

## 8.0 A Single-Phase GPP Bridge Rectifier

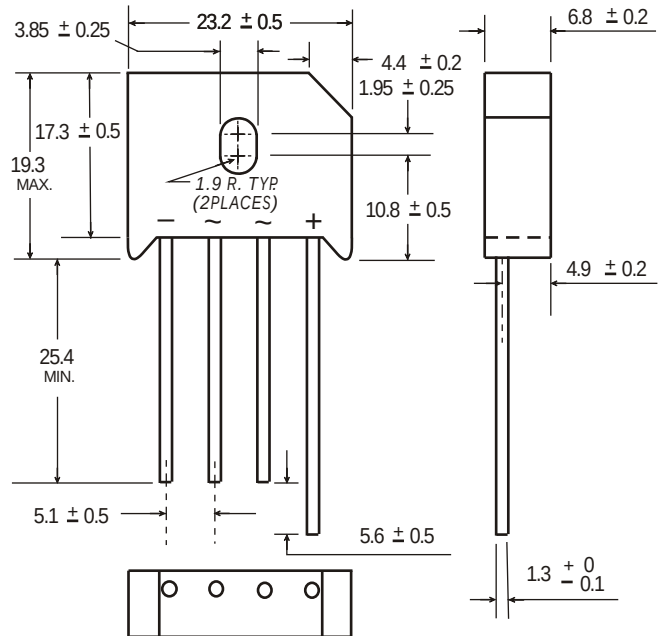
Rectifier Reverse Voltage 50 to 1000V

### Features

- Single In-Line terminals array suitable for P.C. board mounting
- Surge overload ratings to 250 amperes peak
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- High temperature soldering guaranteed 265°C/10 seconds/.375"(9.5mm) lead length at 5 lbs (2.3kg) tension

### Mechanical Data

Case: Molded plastic  
 Terminals: Plated wire leads solderable per MIL-STD-202, Method 208  
 Mounting Position: Any  
 Mounting Torque: 5 in-lb maximum  
 Weight: 0.3 ounce, 8 grams (approx)



Dimensions in millimeters(1mm = 0.0394")

### Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
 For Capacitive load derate current by 20%.

| Parameter                                                                                            | Symbol                               | RS8005       | RS801 | RS802 | RS804 | RS806 | RS808 | RS810 | unit               |
|------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum repetitive peak reverse voltage                                                              | VRRM                                 | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | V                  |
| Maximum RMS bridge input voltage                                                                     | VRMS                                 | 35           | 70    | 140   | 280   | 420   | 560   | 700   | V                  |
| Maximum DC blocking voltage                                                                          | VDC                                  | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | V                  |
| Maximum average forward rectified output current at<br>T <sub>C</sub> =100°C<br>T <sub>C</sub> =45°C | IF(AV)                               | 8.0<br>4.0   |       |       |       |       |       |       | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)                | IFSM                                 | 250          |       |       |       |       |       |       | A                  |
| Rating for fusing ( t<8.3ms)                                                                         | I <sup>2</sup> t                     | 300          |       |       |       |       |       |       | A <sup>2</sup> sec |
| Typical thermal resistance per element(1)                                                            | ReJA                                 | 2.5          |       |       |       |       |       |       | °C / W             |
| Operating junction and storage temperature range                                                     | T <sub>J</sub> ,<br>T <sub>STG</sub> | -55 to + 150 |       |       |       |       |       |       | °C                 |

### Electrical Characteristics

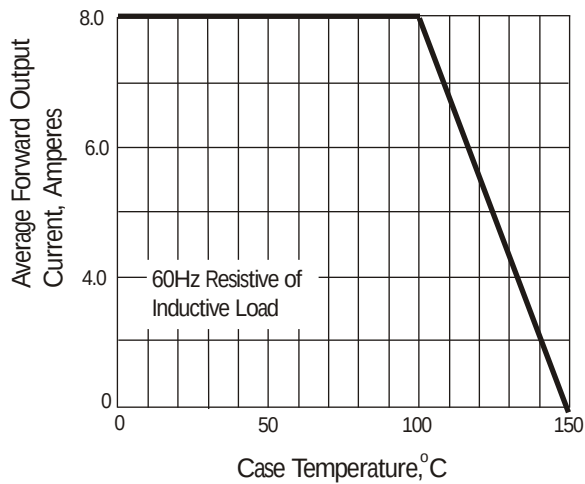
Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
 For Capacitive load derate by 20 %.

