

## B40-B380/C1000

**PRV : 100 - 900 Volts**

**Io : 1.0 Amperes**

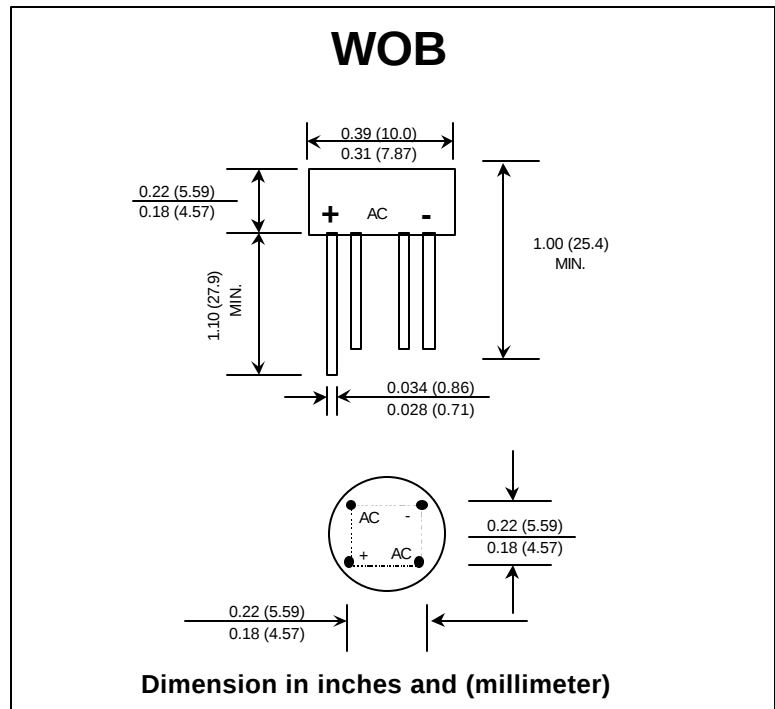
### FEATURES :

- \* 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-<br>C1000 | B80-<br>C1000 | B125-<br>C1000 | B250-<br>C1000 | B380-<br>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 <sub>t</sub> <sup>2</sup> | 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 + 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               |

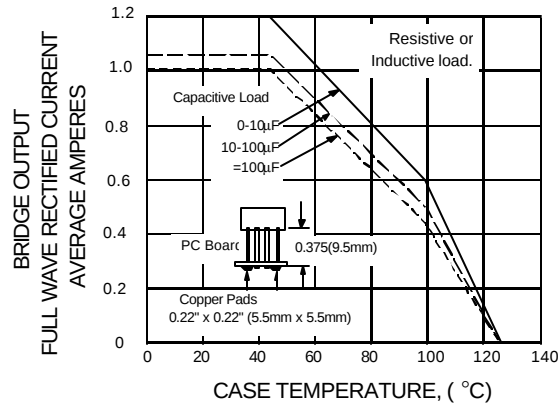
### Notes :

- 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.

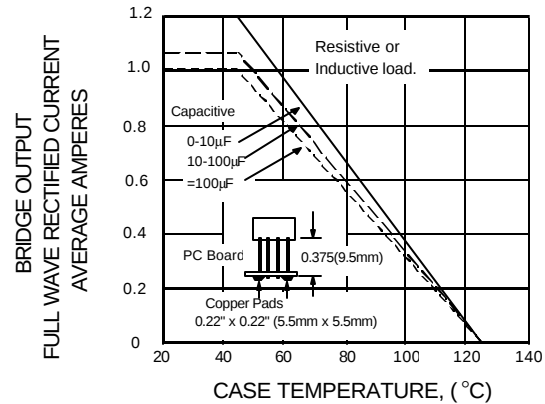
**UPDATE : AUGUST 26,1998**

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

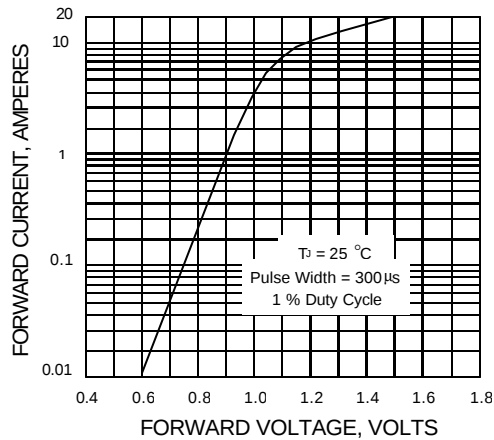
**FIG.1 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B40 C1000 - B125 C1000**



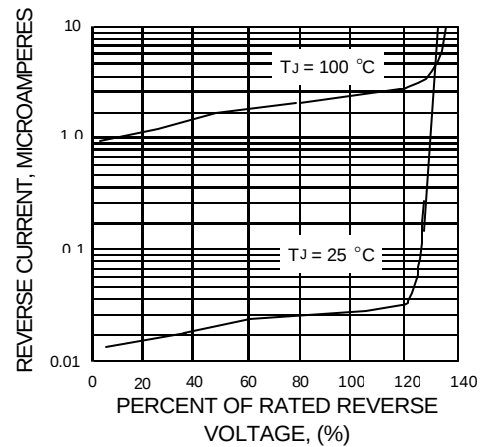
**FIG.2 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B250 C1000 - B380 C1000**



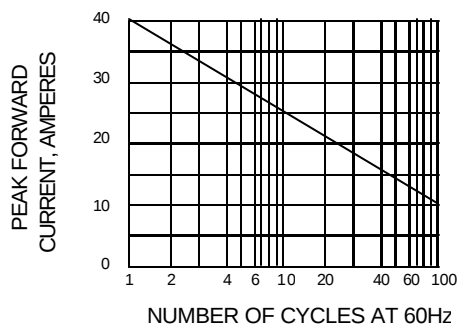
**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



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



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

