



## DATA SHEET

### CP5000~CP50010

#### HIGH CURRENT SILICON BRIDGE RECTIFIER

VOLTAGE 50 to 1000 Volts CURRENT - 50 Ampere



Recongnized File # E111753

#### FEATURES

- Electrically Isolated Metal Case for Maximum Heat Dissipation.
- Surge Overload Ratings to 400 Amperes.
- The plastic package has Underwriters Laboratory Flammability Classification 94V-O

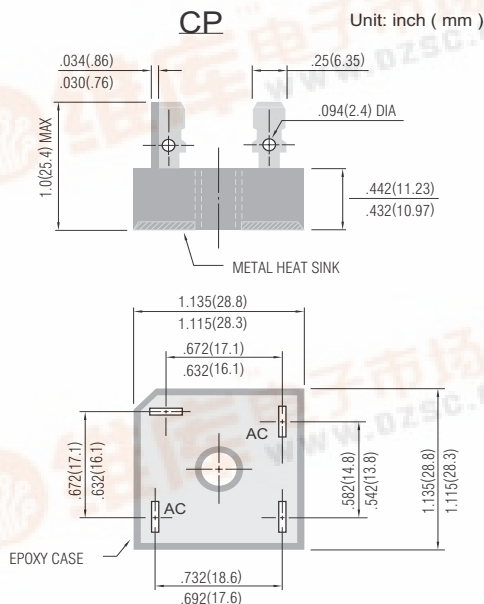
#### MECHANICAL DATA

Case: Metal , electrically isolated.

Terminals: Plated 25" FASTON

Mounting Position: Any

Weight: 1.0 ounce, 30 gram



#### 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%

|                                                                     | CP5000      | CP5001 | CP5002 | CP5004 | CP5006 | CP5008 | CP50010 | UNIT             |
|---------------------------------------------------------------------|-------------|--------|--------|--------|--------|--------|---------|------------------|
| Maximum Recurrent Peak Reverse Voltage                              | 50          | 100    | 200    | 400    | 600    | 800    | 1000    | V                |
| Maximum RMS Input Voltage                                           | 35          | 70     | 140    | 280    | 420    | 560    | 700     | V                |
| Maximum DC Blocking Voltage                                         | 50          | 100    | 200    | 400    | 600    | 800    | 1000    | V                |
| DC Output Voltage, Resistive load                                   | 30          | 62     | 124    | 250    | 380    | 505    | 630     | V                |
| DC Output Voltage, Capacitive load                                  | 50          | 100    | 200    | 400    | 600    | 800    | 1000    | V                |
| Maximum Average Forward Current For Resistive Load at TC=55°C       | 50.0        |        |        |        |        |        |         | A                |
| Non-repetitive Peak Forward Surge Current at Rated Load             | 400         |        |        |        |        |        |         | A                |
| Maximum Forward Voltage per Bridge Element at 25A Specified Current | 1.2         |        |        |        |        |        |         | V                |
| Maximum Reverse Leakage Current at Rated @ T <sub>A</sub> =25°C     | 10.0        |        |        |        |        |        |         | μA               |
| Dc Blocking Voltage @ T <sub>A</sub> =100°C                         | 1000        |        |        |        |        |        |         |                  |
| I <sup>2</sup> t Rating for fusing ( t<8.35ms)                      | 664         |        |        |        |        |        |         | A <sup>2</sup> S |
| Typical Thermal Resistance per leg (Fig 3) RθJC                     | 2.0         |        |        |        |        |        |         | °C / W           |
| Operating Temperature Range, T <sub>J</sub>                         | -55 to +150 |        |        |        |        |        |         | °C               |
| Storage Temperature Range, T <sub>A</sub>                           | -55 to +150 |        |        |        |        |        |         | °C               |

