



# DATA SHEET

## CP600 ~ CP6010

**SINGLE-PHASE SILICON BRIDGE-P.C. MTG 3A , HEAT-SINK MTG 6A**

**VOLTAGE 50 to 1000 Volts CURRENT - P.C. MTG 3A , HEAT-SINK MTG 6A**



Recognized File # E111753

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O .
- Surge Overload Ratings to 125 Amperes.
- Low forward voltage, and reverse leakage.
- Small size , simple installation.
- Reliable low cost construction utilizing molded plastic technique.

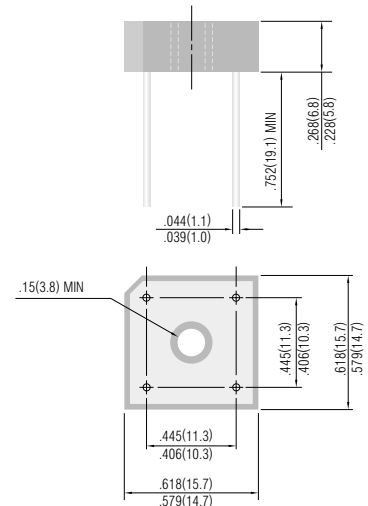
### MECHANICAL DATA

Mounting Position: Any

Weight: 0.2 ounce, 5.6 gram

Terminals: Lead solderable per MIL-STD-202 Method 208

Mounting Torque: 5 in. lb. max.



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase , half wave ,60Hz, resistive or inductive load.

For capacitive load , derate current by 20%.

|  | CP600 | CP601 | CP602 | CP604 | CP606       | CP608 | CP6010 | UNITS            |
|--|-------|-------|-------|-------|-------------|-------|--------|------------------|
| Maximum Recurrent Peak Reverse Voltage   | 50    | 100   | 200   | 400   | 600         | 800   | 1000   | V                |
| Maximum RMS Bridge input Voltage   | 35    | 70    | 140   | 280   | 420         | 560   | 700    | V                |
| Maximum DC Blocking Voltage  | 50    | 100   | 200   | 400   | 600         | 600   | 1000   | V                |
| Maximum Average Forward Current at $T_C=50^{\circ}C$<br>See Fig 2 at $T_A=25^{\circ}C$                                   |       |       |       |       | 6<br>3      |       |        | A                |
| Peak Forward Surge Current ,8.3ms<br>single half sine-wave superimposed on rated load                                    |       |       |       |       | 125         |       |        | A                |
| Maximum Forward Voltage per Bridge Element<br>Specified Current at 3.0A DC & 25°C. See Fig 3                             |       |       |       |       | 1.1         |       |        | V                |
| Maximum Reverse Leakage at Rated DC Blocking<br>Voltage per element. at 25°C<br>See Fig 4 at 100°C                       |       |       |       |       | 10.0<br>1.0 |       |        | $\mu A$<br>mA    |
| I <sup>2</sup> t Rating for fusing ( t < 8.35 ms)  |       |       |       |       | 127         |       |        | A <sup>2</sup> S |
| Typical junction capacitance per leg (NOTE 4)C <sub>J</sub>  |       |       |       |       | 186         |       |        | pF               |
| Typical Thermal resistance per leg ( NOTE 3) R $\theta$ JA<br>Typical Thermal resistance per leg ( NOTE 2) R $\theta$ JC |       |       |       |       | 22.0<br>7.3 |       |        | $^{\circ}C/W$    |
| Operating Temperature Range T <sub>J</sub>   |       |       |       |       | -55 to +125 |       |        | $^{\circ}C$      |
| Storage Temperature Range T <sub>A</sub>   |       |       |       |       | -55 to +150 |       |        | $^{\circ}C$      |

#### NOTES:

1. Bolt down on heat-sink with silicon thermal compound between bridge and mounting surface for maximum heat transfer with #6 screw.
2. Unit mounted on 5.0 X 6.0 X 0.11" thick ( 14 X 15 X 0.3 cm )AL.plate.
3. Unit mounted on P.C.B at 0.395"(9.5mm)lead length with 0.5 X 0.5" ( 12 X 12 mm )copper pads.
4. Measured at 1.0MHZ and applied reverse voltage of 4.0 volts.



RATING AND CHARACTERISTIC CURVES

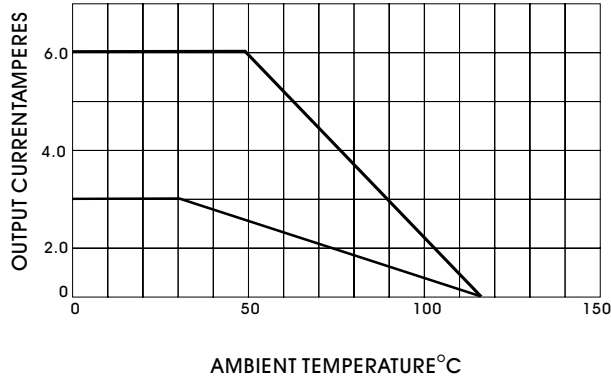


Fig. 1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

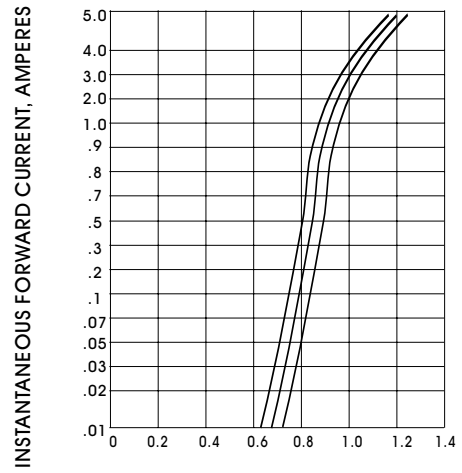


Fig. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS (25°C)

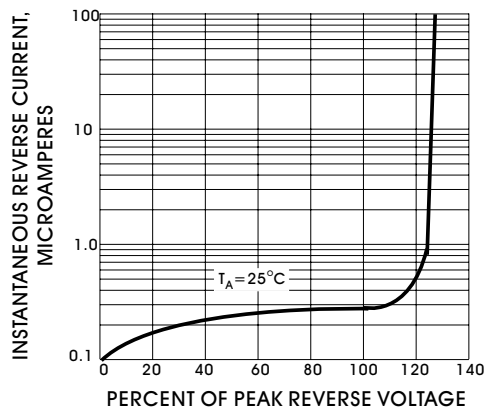


Fig. 3- TYPICAL PEAK REVERSE CHARACTERISTICS

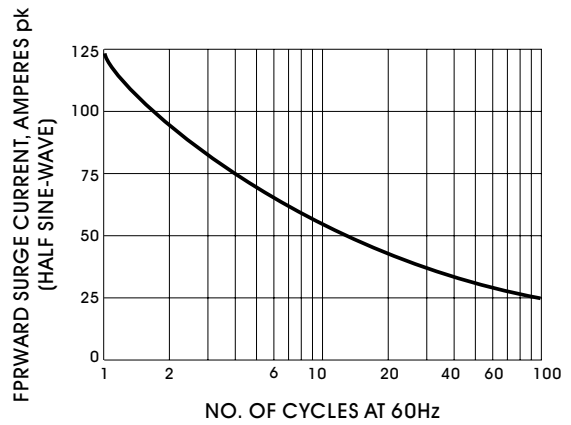


Fig. 4- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

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Datasheets for electronics components.