

600 Watt Peak Power Transient Voltage Suppressors

Reverse Stand-off Voltage 6.8 to 550 V



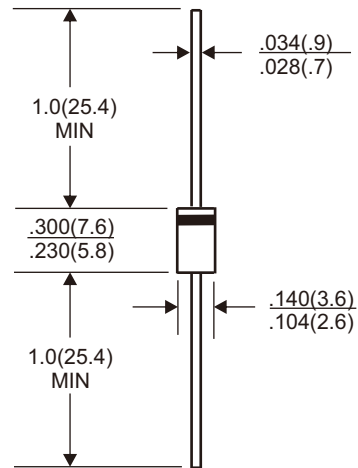
Features

- 600 Watts surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0ps from 0 Volt to 8 Volt min.
- Typical IR less than 1μA above 10 V
- High temperature soldering guaranteed 265°C/10 seconds at 5 lbs (2.3kg) tension

Mechanical Data

Case: Molded plastic
 Terminals: Solder plated solderable per MIL-STD-202, Method 208
 Polarity: Cathode band
 Mounting Position: Any
 Weight: 0.4grams (approx)

DO-15



All dimensions inches and (millimeters)

Maximum Ratings & Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz. For Capacitive load derate current by 20%.

| Ratings | Symble | Value | Unit |
|--|--------|------------|------|
| Minimum Peak Power Dissipation at TA = 25° C, TP = 1ms(Note 1) | PPK | 600 | W |
| Steady State Power Dissipation at TL = 75° C Lead Length .375"(9.5mm)(Note 2) | PD | 5.0 | W |
| Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load(JEDEC method)(Note 3) | IFSM | 100 | A |
| Maximum instantaneous forward voltage at 50 A for uni-directional only (Note 4) | VF | 3.5/5.0 | V |
| Operating and Storage Temperature Range | Tj, Ts | -55 to 175 | °C |

Notes:

1. Non-repetitive current pulse per fig.3 and derated above TA = 25° C per fig.2
2. Mounted on copper pad area 1.6"X1.6"(40mmX40mm) per fig.5
3. 8.3ms single half sine-wave,duty cycle=4pulses per minute maximum.
4. VF = 3.5 V for P6KE220A and below; VF = 5.0 V for P6KE250A and above.