| Parameter                                                                                                            | Symbol         | RS8005     | RS801 | RS802 | RS804 | RS806 | RS808 | RS810 | Unit |
|----------------------------------------------------------------------------------------------------------------------|----------------|------------|-------|-------|-------|-------|-------|-------|------|
| Maximum instantaneous forward voltage drop per leg at 6.0A                                                           | V <sub>F</sub> | 1.1        |       |       |       |       |       |       | V    |
| Maximum DC reverse current at rated DC blocking voltage per element<br>T <sub>A</sub> =25°C<br>T <sub>A</sub> =125°C | I <sub>R</sub> | 10<br>1000 |       |       |       |       |       |       | μA   |

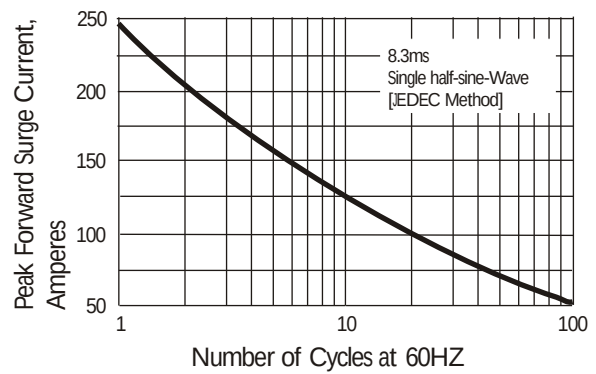
**Notes:** (1) Thermal resistance from Junction to Ambient on P.C. board mounting.

## Rating and Characteristic Curves ( $T_A = 25^{\circ}\text{C}$ Unless otherwise noted ) RS8005 thru RS810

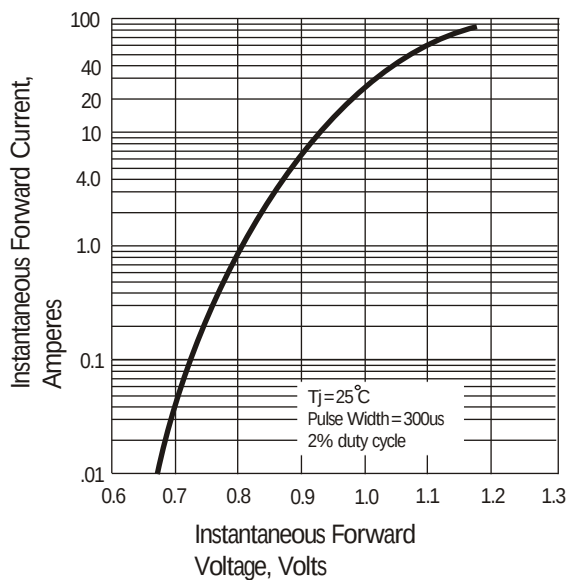
**Fig. 1 Derating Curve for Output Rectified Current**



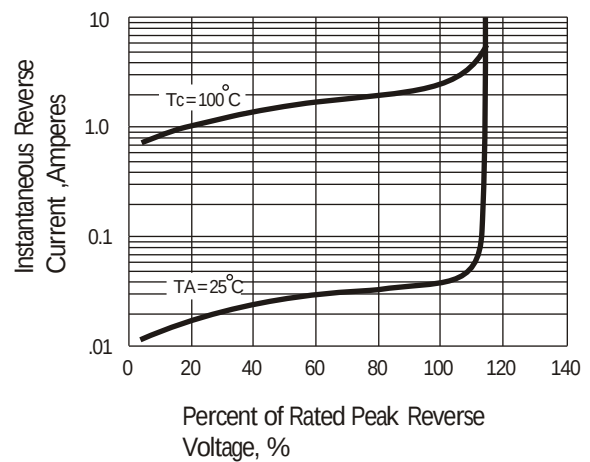
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics**



**Fig. 5 Typical Junction Capacitance**

