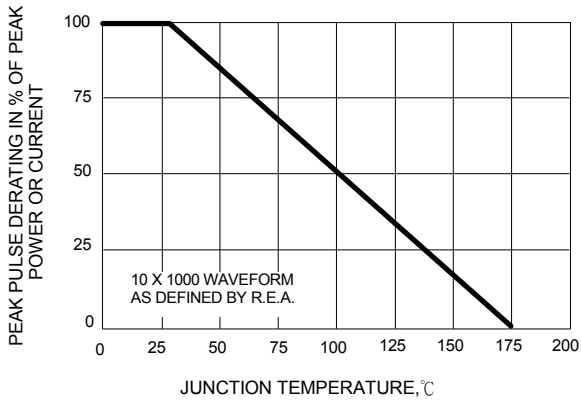


FIG.2 - TYPICAL JUNCTION CAPACITANCE

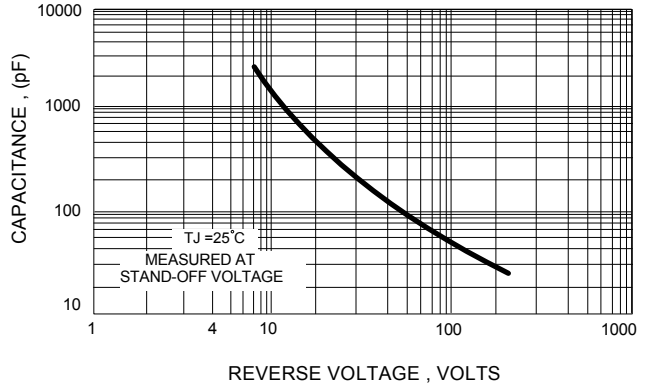


FIG.3 - PULSE RATING CURVE

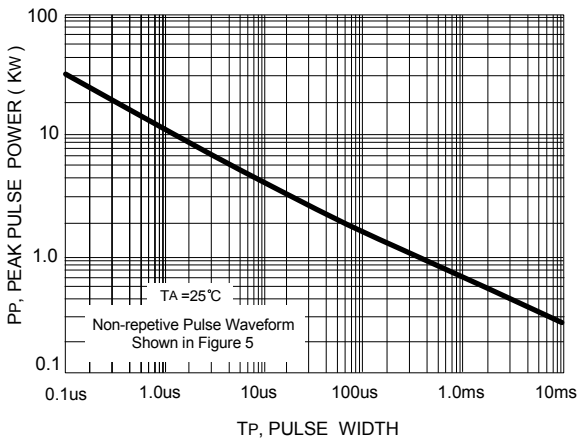


FIG.4 - STEADY STATE POWER DERATING CURVE

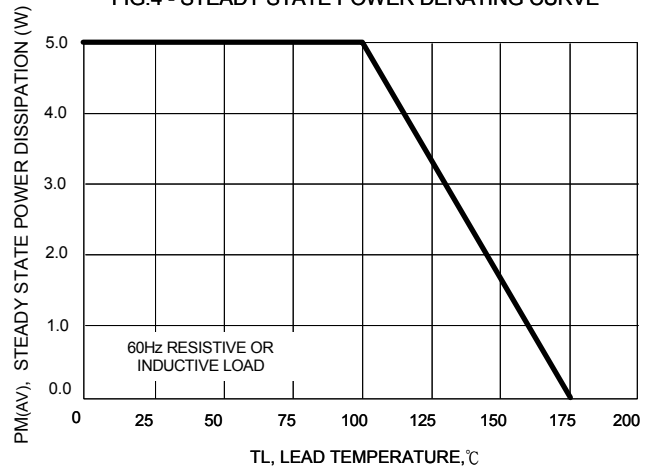
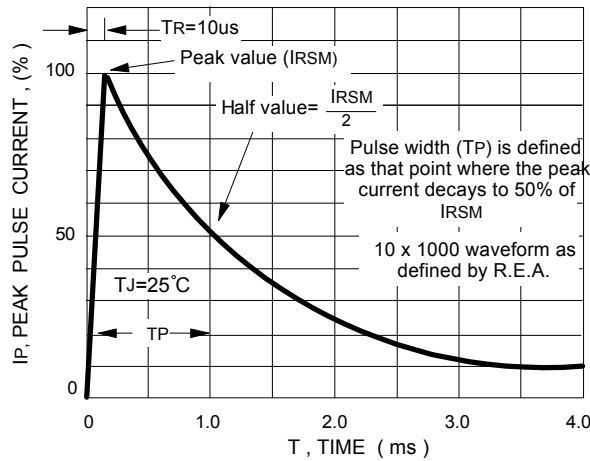