## RATING AND CHARACTERISTIC CURVES

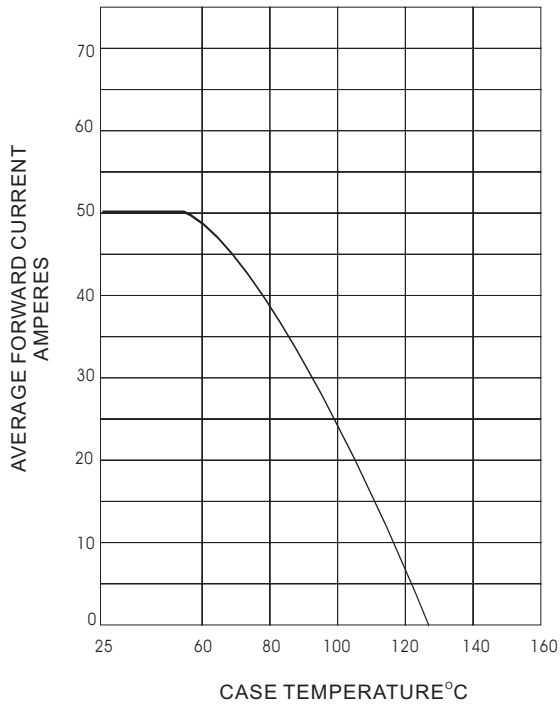


Fig. 1- OUTPUT CURRENT VS. CASE TEMPERATURE  
RESISTIVE OR INDUCTIVE LOAD  $T_J = 150^\circ\text{C}$

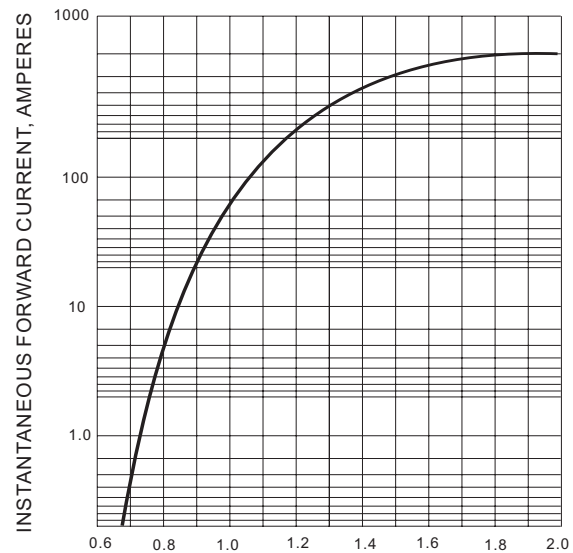


Fig. 2- TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS  
AT  $T_J = 25^\circ\text{C}$

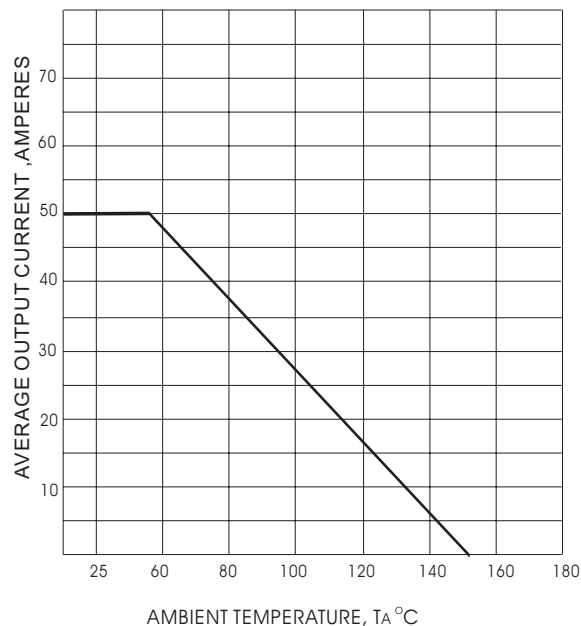


Fig. 3- OUTPUT CURRENT VS. AMBIENT TEMPERATURE  
RESISTIVE OR INDUCTIVE LOAD  
BRIDGE MOUNTED ON A 8" x 8" ALUMINUM PLATE 25" THICK

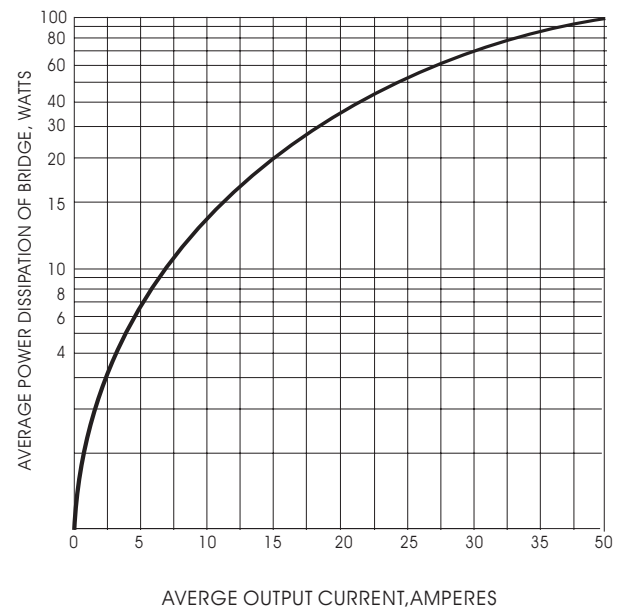


Fig. 4- POWER DISSIPATION VS. AVERAGE OUTPUT  
CURRENT RESISTIVE OR INDUCTIVE LOAD  
 $T_J = 150^\circ\text{C}$