



ELECTRONICS INDUSTRY (USA) CO., LTD.

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## BR5000 - BR5010

PRV : 50 - 1000 Volts

Io : 50 Amperes

### FEATURES :

- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* High efficiency
- \* Low reverse current
- \* Low forward voltage drop

### 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

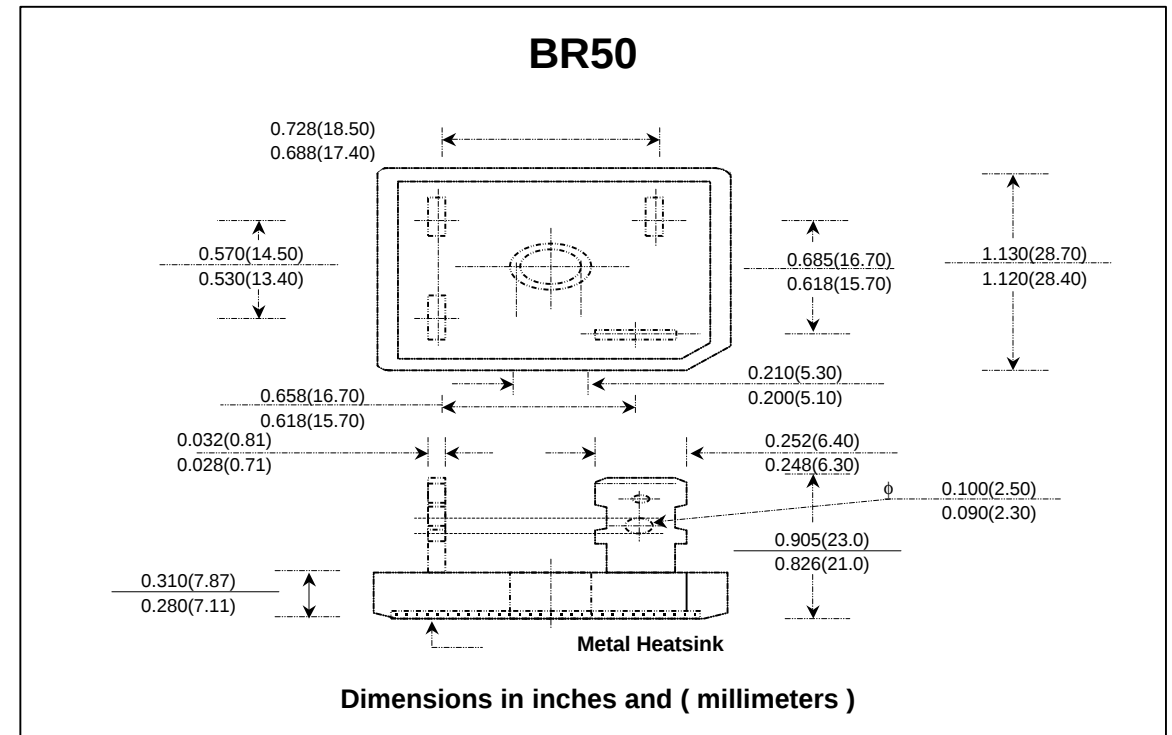
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| RATING                                                                                            | SYMBOL          | BR5000        | BR5001 | BR5002 | BR5004 | BR5006 | BR5008 | BR5010 | UNIT             |
|---------------------------------------------------------------------------------------------------|-----------------|---------------|--------|--------|--------|--------|--------|--------|------------------|
| 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 $T_c = 55^\circ C$                                                | $I_{F(AV)}$     | 50            |        |        |        |        |        |        | Amps.            |
| Peak Forward Surge Current Single half sine wave<br>Superimposed on rated load (JEDEC Method)     | $I_{FSM}$       | 500           |        |        |        |        |        |        | Amps.            |
| Current Squared Time at $t < 8.3$ ms.                                                             | $I^2 t$         | 660           |        |        |        |        |        |        | A <sup>2</sup> S |
| Maximum Forward Voltage per Diode at $I_F = 25$ Amp.                                              | $V_F$           | 1.1           |        |        |        |        |        |        | 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)                                                               | $R_{\theta JC}$ | 1.0           |        |        |        |        |        |        | $^\circ C/W$     |
| 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 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