FIG.5 - PULSE WAVEFORM



| Type Number | Type Number | Reverse Standoff Voltage | Breakdown Voltage BV Volts @It | | | Max. Reverse Leakage @VR | Max. Peak Pulse Current | Max. Clamping Voltage @Ipp | Max. Voltage Temp. Variation of Bv |
|-------------|-------------|--------------------------|--------------------------------|-------|--------|--------------------------|-------------------------|----------------------------|------------------------------------|
| | | | (UNI) | (BI) | VR (V) | | | | |
| P6KE6.8A | P6KE6.8CA | 5.8 | 6.45 | 7.13 | 10 | 1000 | 57.1 | 10.5 | 0.057 |
| P6KE7.5A | P6KE7.5CA | 6.4 | 7.13 | 7.88 | 10 | 500 | 53.1 | 11.3 | 0.061 |
| P6KE8.2A | P6KE8.2CA | 7.0 | 7.79 | 8.61 | 10 | 200 | 49.6 | 12.1 | 0.065 |
| P6KE9.1A | P6KE9.1CA | 7.8 | 8.65 | 9.56 | 1 | 50 | 44.8 | 13.4 | 0.068 |
| P6KE10A | P6KE10CA | 8.6 | 9.50 | 10.50 | 1 | 10 | 41.4 | 14.5 | 0.073 |
| P6KE11A | P6KE11CA | 9.4 | 10.5 | 11.6 | 1 | 5 | 38.5 | 15.6 | 0.075 |
| P6KE12A | P6KE12CA | 10.2 | 11.4 | 12.6 | 1 | 5 | 35.9 | 16.7 | 0.078 |
| P6KE13A | P6KE13CA | 11.1 | 12.4 | 13.7 | 1 | 5 | 33.0 | 18.2 | 0.081 |
| P6KE15A | P6KE15CA | 12.8 | 14.3 | 15.8 | 1 | 5 | 28.3 | 21.2 | 0.084 |
| P6KE16A | P6KE16CA | 13.6 | 15.2 | 16.8 | 1 | 5 | 26.7 | 22.5 | 0.086 |
| P6KE18A | P6KE18CA | 15.3 | 17.1 | 18.9 | 1 | 5 | 23.8 | 25.2 | 0.088 |
| P6KE20A | P6KE20CA | 17.1 | 19.0 | 21.0 | 1 | 5 | 21.7 | 27.7 | 0.090 |
| P6KE22A | P6KE22CA | 18.8 | 20.9 | 23.1 | 1 | 5 | 19.6 | 30.6 | 0.092 |
| P6KE24A | P6KE24CA | 20.5 | 22.8 | 25.2 | 1 | 5 | 18.1 | 33.2 | 0.094 |
| P6KE27A | P6KE27CA | 23.1 | 25.7 | 28.4 | 1 | 5 | 16.0 | 37.5 | 0.096 |
| P6KE30A | P6KE30CA | 25.6 | 28.5 | 31.5 | 1 | 5 | 14.5 | 41.4 | 0.097 |
| P6KE33A | P6KE33CA | 28.2 | 31.4 | 34.7 | 1 | 5 | 13.1 | 45.7 | 0.098 |
| P6KE36A | P6KE36CA | 30.8 | 34.2 | 37.8 | 1 | 5 | 12.0 | 49.9 | 0.099 |
| P6KE39A | P6KE39CA | 33.3 | 37.1 | 41.0 | 1 | 5 | 11.1 | 53.9 | 0.100 |
| P6KE43A | P6KE43CA | 36.8 | 40.9 | 45.2 | 1 | 5 | 10.1 | 59.3 | 0.101 |
| P6KE47A | P6KE47CA | 40.2 | 44.7 | 49.4 | 1 | 5 | 9.3 | 64.8 | 0.101 |
| P6KE51A | P6KE51CA | 43.6 | 48.5 | 53.6 | 1 | 5 | 8.6 | 70.1 | 0.102 |
