

600W Transient Voltage Suppressors

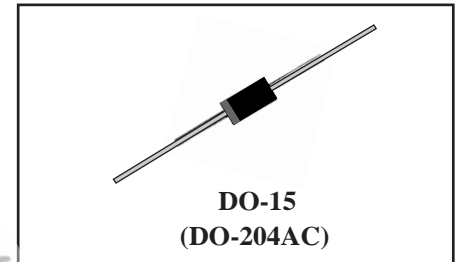
Feature:

- * 600 Watt Peak Power Dissipation
- * Glass Passivated Die Construction
- * Excellent Clamping Capability Fast Response Time
- * High Temperat Soldering Guaranteed : $265^{\circ}\text{C}/10\text{ sec}/.375''$
(9.5mm) Lead Length, 51bs., (2.3kg) Tension.

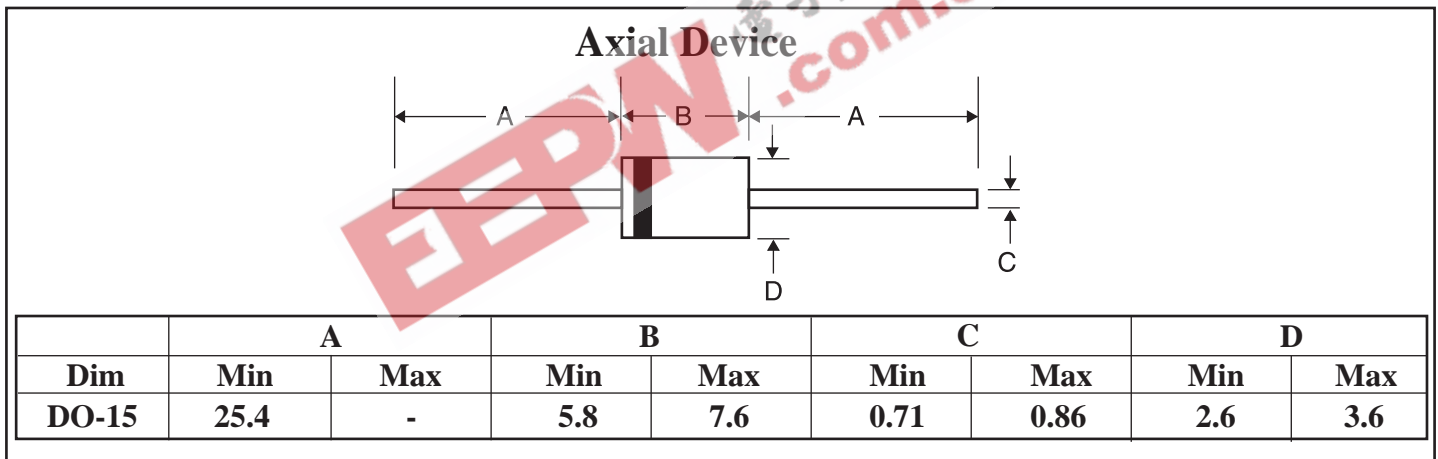
**Peak Pulse Power
600 Watt
Stand-off Voltage
6.8 To 440 VOLTS**

Mechanical Data

- * Case: JEDEC DO-15 molded Plastic.
- * Terminals: Axial Leads, Solderable per MIL-STD-750, Method 2026
- * Polarity: Color Band Denotes Cathode Except Bipolar
- * Mounting Position: Any
- * Weight: 0.4grams(approx), 0.015ounce.



DO-15 Outline Dimensions



Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise Noted)

| Characteristics | Symbol | Value | Unit |
|---|----------------|-------------|--------------------|
| Peak Pulse Power Dissipation at $T_A=25^{\circ}\text{C}$, $t_p=1.0\text{ ms}^{(1)}$ | P_{PPM} | 600 | W |
| Steady State Power Dissipation at $T_L=75^{\circ}\text{C}$ Lead Lengths .375"(9.5mm) ⁽¹⁾ | $P_{M(AV)}$ | 5 | W |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave, Superimposed on Rated Load(JEDEC Method) ⁽³⁾ | I_{FSM} | 100 | A |
| Operating and Storage Junction Temperature Range | T_J, T_{STG} | -55 to -175 | $^{\circ}\text{C}$ |

NOTE: 1. Non-Repetitive Current Pulse, per Fig3 and Derated above $T_A=25^{\circ}\text{C}$ per Fig2

2. Mounted on Copper Pads Area of $1.6 \times 1.6''$ ($40 \times 40\text{mm}$) per FIG.5.

3. 8.3ms Single Half Sine-Wave, or equivalent Square Wave, Duty Cycle=4 pulses per minutes Maximum.

