



# P600A/P6A05 THRU P600M/P6A10

## 6.0 AMPS. SILICON RECTIFIERS

**Voltage Range**  
**50 to 1000 Volts**  
**Current**  
**6.0 Amperes**

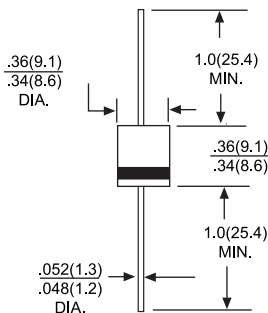
### Features

- Plastic material used carries Underwriters Laboratory Classification 94V-0
- High forward current capability
- High surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds/.375"(.95mm) lead lengths at 5 lbs.(2.3kg) tension

### Mechanical Data

- Cases:Molded plastic
- Lead:Plated axial leads,solderable per MIL-STD-750,Method 2026
- Polarity:Color band denotes cathode end
- Mounting position:Any
- Weight:0.07 ounce,2.1grams

R-6



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| Type Number                                                                                                                                                          |                                      | P600A<br>P6A05 | P600B<br>P6A1 | P600D<br>P6A2 | P600G<br>P6A4 | P600J<br>P6A6 | P600K<br>P6A8 | P600M<br>P6A10 | UNITS    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|----------|
| Maximum Repetitive Peak Reverse Voltage                                                                                                                              | V <sub>RRM</sub>                     | 50             | 100           | 200           | 400           | 600           | 800           | 1000           | V        |
| Maximum RMS Voltage                                                                                                                                                  | V <sub>RMS</sub>                     | 35             | 70            | 140           | 280           | 420           | 560           | 700            | V        |
| Maximum DC Blocking Voltage                                                                                                                                          | V <sub>DC</sub>                      | 50             | 100           | 200           | 400           | 600           | 800           | 1000           | V        |
| Maximum Average Forward Rectified Current at<br>T <sub>A</sub> = 60°C, 0.375"(9.5mm) Lead Length (Fig 1)<br>T <sub>L</sub> = 60°C, 0.125"(3.1mm) Lead Length (Fig 2) | I <sub>F(AV)</sub>                   | 6.0<br>22.0    |               |               |               |               |               |                | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated LoadM (JEDEC method)                                                                  | I <sub>FSM</sub>                     | 400.0          |               |               |               |               |               |                | A        |
| Maximum Instantaneous Forward Voltage @6.0A<br>@100A                                                                                                                 | V <sub>F</sub>                       | 1.0<br>1.3     |               |               |               |               |               |                | V        |
| Maximum DC Reverse Current @ T <sub>A</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> = 100°C                                                          | I <sub>R</sub>                       | 5.0<br>1.0     |               |               |               |               |               |                | uA<br>mA |
| Typical Junction Capacitance (Note 1)                                                                                                                                | C <sub>J</sub>                       | 150.0          |               |               |               |               |               |                | pF       |
| Typical Reverse Recovery Time (Note 2)                                                                                                                               | T <sub>RR</sub>                      | 2.5            |               |               |               |               |               |                | us       |
| Typical Thermal Resistance (Note 3)                                                                                                                                  | R <sub>θJA</sub><br>R <sub>θJC</sub> | 20.0<br>4.0    |               |               |               |               |               |                | °C/W     |
| Operating Junction and Storage Temperature Range                                                                                                                     | T <sub>J</sub> ,T <sub>STG</sub>     | -50 to +150    |               |               |               |               |               |                | °C       |

NOTES: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
2. Reverse Recovery Time Conditions:I<sub>F</sub>=0.5a,I<sub>R</sub>=1.0a,IRR=0.25a  
3. Thermal Resistance from Junction to Ambient and from Junction to Lead at 0.375"(9.5mm) Lead Length,  
P.C.B. Mounted with 1.1 x1.1"(30 x30mm) Copper Pads

# RATING AND CHARACTERISTIC CURVES P600A/P6A05 THRU P600M/P6A10



FIG.1-MAXIMUM FORWARD CURRENT DERATING CURVE

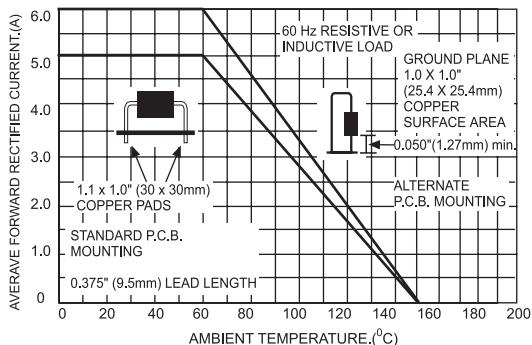


FIG.2-MAXIMUM FORWARD CURRENT DERATING CURVE

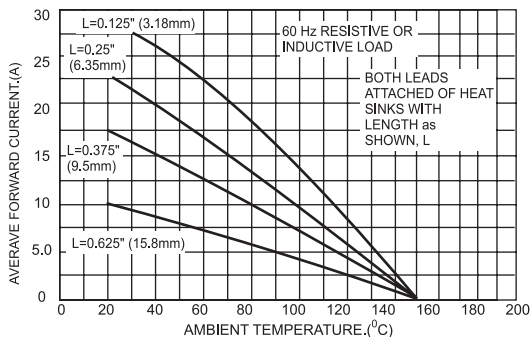


FIG.3-TYPICAL REVERSE CHARACTERISTICS

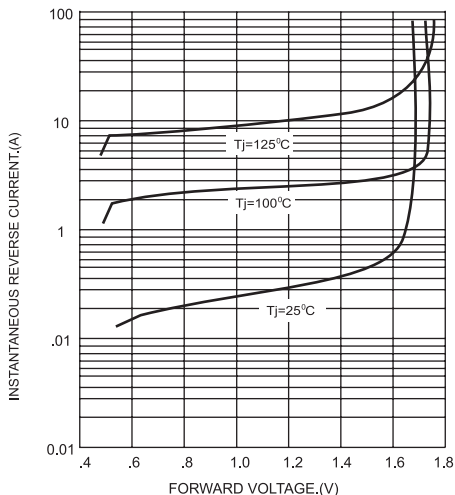


FIG.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

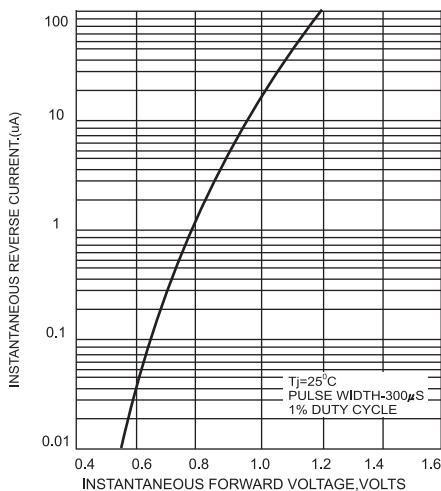


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

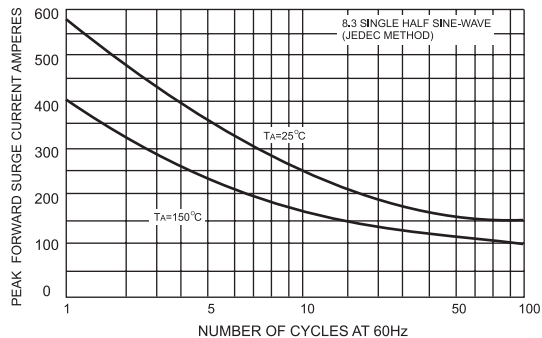


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