| P6KE56A | P6KE56CA | 47.8 | 53.2 | 58.8 | 1 | 5 | 7.8 | 77.0 | 0.103 |
| P6KE62A | P6KE62CA | 53.0 | 58.9 | 65.1 | 1 | 5 | 7.1 | 85.0 | 0.104 |
| P6KE68A | P6KE68CA | 58.1 | 64.6 | 71.4 | 1 | 5 | 6.5 | 92.0 | 0.104 |
| P6KE75A | P6KE75CA | 64.7 | 71.3 | 78.8 | 1 | 5 | 5.8 | 103.0 | 0.105 |
| P6KE82A | P6KE82CA | 70.1 | 77.9 | 86.1 | 1 | 5 | 5.3 | 113.0 | 0.105 |
| P6KE91A | P6KE91CA | 77.8 | 86.5 | 95.6 | 1 | 5 | 4.8 | 125.0 | 0.106 |
| P6KE100A | P6KE100CA | 85.5 | 95.0 | 105.0 | 1 | 5 | 4.4 | 137.0 | 0.106 |
| P6KE110A | P6KE110CA | 94.0 | 105.0 | 116.1 | 1 | 5 | 3.9 | 152.0 | 0.107 |
| P6KE120A | P6KE120CA | 102.0 | 114.0 | 126.0 | 1 | 5 | 3.6 | 165.0 | 0.107 |
| P6KE130A | P6KE130CA | 111.0 | 124.0 | 137.1 | 1 | 5 | 3.4 | 179.0 | 0.107 |
| P6KE150A | P6KE150CA | 128.0 | 143.0 | 158.1 | 1 | 5 | 2.9 | 207.0 | 0.108 |
| P6KE160A | P6KE160CA | 136.0 | 152.0 | 168.0 | 1 | 5 | 2.7 | 219.0 | 0.108 |
| P6KE170A | P6KE170CA | 145.0 | 162.0 | 179.1 | 1 | 5 | 2.6 | 234.0 | 0.108 |
| P6KE180A | P6KE180CA | 154.0 | 171.0 | 189.0 | 1 | 5 | 2.4 | 246.0 | 0.108 |
| P6KE200A | P6KE200CA | 171.0 | 190.0 | 210.0 | 1 | 5 | 2.2 | 274.0 | 0.108 |
| P6KE220A | P6KE220CA | 185.0 | 209.0 | 231.0 | 1 | 5 | 1.8 | 328.0 | 0.108 |
| P6KE250A | P6KE250CA | 214.0 | 237.0 | 262.0 | 1 | 5 | 1.7 | 344.0 | 0.110 |
| P6KE300A | P6KE300CA | 256.0 | 285.0 | 315.0 | 1 | 5 | 1.4 | 414.0 | 0.110 |
| P6KE350A | P6KE350CA | 300.0 | 332.0 | 367.0 | 1 | 5 | 1.2 | 482.0 | 0.110 |
| P6KE400A | P6KE400CA | 342.0 | 380.0 | 420.0 | 1 | 5 | 1.1 | 548.0 | 0.110 |
| P6KE440A | P6KE440CA | 376.0 | 418.0 | 462.0 | 1 | 5 | 1.0 | 600.0 | 0.110 |
| P6KE550A | P6KE550CA | 467.5 | 522.5 | 577.5 | 1 | 4 | 0.80 | 753.5 | 0.113 |

NOTE :

Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device.

1. For bidirectional devices having VR of 10 volts and under, the IR limit is doubled .
2. For unidirectional devices P6KE6.8A to P6KE200A, VFmax = 3.5V at IF=50A 300us square wave pulse.
For unidirectional devices P6KE220A to P6KE550A, VFmax = 5.0V at IF=50A 300us square wave pulse.

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