



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

KBPC / MB  
15005W / 1505W  
THRU  
KBPC / MB  
1510W / 1510W

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

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 15 Amperes**

**FEATURES**

- \* Metal case for Maximum Heat Dissipation
- \* Surge overload ratings-300 Amperes
- \* Low forward voltage drop

**MECHANICAL DATA**

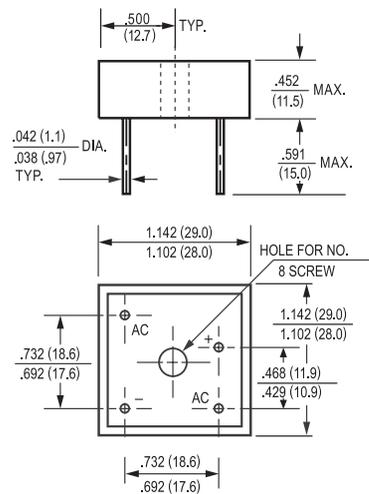
- \* Case: Metal, electrically isolated
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

**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%.



**MB-25W**



Dimensions in inches and (millimeters)

|   |                                   | KBPC<br>15005W | KBPC<br>1501W | KBPC<br>1502W | KBPC<br>1504W | KBPC<br>1506W | KBPC<br>1508W | KBPC<br>1510W |                    |
|---|-----------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|
|   | SYMBOL                            | MB1505W        | MB151W        | MB152W        | MB154W        | MB156W        | MB158W        | MB1510W       | 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>                    | 10             |               |               |               |               |               |               | uAmps              |
| DC Blocking Voltage per element   |                                   | 500            |               |               |               |               |               |               |                    |
| 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 ( KBPC15005W MB1505W THRU KBPC1510W MB1510W )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

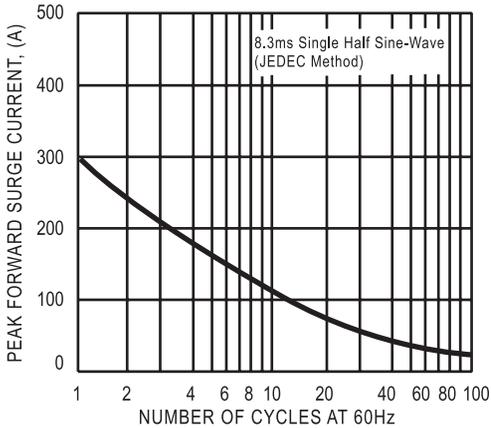


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

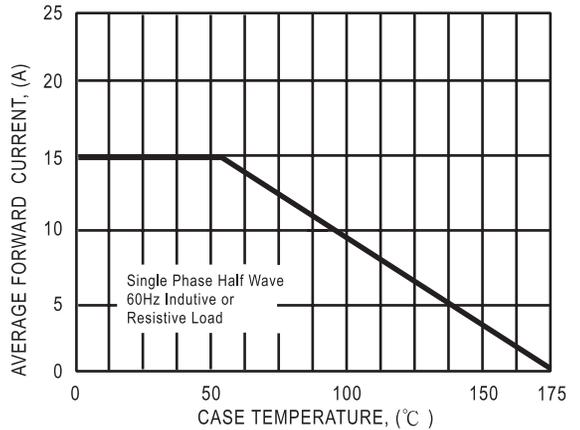


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

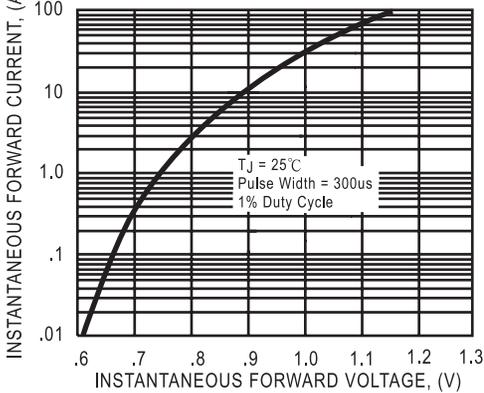
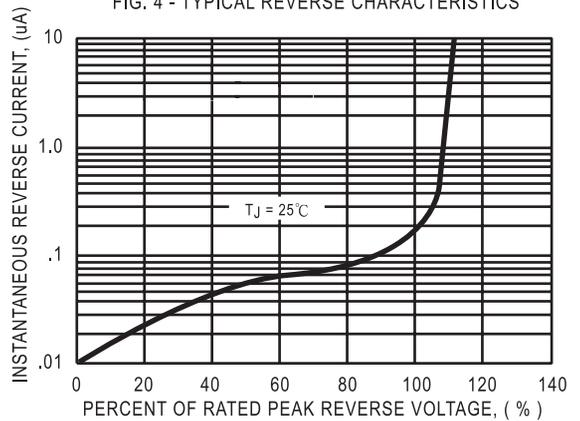


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



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