



# P6KE6.8(C)A THRU P6KE440(C)A

## TRANSIENT VOLTAGE SUPPRESSOR

Stand - Off Voltage - 6.8 to 440 Volts    Peak Pulse Power - 600 Watt

### FEATURES

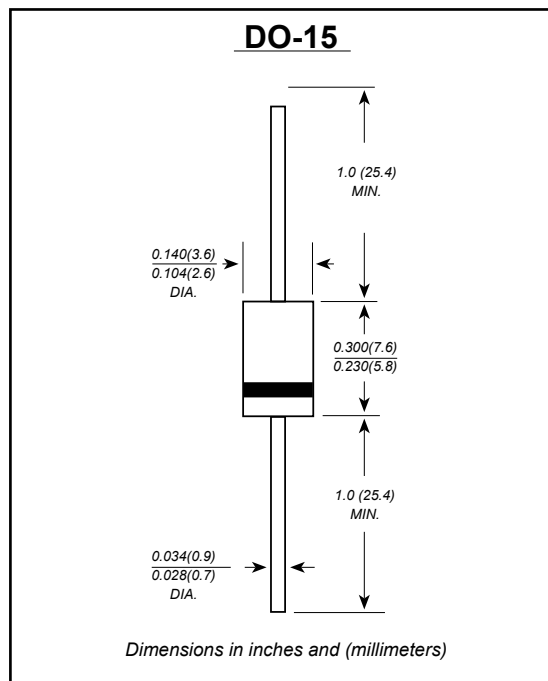
- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- High Temperat Soldering Guaranteed : 265 C/10 sec/.375." (9.5mm) Lead Length, 51bs., (2.3kg) Tension

### MECHANICAL DATA

- Case: JEDEC DO-15 molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band Except Bi-Directional
- Marking: Any
- Weight: 0.4grams(approx), 0.015ounce



"C" Suffix Designates Bi-directional Devices  
"A" Suffix Designates 5% Tolerance Devices  
No Suffix Designates 10% Tolerance Devices



### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic                                                                                               | Symbol                            | Value       | Unit |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|------|
| Peak Pulse Power Dissipation 10/1000μS Waveform (Note 1, 2) Figure 3                                         | PPPM                              | 600 Minimum | W    |
| Peak Pulse Current on 10/1000μS Waveform (Note 1) Figure 4                                                   | IPPM                              | See Table 1 | A    |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3) | IFSM                              | 100         | A    |
| Operating and Storage Temperature Range                                                                      | T <sub>J</sub> , T <sub>STG</sub> | -55 to +175 | °C   |

Note: 1. Non-repetitive current pulse per Figure 4 and derated above T<sub>A</sub> = 25°C per Figure 1.  
2. Mounted on 5.0mm<sup>2</sup> (0.013mm thick) land area.  
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.



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### Electrical Characteristics

| P6KE<br>PART NUMBER |           | REVERSE<br>STAND-OFF<br>VOLTAGE<br>$V_{RWM}(V)$ | BREAKDOWN<br>VOLTAGE<br>$V_{BR}(V)$<br>MIN.@ $I_T$ | BREAKDOWN<br>VOLTAGE<br>$V_{BR}(V)$<br>MAX.@ $I_T$ | TEST<br>CURRENT<br>$I_T (mA)$ | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@ $I_{pp} V_C(V)$ | PEAK<br>PULSE<br>CURRENT<br>$I_{pp}(A)$ | REVERSE<br>LEAKAGE<br>@ $V_{RWM}$<br>$I_R(\mu A)$ |
|---------------------|-----------|-------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------|-----------------------------------------------------|-----------------------------------------|---------------------------------------------------|
| 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                                                 |



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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- PEAK PULSE POWER RATING CURVE

