



### 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 BV min.
- \* Typical  $I_R$  less than  $1\mu A$  above 10V
- \* High temperature soldering guaranteed:  $260^\circ C$  / 10 seconds / .375"(9.5mm) lead length, 5lbs.(2.3kg) tension

### MECHANICAL DATA

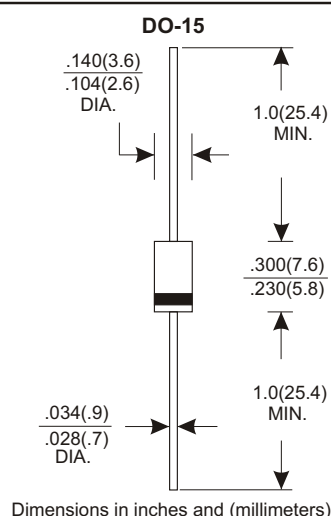
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.40 grams

### VOLTAGE RANGE

480 to 600 Volts

600 Watts Peak Power

5.0 Watts Steady State



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating  $25^\circ C$  ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| RATINGS                                                                                                      | SYMBOL         | VALUE       | UNITS      |
|--------------------------------------------------------------------------------------------------------------|----------------|-------------|------------|
| Peak Power Dissipation at $T_A=25^\circ C$ , $T_P=1ms$ (NOTE 1)                                              | $P_{PK}$       | Minimum 600 | Watts      |
| Steady State Power Dissipation at $T_L=75^\circ C$                                                           | $P_D$          | 5.0         | Watts      |
| Lead Length .375"(9.5mm) (NOTE 2)                                                                            |                |             |            |
| Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (NOTE 3) | $I_{FSM}$      | 100         | Amps       |
| Operating and Storage Temperature Range                                                                      | $T_J, T_{STG}$ | -55 to +175 | $^\circ C$ |

#### NOTES:

1. Non-repetitive current pulse per Fig. 3 and derated above  $T_A=25^\circ C$  per Fig. 2.
2. Mounted on Copper Pad area of 1.6" X 1.6" (40mm X 40mm) per Fig.5.
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

### DEVICES FOR BIPOLAR APPLICATIONS

1. For Bidirectional use C or CA Suffix for types P6KE6.8 thru P6KE440.
2. Electrical characteristics apply in both directions.