P6KE / 600 W Axial Lead TVS

| Part Number | | Reverse Stand-off Voltage V _{RWM} (V) | Breakdown Voltage V _{BR} (V) Min.@I _T | Breakdown Voltage V _{BR} (V) Max.@I _T | Test Current I _T (mA) | Maximum Clamping Voltage @I _{PP} V _c (V) | Peak Pulse Current I _{PP} (A) | Reverse Leakage @ V _{RWM} I _R (μA) |
|-------------|-----------|---|---|---|--|---|---|--|
| UNI-POLAR | BI-POLAR | | | | | | | |
| P6KE6.8A | P6KE6.8CA | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 58.1 | 1000 |
| P6KE7.5A | P6KE7.5CA | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 54.0 | 500 |
| P6KE8.2A | P6KE8.2CA | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 50.4 | 200 |
| P6KE9.1A | P6KE9.1CA | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 45.5 | 50 |
| P6KE10A | P6KE10CA | 8.55 | 9.50 | 10.50 | 1 | 14.5 | 42.1 | 10 |
| P6KE11A | P6KE11CA | 9.40 | 10.50 | 11.60 | 1 | 15.6 | 39.1 | 5 |
| P6KE12A | P6KE12CA | 10.20 | 11.40 | 12.60 | 1 | 16.7 | 36.5 | 5 |
| P6KE13A | P6KE13CA | 11.10 | 12.40 | 13.70 | 1 | 18.2 | 33.5 | 5 |
| P6KE15A | P6KE15CA | 12.80 | 14.30 | 15.80 | 1 | 21.2 | 28.8 | 5 |
| P6KE16A | P6KE16CA | 13.60 | 15.20 | 16.80 | 1 | 22.5 | 27.1 | 5 |
| P6KE18A | P6KE18CA | 15.30 | 17.10 | 18.90 | 1 | 25.2 | 24.2 | 5 |
| P6KE20A | P6KE20CA | 17.10 | 19.00 | 21.00 | 1 | 27.7 | 22.0 | 5 |
| P6KE22A | P6KE22CA | 18.80 | 20.90 | 23.10 | 1 | 30.6 | 19.9 | 5 |
| P6KE24A | P6KE24CA | 20.50 | 22.80 | 25.20 | 1 | 33.2 | 18.4 | 5 |
| P6KE27A | P6KE27CA | 23.10 | 25.70 | 28.40 | 1 | 37.5 | 16.3 | 5 |
| P6KE30A | P6KE30CA | 25.60 | 28.50 | 31.50 | 1 | 41.4 | 14.7 | 5 |
| P6KE33A | P6KE33CA | 28.20 | 31.40 | 34.70 | 1 | 45.7 | 13.3 | 5 |
| P6KE36A | P6KE36CA | 30.80 | 34.20 | 37.80 | 1 | 49.9 | 12.2 | 5 |
| P6KE39A | P6KE39CA | 33.30 | 37.10 | 41.00 | 1 | 53.9 | 11.3 | 5 |
| P6KE43A | P6KE43CA | 36.80 | 40.90 | 45.20 | 1 | 59.3 | 10.3 | 5 |
| P6KE47A | P6KE47CA | 40.20 | 44.70 | 49.40 | 1 | 64.8 | 9.4 | 5 |
| P6KE51A | P6KE51CA | 43.60 | 48.50 | 53.60 | 1 | 70.1 | 8.7 | 5 |
| P6KE56A | P6KE56CA | 47.80 | 53.20 | 58.80 | 1 | 77.0 | 7.9 | 5 |
| P6KE62A | P6KE62CA | 53.00 | 58.90 | 65.10 | 1 | 85.0 | 7.2 | 5 |
| P6KE68A | P6KE68CA | 58.10 | 64.60 | 71.40 | 1 | 92.0 | 6.6 | 5 |
| P6KE75A | P6KE75CA | 64.10 | 71.30 | 78.80 | 1 | 103.0 | 5.9 | 5 |
| P6KE82A | P6KE82CA | 70.10 | 77.90 | 86.10 | 1 | 113.0 | 5.4 | 5 |
| P6KE91A | P6KE91CA | 77.80 | 86.50 | 95.50 | 1 | 125.0 | 4.9 | 5 |
| P6KE100A | P6KE100CA | 85.50 | 95.00 | 105.00 | 1 | 137.0 | 4.5 | 5 |
| P6KE110A | P6KE110CA | 94.00 | 105.00 | 116.00 | 1 | 152.0 | 4.0 | 5 |
| P6KE120A | P6KE120CA | 102.00 | 114.00 | 126.00 | 1 | 165.0 | 3.7 | 5 |
| P6KE130A | P6KE130CA | 111.00 | 124.00 | 137.00 | 1 | 179.0 | 3.4 | 5 |
| P6KE150A | P6KE150CA | 128.00 | 143.00 | 158.00 | 1 | 207.0 | 2.9 | 5 |
| P6KE160A | P6KE160CA | 136.00 | 152.00 | 168.00 | 1 | 219.0 | 2.8 | 5 |
| P6KE170A | P6KE170CA | 145.00 | 162.00 | 179.00 | 1 | 234.0 | 2.6 | 5 |
| P6KE180A | P6KE180CA | 154.00 | 171.00 | 189.00 | 1 | 246.0 | 2.5 | 5 |
| P6KE200A | P6KE200CA | 171.00 | 190.00 | 210.00 | 1 | 274.0 | 2.2 | 5 |
| P6KE220A | P6KE220CA | 185.00 | 209.00 | 231.00 | 1 | 328.0 | 1.9 | 5 |
| P6KE250A | P6KE250CA | 214.00 | 237.00 | 263.00 | 1 | 344.0 | 1.8 | 5 |
| P6KE300A | P6KE300CA | 256.00 | 285.00 | 315.00 | 1 | 414.0 | 1.5 | 5 |
| P6KE350A | P6KE350CA | 300.00 | 332.00 | 368.00 | 1 | 482.0 | 1.3 | 5 |
| P6KE400A | P6KE400CA | 342.00 | 380.00 | 420.00 | 1 | 548.0 | 1.1 | 5 |
| P6KE440A | P6KE440CA | 376.00 | 418.00 | 462.00 | 1 | 602.0 | 1.0 | 5 |
| P6KE480A | P6KE480CA | 408.00 | 456.00 | 504.00 | 1 | 658.0 | 0.9 | 5 |
| P6KE510A | P6KE510CA | 434.00 | 485.00 | 535.00 | 1 | 698.0 | 0.9 | 5 |
| P6KE530A | P6KE530CA | 450.00 | 503.50 | 556.50 | 1 | 725.0 | 0.8 | 5 |
| P6KE540A | P6KE540CA | 459.00 | 513.00 | 567.00 | 1 | 740.0 | 0.8 | 5 |
| P6KE550A | P6KE550CA | 467.00 | 522.50 | 577.50 | 1 | 760.0 | 0.8 | 5 |

Rating and Characteristic Curves ($T_A=25^\circ\text{C}$ Unless otherwise noted)

