

# BR1000 - BR1010

# SILICON BRIDGE RECTIFIERS

**PRV : 50 - 1000 Volts**

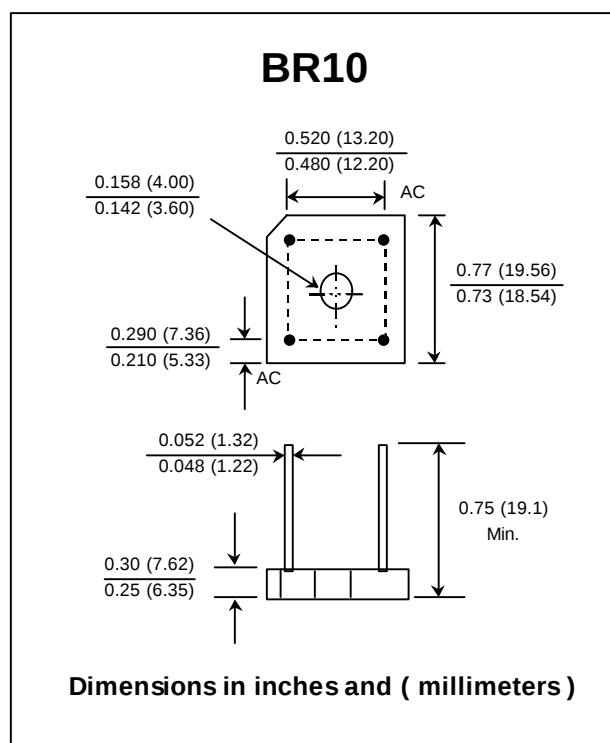
**Io : 10 Amperes**

## FEATURES :

- \* High current capability
- \* 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
- \* Lead : Axial lead solderable per MIL - STD 202 , Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 6.1 grams



## 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          | BR1000        | BR1001 | BR1002 | BR1004 | BR1006 | BR1008 | BR1010 | UNITS            |
|-----------------------------------------------------------------------------------------------------|-----------------|---------------|--------|--------|--------|--------|--------|--------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                              | $V_{RRM}$       | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | Volts            |
| Maximum RMS Voltage                                                                                 | $V_{RMS}$       | 35            | 70     | 140    | 280    | 420    | 560    | 700    | Volts            |
| Maximum DC Blocking Voltage                                                                         | $V_{DC}$        | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | Volts            |
| Maximum Average Forward Current $T_c=55^{\circ}C$                                                   | $I_{F(AV)}$     | 10            |        |        |        |        |        |        | Amp.             |
| Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)          | $I_{FSM}$       | 300           |        |        |        |        |        |        | Amp.             |
| Current Squared Time at $t < 8.3$ ms.                                                               | $I^2t$          | 160           |        |        |        |        |        |        | A <sup>2</sup> S |
| Maximum Forward Voltage per Diode at $I_F = 5$ Amp.                                                 | $V_F$           | 1.0           |        |        |        |        |        |        | Volts            |
| Maximum DC Reverse Current $T_a = 25^{\circ}C$<br>at Rated DC Blocking Voltage $T_a = 100^{\circ}C$ | $I_R$           | 10            |        |        |        |        |        |        | $\mu A$          |
|                                                                                                     | $I_{R(H)}$      | 200           |        |        |        |        |        |        | $\mu A$          |
| Typical Thermal Resistance (Note 1)                                                                 | $R_{\theta JC}$ | 2.5           |        |        |        |        |        |        | $^{\circ}C/W$    |
| Operating Junction Temperature Range                                                                | $T_J$           | - 40 to + 150 |        |        |        |        |        |        | $^{\circ}C$      |
| Storage Temperature Range                                                                           | $T_{STG}$       | - 40 to + 150 |        |        |        |        |        |        | $^{\circ}C$      |

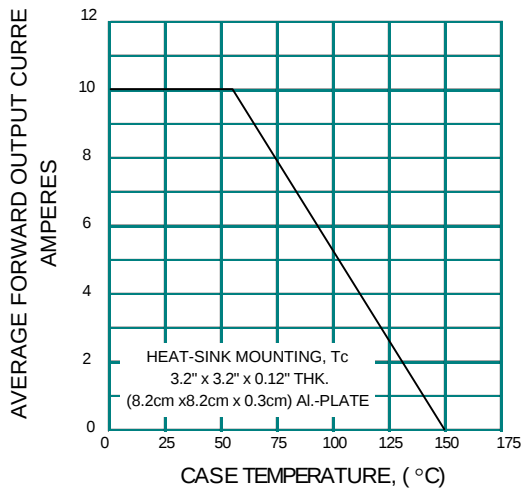
## Notes :

1. Thermal Resistance from junction to case with units mounted on a 3.2" x 3.2" x 0.12" (8.2cm.x 8.2cm.x 0.3cm.) Al.-Finned Plate.

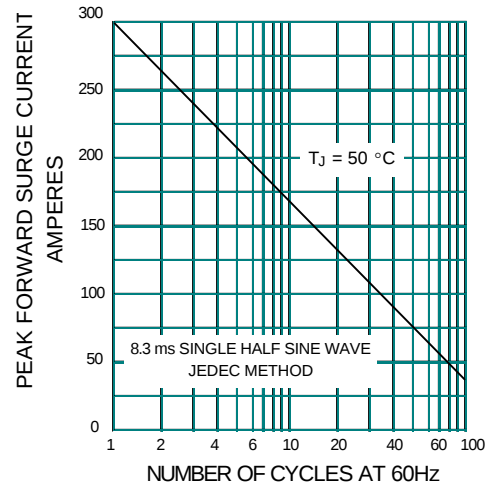
**UPDATE : APRIL 23, 1998**

## RATING AND CHARACTERISTIC CURVES ( BR1000 - BR1010 )

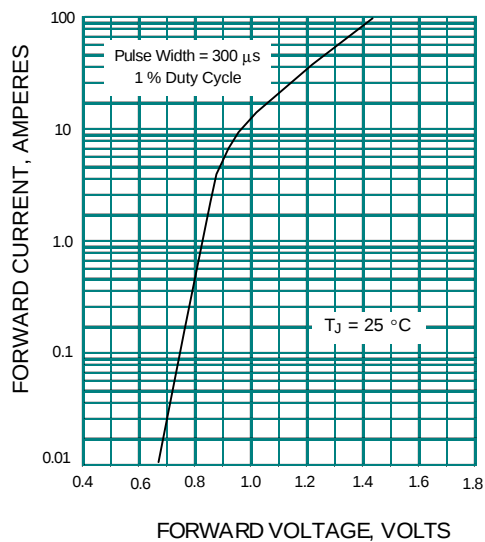
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE**