## SILICON BRIDGE RECTIFIERS



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Certificate Number: Q10561



Certificate Number: E17276

## RATING AND CHARACTERISTIC CURVES (BR5000 - BR5010 )

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

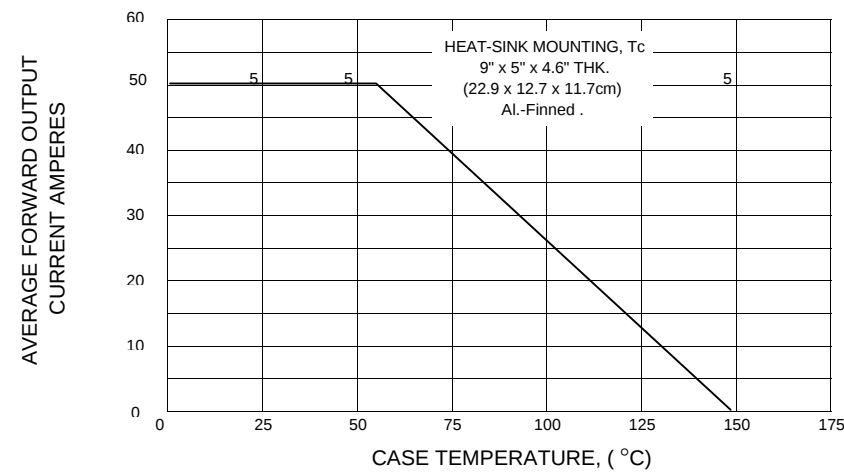


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

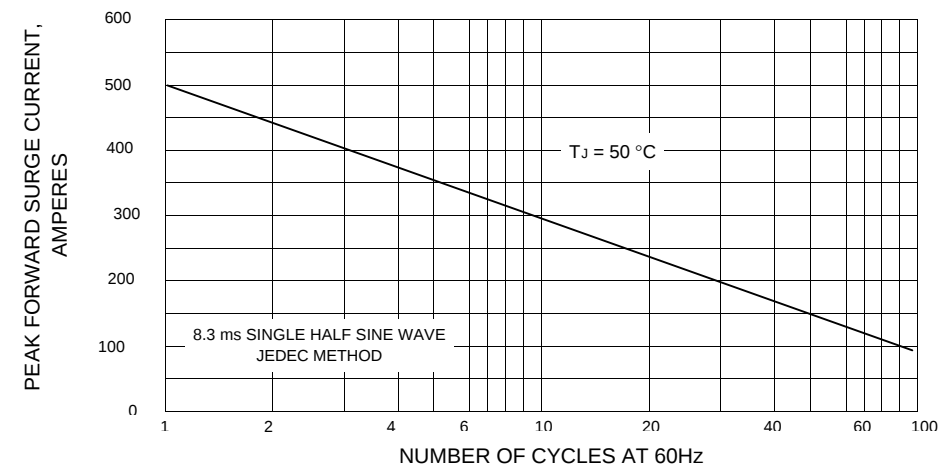


FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

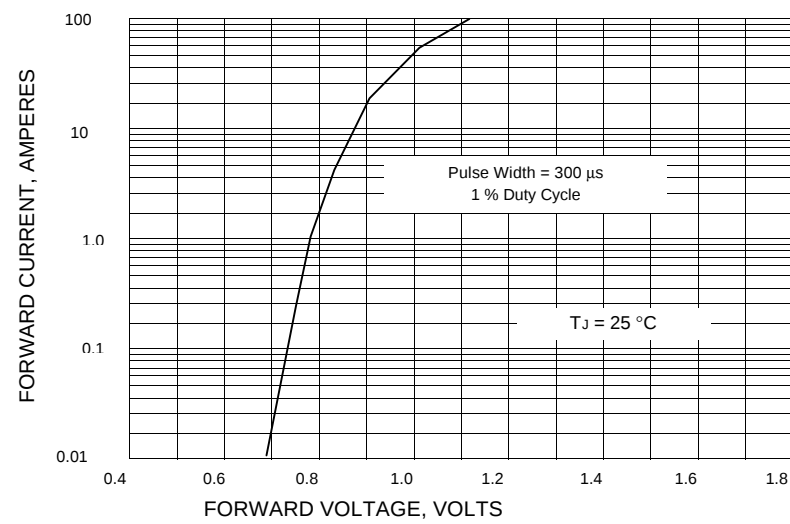


FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE

