

# B40-B380/C1000

**PRV : 100 - 900 Volts**  
**Io : 1.0 Amperes**

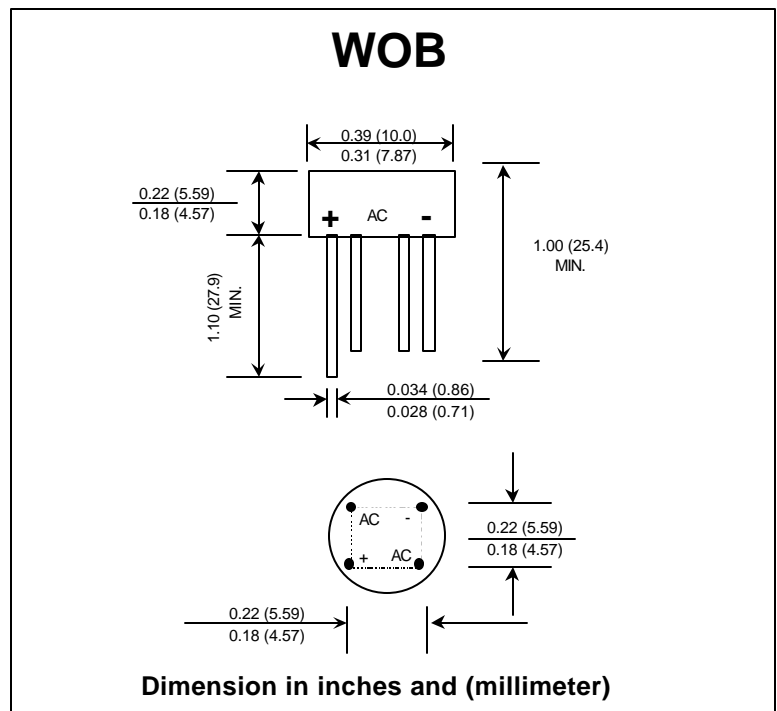
## FEATURES :

- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ideal for printed circuit board

## MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated leads solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 1.29 grams

# SILICON BRIDGE RECTIFIERS



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

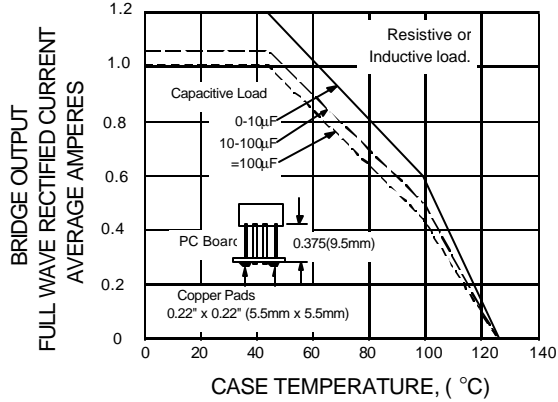
| RATING  | SYMBOL                      | B40-C1000     | B80-C1000 | B125-C1000 | B250-C1000 | B380-C1000 | UNIT             |
|---|-----------------------------|---------------|-----------|------------|------------|------------|------------------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>            | 100           | 200       | 300        | 600        | 900        | Volts            |
| Maximum RMS Input Voltage R+C -Load   | V <sub>RMS</sub>            | 40            | 80        | 125        | 250        | 380        | Volts            |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>             | 100           | 200       | 300        | 600        | 900        | Volts            |
| Maximum Average Forward Current For<br>Free Air Operation at T <sub>c</sub> = 45°C R+L -Load<br>C -Load     | I <sub>F(AV)</sub>          | 1.2<br>1.0    |           |            |            |            | Amps.            |
| Peak Forward Surge Current Single half sine wave<br>on rated load (JEDEC Method) at T <sub>J</sub> = 125 °C | I <sub>FSM</sub>            | 40            |           |            |            |            | Amps.            |
| Rating for fusing at T <sub>J</sub> = 125°C ( t < 100 ms.)  | I <sup>2</sup> <sub>t</sub> | 10            |           |            |            |            | A <sup>2</sup> S |
| Maximum Series Resistor C-Load V <sub>RMS</sub> = ± 10%   | R <sub>t</sub>              | 1.0           | 2.0       | 4.0        | 8.0        | 12.0       | Ω                |
| Maximum load Capacitance<br>+ 50%<br>-10%   | C <sub>L</sub>              | 5000          | 2500      | 1000       | 500        | 200        | μF               |
| Maximum Forward Voltage per Diode at I <sub>F</sub> = 1.0 Amp.  | V <sub>F</sub>              | 1.0           |           |            |            |            | Volts            |
| Maximum Reverse Current at Rated Repetitive<br>Peak Voltage per Diode T <sub>a</sub> = 25 °C                | I <sub>R</sub>              | 10            |           |            |            |            | μA               |
| Typical Thermal Resistance (Note 1)   | R <sub>θJA</sub>            | 36            |           |            |            |            | °C/W             |
| Operating Junction Temperature Range  | T <sub>J</sub>              | - 50 to + 125 |           |            |            |            | °C               |
| Storage Temperature Range   | T <sub>STG</sub>            | - 50 to + 125 |           |            |            |            | °C               |

