



**DC COMPONENTS CO., LTD.**  
RECTIFIER SPECIALISTS

**MBR1505W  
THRU  
MBR1510W**

**TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER**  
VOLTAGE RANGE - 50 to 1000 Volts CURRENT - 15 Amperes

**FEATURES**

- \* Plastic case with heatsink for Maximum Heat Dissipation
- \* Diffused Junction
- \* High current capability
- \* Surge overload ratings - 300 Amperes
- \* Low forward voltage drop
- \* High Reliability

**MECHANICAL DATA**

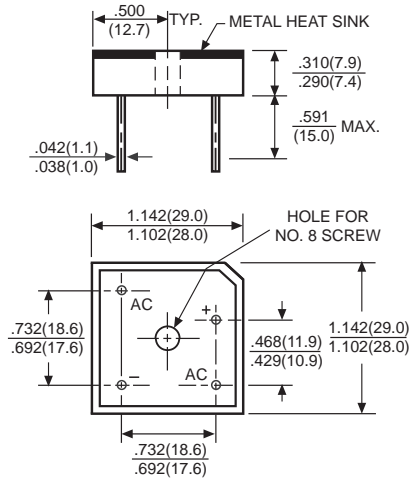
- \* Case: Molded plastic with heatsink
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 25 grams approx.

**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%.



**MBR-25W**



Dimensions in inches and (millimeters)

|   | SYMBOL                            | MBR 1505W                | MBR 151W | MBR 152W | MBR 154W | MBR 156W | MBR 158W | MBR 1510W | 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>                    | 15                       |          |          |          |          |          |           | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 300                      |          |          |          |          |          |           | Amps               |
| Maximum Forward Voltage Drop per element at 7.5A DC   | V <sub>F</sub>                    | 1.1                      |          |          |          |          |          |           | Volts              |
| Maximum DC Reverse Current at Rated   | I <sub>R</sub>                    | @ T <sub>A</sub> = 25°C  |          |          |          |          |          |           | μAmps              |
| DC Blocking Voltage per element   |                                   | @ T <sub>A</sub> = 100°C |          |          |          |          |          |           |                    |
| I <sup>2</sup> t Rating for Fusing (t<8.3ms)  | I <sup>2</sup> t                  | 374                      |          |          |          |          |          |           | A <sup>2</sup> Sec |
| Typical Junction Capacitance (Note1)  | C <sub>J</sub>                    | 300                      |          |          |          |          |          |           | pF                 |
| Typical Thermal Resistance (Note 2)   | R <sub>θJC</sub>                  | 2.5                      |          |          |          |          |          |           | °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 (MBR1505W THRU MBR1510W)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

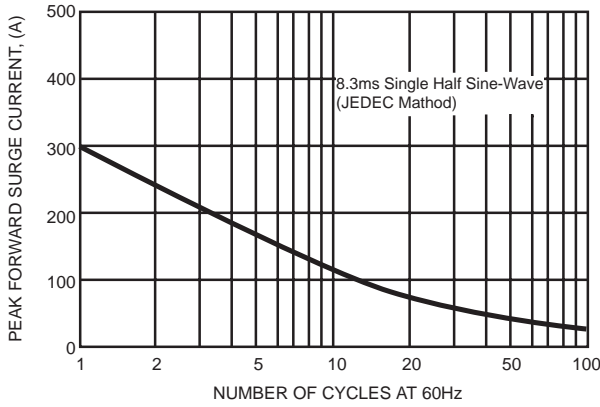


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

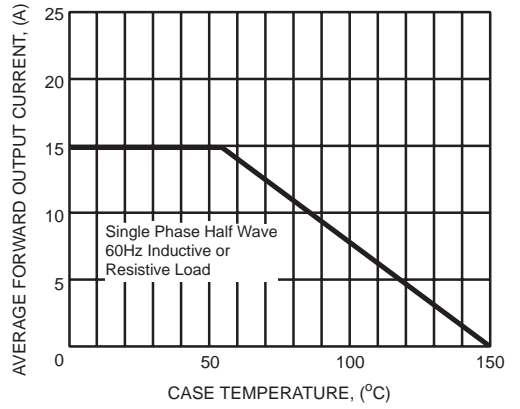


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

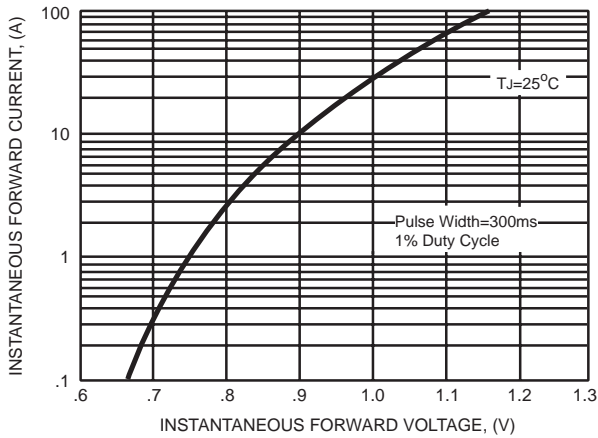


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