**P6KE 6.8 (C)A thru
P6KE 440(C)A**



Electrical Characteristics

| P6KE 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} $I_R(\mu A)$ |
|---------------------|-----------|---|---|---|-------------------------------|---|---|---|
| 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 |

For bidirectional type having V_{RWM} of 10 volts and less, the IR limit is double.
For parts without A , the V_{BR} is $\pm 10\%$

FIG.1- PEAK PULSE POWER RATING CURVE

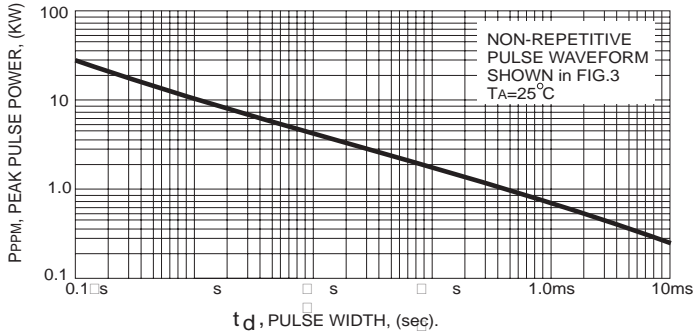


FIG.2- PULSE DERATING CURVE



FIG.3- PULSE WAVEFORM



FIG.4- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

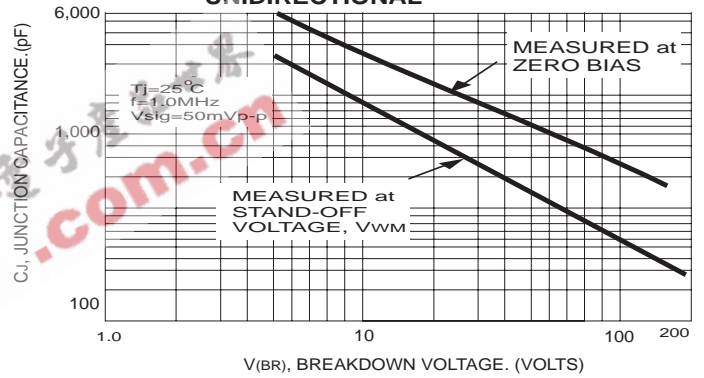


FIG.5- STEADY STATE POWER DERATING CURVE

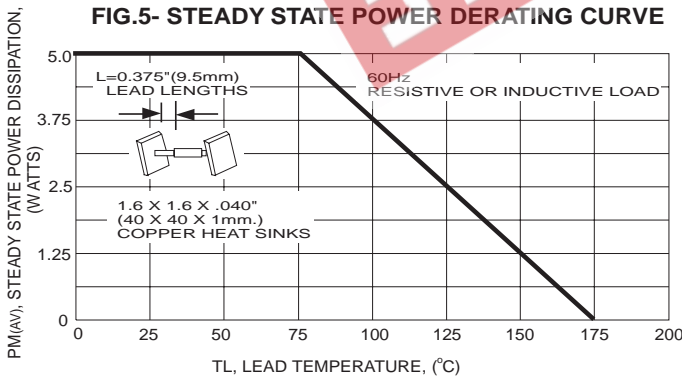


FIG.6- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

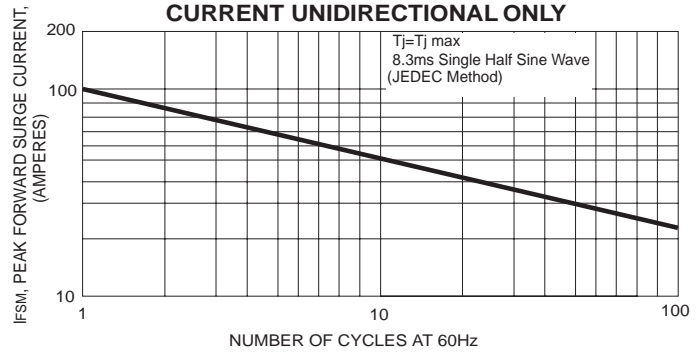


FIG.7- TYPICAL REVERSE LEAKAGE CHARACTERISTICS

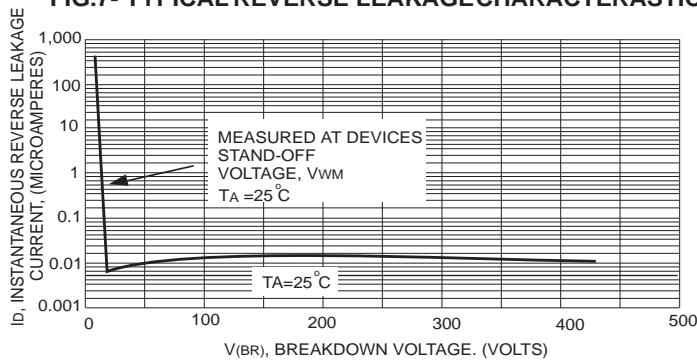


FIG.8 - TYP. TRANSIENT THERMAL IMPEDANCE