## RATING AND CHARACTERISTIC CURVES (P6KE SERIES)

FIG.1-PEAK PULSE POWER DERATING CURVE

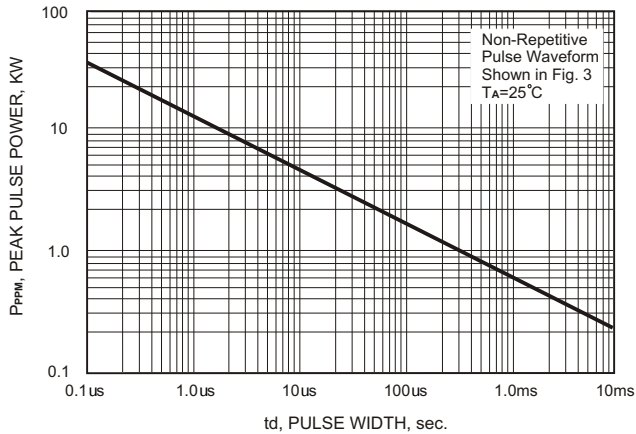


FIG.2-PULSE DERATING CURVE

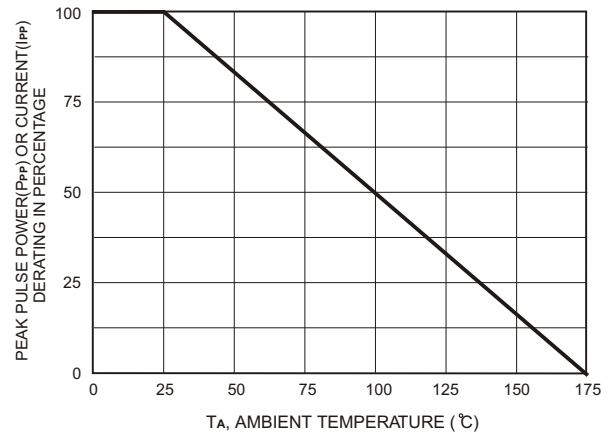


FIG.3-PULSE WAVE FORM

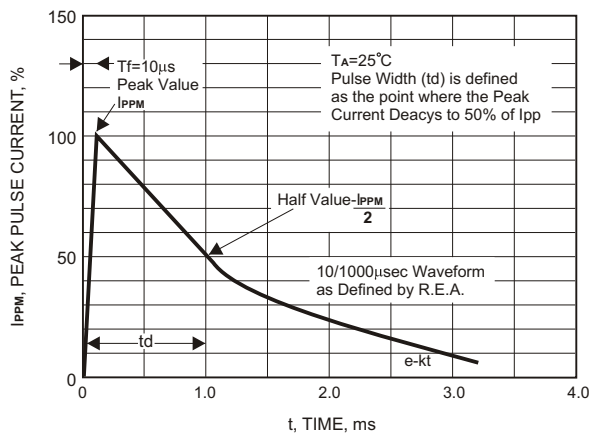


FIG.4-TYPICAL JUNCTION CAPACITANCE

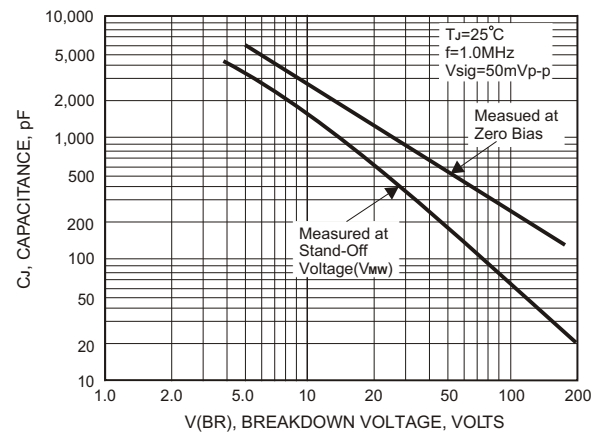


FIG.5-STEADY STATE POWER DERATING CURVE

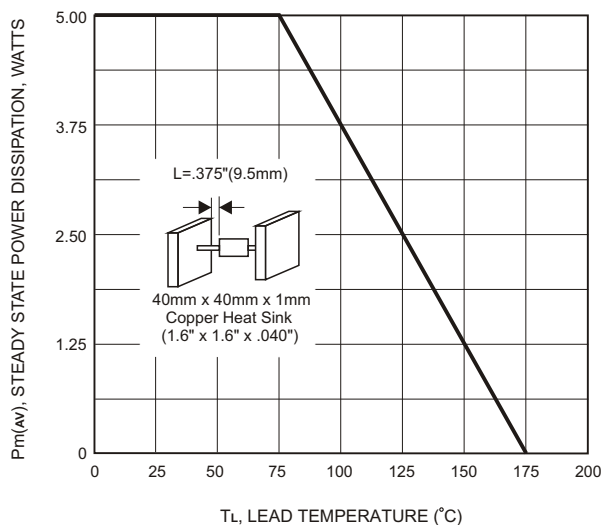
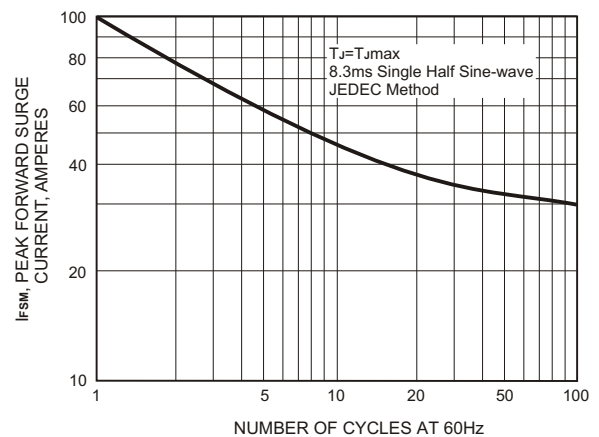


FIG.6-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT, UNIDIRECTIONAL



## 600 Watt Axial Lead TVS

| UNI<br>DIRECTIONAL<br>PART<br>NUMBER | REVERSE<br>STAND-OFF<br>VOLTAGE<br>VRWM (V) | REAKDOWN<br>VOLTAGE<br>VBR (V)<br>MIN. @IT | BREAKDOWN<br>VOLTAGE<br>VRB (V)<br>MAX. @IT | TEST<br>CURRENT<br>IT<br>(mA) | MAXIMUM<br>CLAMPING<br>VOLTAGE<br>@Ipp Vc (V) | PEAK<br>PULSE<br>CURRENT<br>Ipp (A) | REVERSE<br>LEAKAGE<br>@ VRWM<br>IR( A) $\mu$ |
|--------------------------------------|---------------------------------------------|--------------------------------------------|---------------------------------------------|-------------------------------|-----------------------------------------------|-------------------------------------|----------------------------------------------|
| P6KE480(C)A                          | 456.00                                      | 408.00                                     | 504.00                                      | 1                             | 658.0                                         | 0.9                                 | 1                                            |
| P6KE510(C)A                          | 485.00                                      | 434.00                                     | 535.00                                      | 1                             | 698.0                                         | 0.9                                 | 1                                            |
| P6KE530(C)A                          | 503.00                                      | 477.50                                     | 556.50                                      | 1                             | 725.0                                         | 0.8                                 | 1                                            |
| P6KE540(C)A                          | 513.00                                      | 486.00                                     | 567.00                                      | 1                             | 740.0                                         | 0.8                                 | 1                                            |
| P6KE550(C)A                          | 522.50                                      | 495.00                                     | 577.50                                      | 1                             | 760.0                                         | 0.8                                 | 1                                            |
| P6KE600(C)A                          | 570.00                                      | 512.00                                     | 630.00                                      | 1                             | 828.0                                         | 0.75                                | 1                                            |