### Notes :

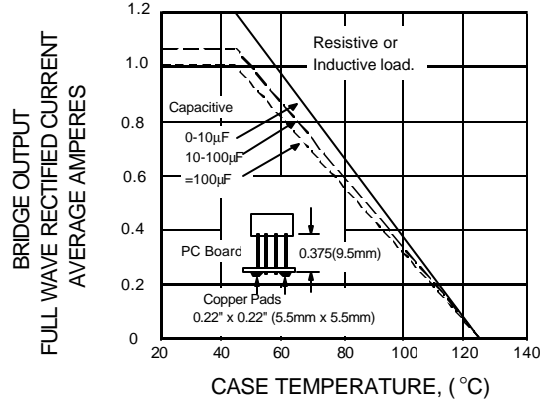
- 1) Thermal resistance from Junction to Ambient at 0.375" (9.5 mm) lead length P.C. Board with, 0.22" x 0.22" (5.5 x 5.5 mm) copper Pads.

## RATING AND CHARACTERISTIC CURVES ( B40-B380/C1000 )

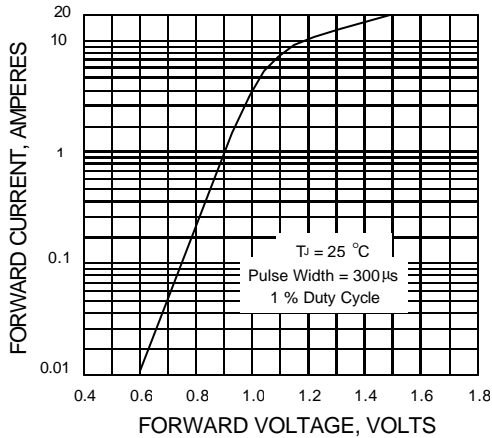
**FIG.1 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B40 C1000 - B125 C1000**



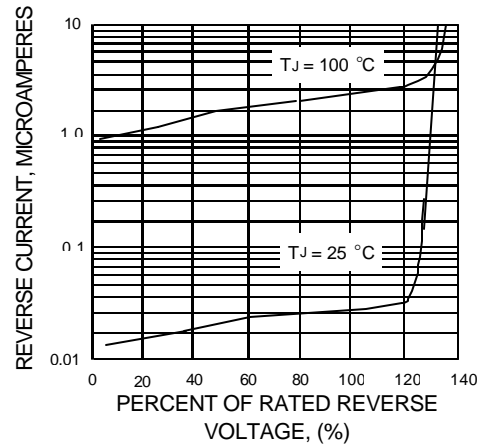
**FIG.2 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B250 C1000 - B380 C1000**



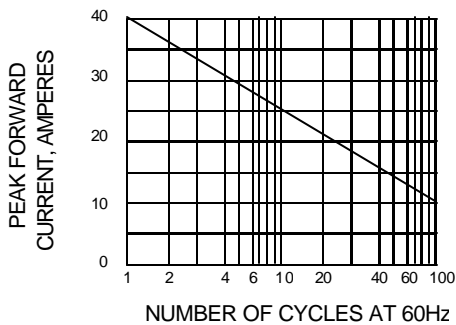
**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



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



**FIG.6 - TYPICAL JUNCTION CAPACITANCE  
PER BRIDGE ELEMENT**