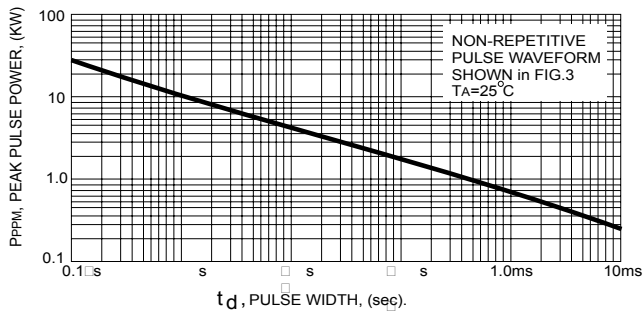


FIG.2- PULSE DERATING CURVE

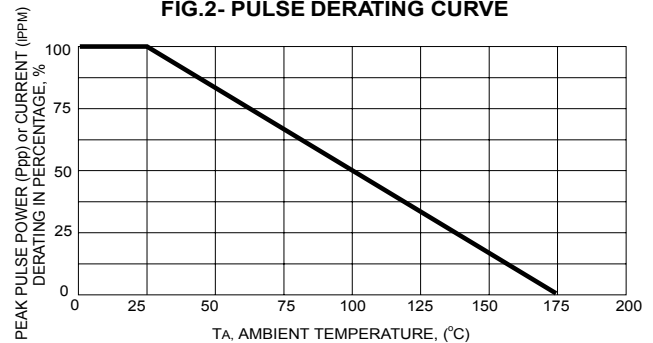


FIG.3- PULSE WAVEFORM

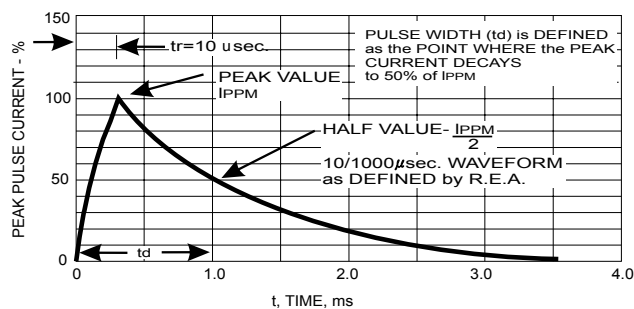


FIG.4- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

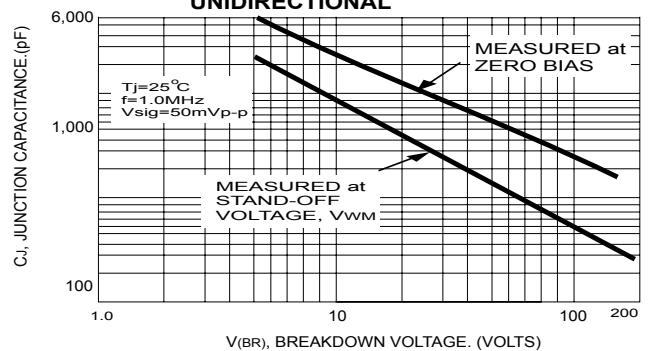


FIG.5- STEADY STATE POWER DERATING CURVE

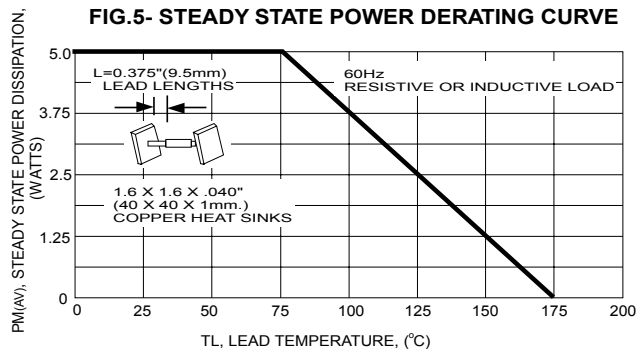


FIG.6- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

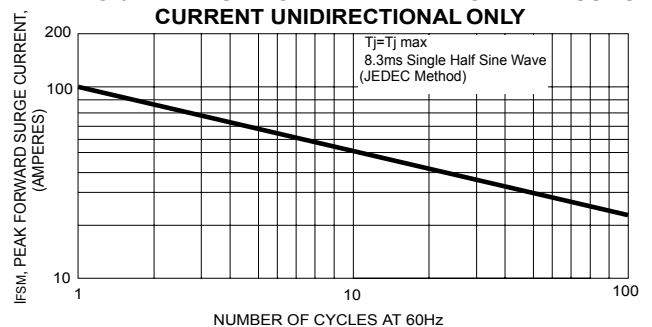


FIG.7- TYPICAL REVERSE LEAKAGE CHARACTERISTICS

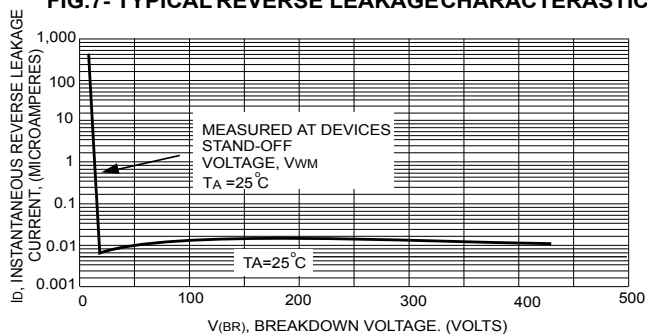


FIG.8 - TYP. TRANSIENT THERMAL IMPEDANCE

