



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**BR5005W  
THRU  
BR5010W**

**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**

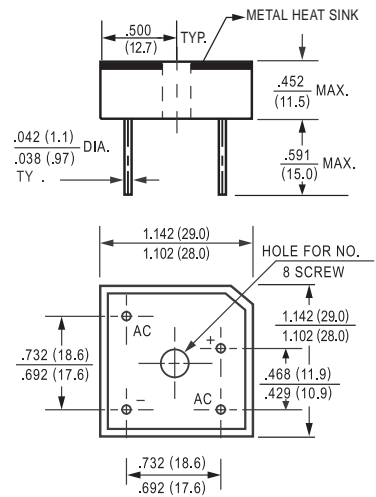
- \* Case: Molded plastic with heatsink
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

**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-25W



Dimensions in inches and (millimeters)

|   | SYMBOL                           | BR5005W      | BR501W | BR502W | BR504W | BR506W | BR508W | BR5010W | 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>                   | 10           |        |        |        |        |        |         | uAmps              |
| DC Blocking Voltage per element   |                                  | 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 + 150 |        |        |        |        |        |         | °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 ( BR5005W THRU BR5010W )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

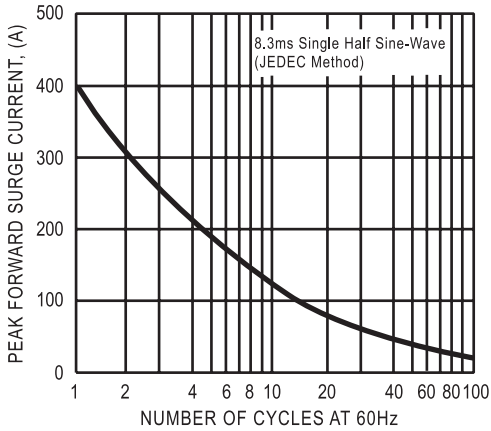


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

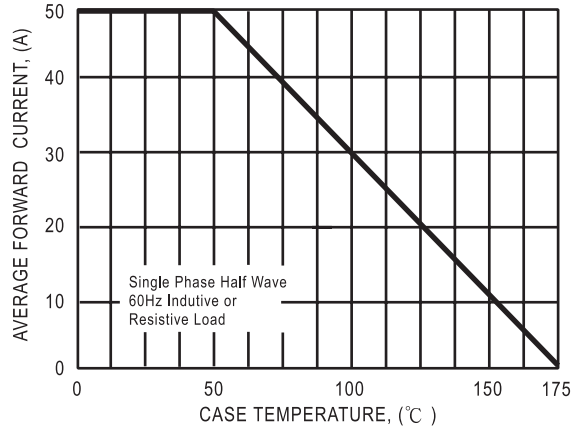


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

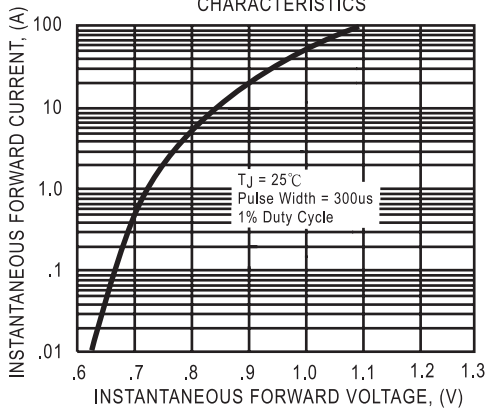
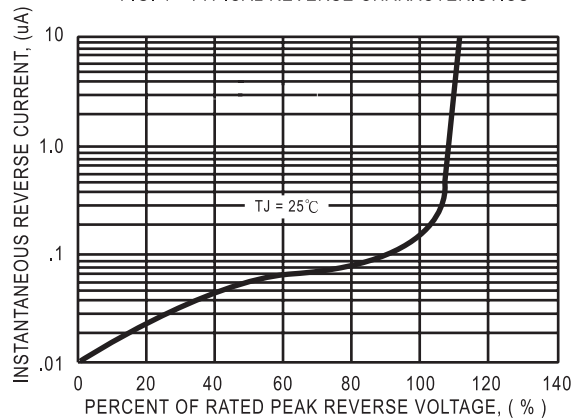


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



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