

## BR1500 - BR1510

## SILICON BRIDGE RECTIFIERS

**PRV : 50 - 1000 Volts**

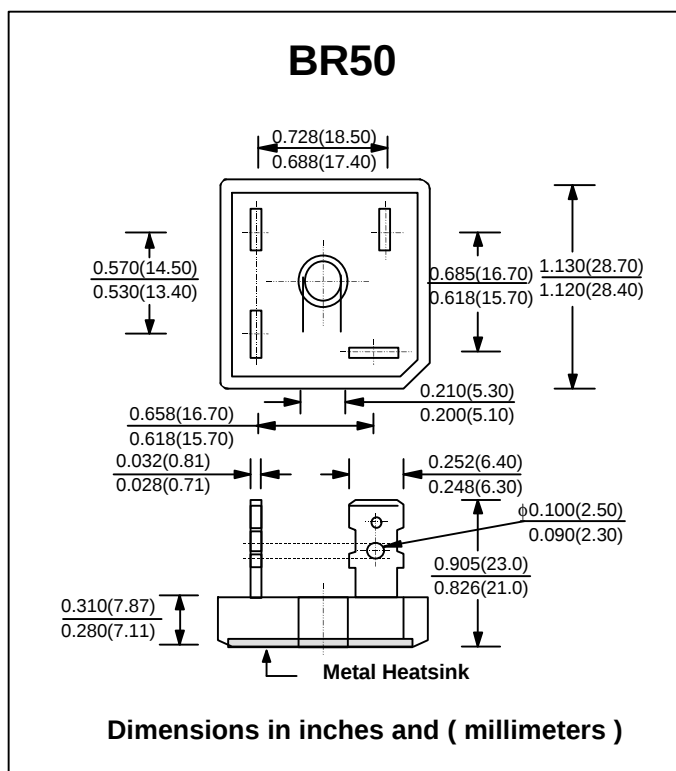
**Io : 15 Amperes**

### 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 : Molded plastic with heatsink integrally mounted in the bridge encapsulation
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : plated .25" (6.35 mm). Faston
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
- \* Weight : 17.1 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%.

| TYPE | NUMBER                                                                                        | SYMBOL          | BR1500        | BR1501 | BR1502 | BR1504 | BR1506 | BR1508 | BR1510 | 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 $T_c = 55^{\circ}C$                                           | $I_{F(AV)}$     | 15            |        |        |        |        |        |        | Amps.         |
|      | Peak Forward Surge Current Single half sine wave<br>Superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 300           |        |        |        |        |        |        | Amps.         |
|      | Current Squared Time at $t < 8.3$ ms.                                                         | $I^2t$          | 375           |        |        |        |        |        |        | $A^2S$        |
|      | Maximum Forward Voltage per Diode at $I_F = 7.5$ Amp.                                         | $V_F$           | 1.1           |        |        |        |        |        |        | Volts         |
|      | Maximum DC Reverse Current $T_a = 25^{\circ}C$                                                | $I_R$           | 10            |        |        |        |        |        |        | $\mu A$       |
|      | at Rated DC Blocking Voltage $T_a = 100^{\circ}C$                                             | $I_{R(H)}$      | 200           |        |        |        |        |        |        | $\mu A$       |
|      | Typical Thermal Resistance (Note 1)                                                           | $R_{\theta JC}$ | 1.9           |        |        |        |        |        |        | $^{\circ}C/W$ |
|      | Operating Junction Temperature Range                                                          | $T_J$           | - 40 to + 150 |        |        |        |        |        |        | $^{\circ}C$   |
|      | Storage Temperature Range                                                                     | $T_{STG}$       | - 40 to + 150 |        |        |        |        |        |        | $^{\circ}C$   |

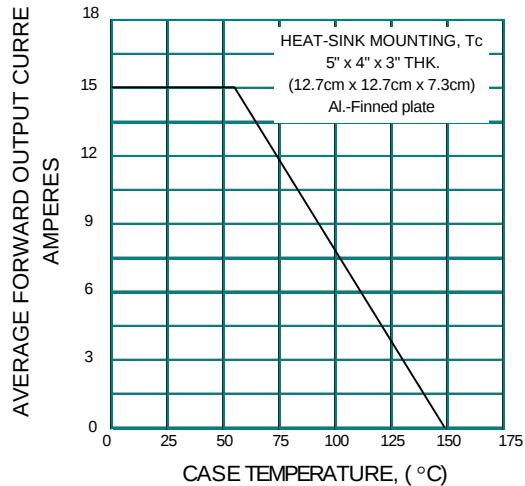
**Notes :**

1. Thermal Resistance from junction to case with units mounted on a 5" x 4" x 3" (12.7cm.x 10.2cm.x 7.3cm.) Al.-Finned Plate

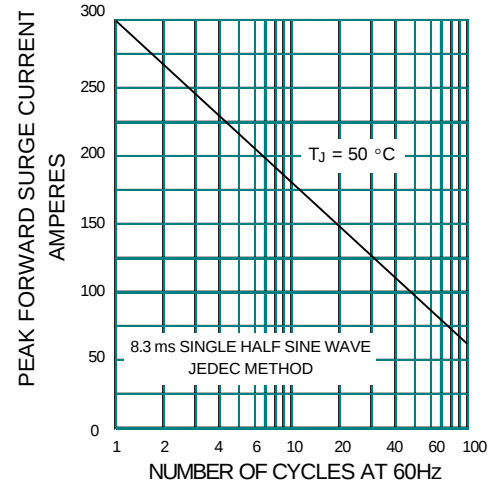
**UPDATE : APRIL 23, 1998**

## RATING AND CHARACTERISTIC CURVES ( BR1500 - BR1510 )

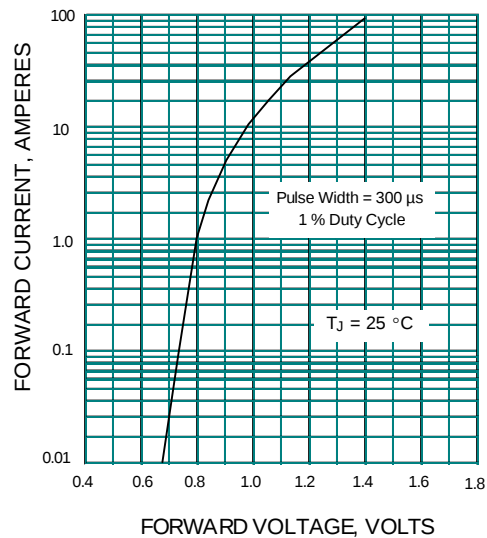
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



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