P6KE Series

Fig. 1 Peak Pulse Power Derating Curve

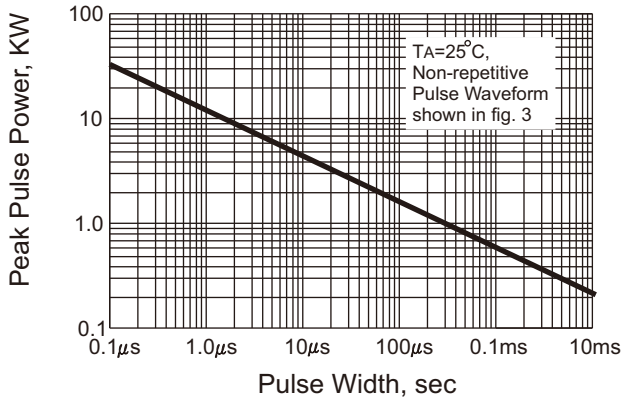


Fig. 2 Pulse Derating Curve

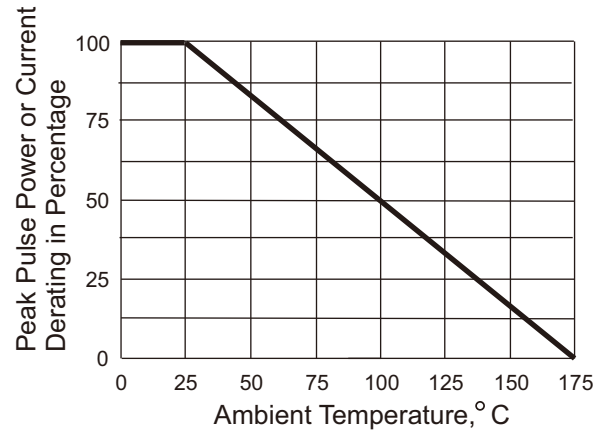


Fig. 3 Pulse Wave Form

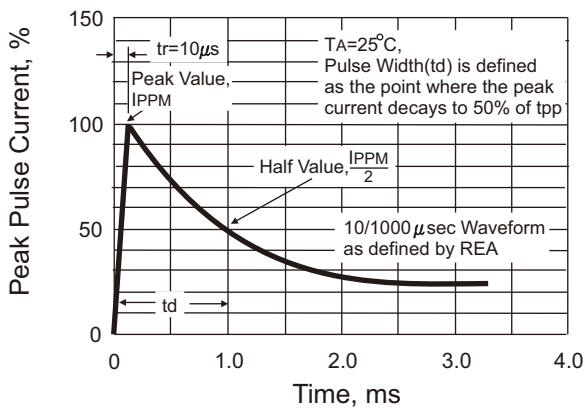


Fig. 4 Typical Junction Capacitance

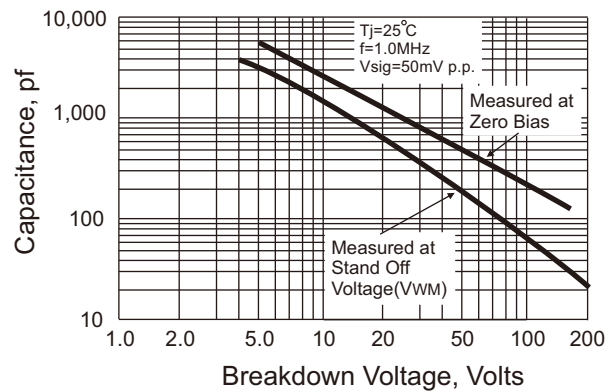


Fig. 5 Steady State Power Derating Curve

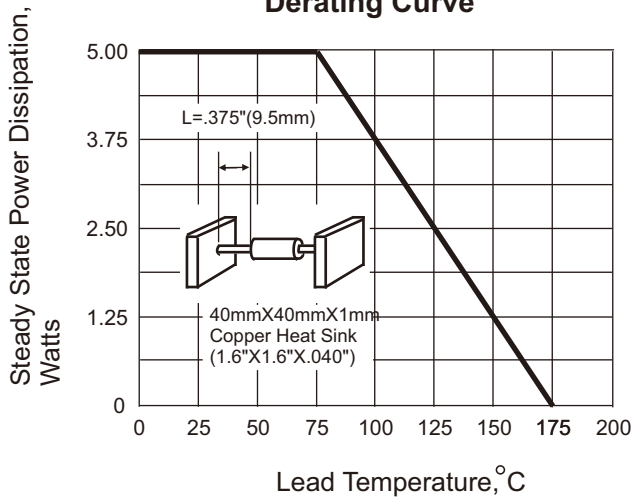


Fig. 6 Maximum Non-repetitive Peak Forward Surge current, unidirectional

