



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**BR5005  
THRU  
BR5010**

**TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 50 Amperes**

**FEATURES**

- \* Plastic case with heatsink for Maximum Heat Dissipation
- \* Surge overload ratings-400 Amperes
- \* Low forward voltage drop

**MECHANICAL DATA**

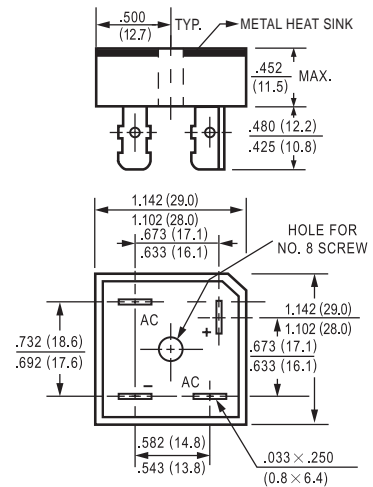
- \* Case: Molded plastic with heatsink
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Plated .25"(6.35mm) Faston lugs, Solderable per MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings 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%.



BR-25



Dimensions in inches and (millimeters)

|   | SYMBOL                            | BR5005                   | BR501 | BR502 | BR504 | BR506        | BR508 | BR5010 | UNITS              |
|---|-----------------------------------|--------------------------|-------|-------|-------|--------------|-------|--------|--------------------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>                  | 50                       | 100   | 200   | 400   | 600          | 800   | 1000   | Volts              |
| Maximum RMS Bridge Input Voltage  | V <sub>RMS</sub>                  | 35                       | 70    | 140   | 280   | 420          | 560   | 700    | Volts              |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>                   | 50                       | 100   | 200   | 400   | 600          | 800   | 1000   | Volts              |
| Maximum Average Forward Rectified Output Current at T <sub>c</sub> = 55°C                         | I <sub>O</sub>                    | 50                       |       |       |       |              |       |        | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  |                          |       |       |       | 400          |       |        | Amps               |
| Maximum Forward Voltage Drop per element at 25A DC  | V <sub>F</sub>                    |                          |       |       |       | 1.1          |       |        | Volts              |
| Maximum DC Reverse Current at Rated   | I <sub>R</sub>                    | @ T <sub>A</sub> = 25°C  |       |       |       | 10           |       |        | uAmps              |
| DC Blocking Voltage per element   |                                   | @ T <sub>A</sub> = 100°C |       |       |       | 500          |       |        |                    |
| I <sup>2</sup> t Rating for Fusing (t<8.3ms)  | I <sup>2</sup> t                  |                          |       |       |       | 664          |       |        | A <sup>2</sup> Sec |
| Typical Junction Capacitance ( Note1)   | C <sub>J</sub>                    |                          |       |       |       | 300          |       |        | pF                 |
| Typical Thermal Resistance ( Note 2)  | R <sub>θJC</sub>                  |                          |       |       |       | 2.0          |       |        | °C/W               |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> |                          |       |       |       | -55 to + 175 |       |        | °C                 |

NOTES : 1.Measured at 1 MHz and applied reverse voltage of 4.0 volts  
2. Thermal Resistance from Junction to Case per leg.

RATING AND CHARACTERISTIC CURVES ( BR5005 THRU BR5010 )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

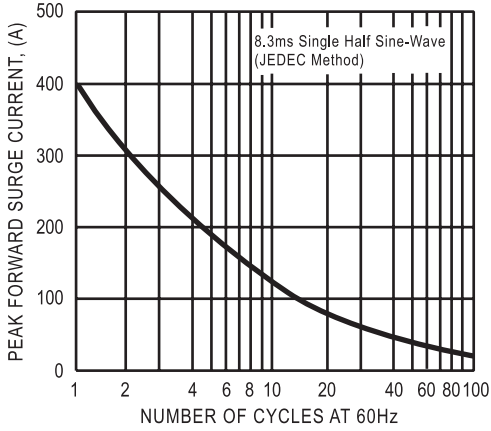


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

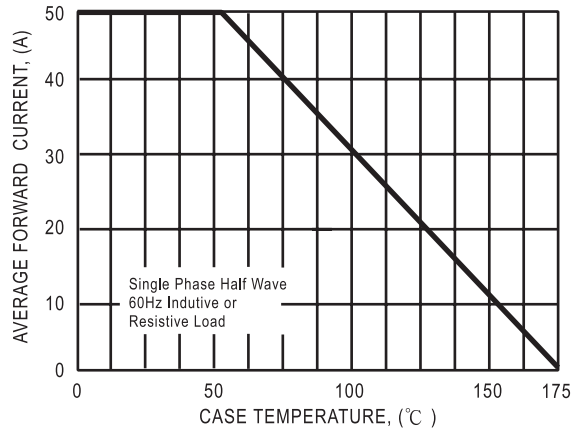


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

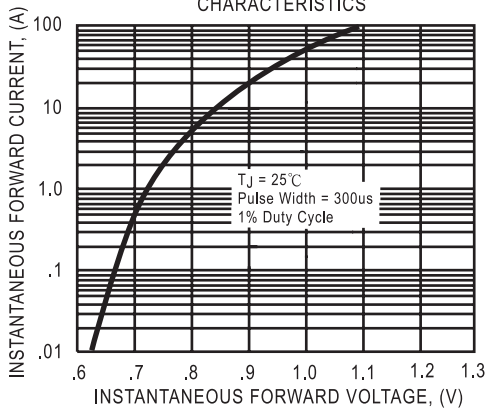
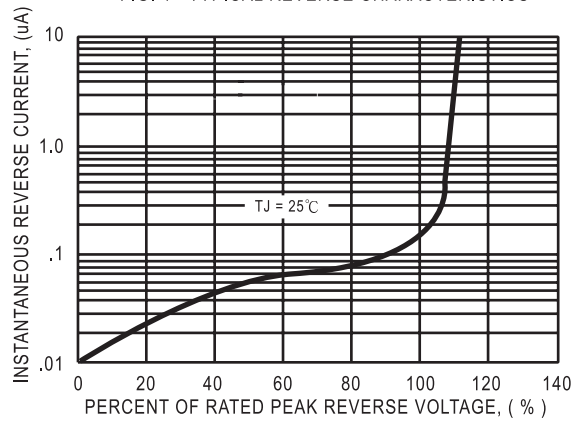


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



DC COMPONENTS CO., LTD.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

[LittleDiode.com](http://LittleDiode.com)

Looking forward to providing you with the best possible service.