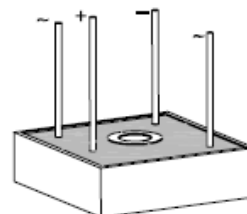


## 25A Single-Phase Bridge Rectifier

### Features

- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Electrically Isolated Metal Case for Max. Heat Dissipation
- Case to Terminal Isolation Voltage 2500V
- This series is UL recognized under component index, File number E194718
- RoHS Compliant



**MB35W  
(Metal Case)**



### Mechanical Data

|                         |                                           |
|-------------------------|-------------------------------------------|
| <b>Case:</b>            | KBPC-W (MB35W) Metal case with wire leads |
| <b>Terminals:</b>       | Plated wire leads                         |
| <b>Polarity:</b>        | As marked on case                         |
| <b>Mounting:</b>        | Through hole with #10 screw               |
| <b>Mounting Torque:</b> | 23 cm-kg (20 in-lbs) Max.                 |
| <b>Weight:</b>          | 28 grams                                  |

### Maximum Ratings And Electrical Characteristics ( $T_{amb}=25^{\circ}\text{C}$ )

| Symbol                 | Description                               | MB25<br>05W | MB25<br>1W | MB25<br>2W | MB25<br>4W | MB25<br>6W | MB25<br>8W | MB25<br>10W | Unit | Conditions                                                            |
|------------------------|-------------------------------------------|-------------|------------|------------|------------|------------|------------|-------------|------|-----------------------------------------------------------------------|
| <b>V<sub>RRM</sub></b> | Max. Repetitive Peak Reverse Voltage      | 50          | 100        | 200        | 400        | 600        | 800        | 1000        | V    |                                                                       |
| <b>V<sub>RMS</sub></b> | Max. RMS Voltage                          | 35          | 70         | 140        | 280        | 420        | 560        | 700         | V    |                                                                       |
| <b>V<sub>DC</sub></b>  | Max. DC blocking voltage                  | 50          | 100        | 200        | 400        | 600        | 800        | 1000        | V    |                                                                       |
| <b>I<sub>O</sub></b>   | Average Rectified Output Current          | 25          |            |            |            |            |            |             | A    | $T_A=60^{\circ}\text{C}$                                              |
| <b>I<sub>FSM</sub></b> | Non-Repetitive Peak Forward Surge Current | 300         |            |            |            |            |            |             | A    | 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |

# 25A Single-Phase Bridge Rectifier

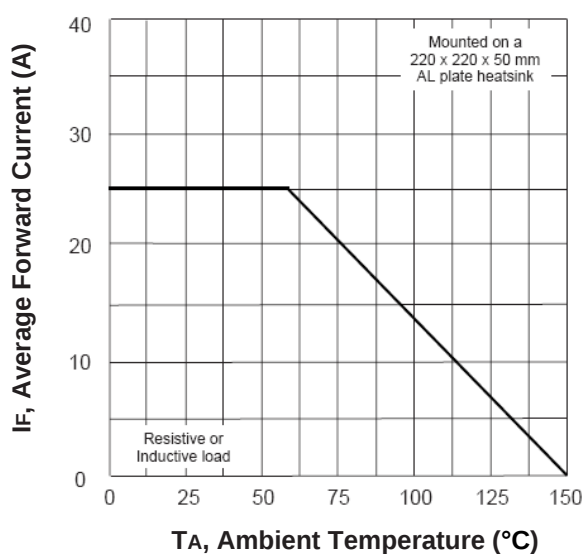
## MB2505W – MB2510W

| Symbol                                | Description                                                  | MB25<br>05W | MB25<br>1W | MB25<br>2W | MB25<br>4W | MB25<br>6W | MB25<br>8W | MB25<br>10W | Unit             | Conditions                    |
|---------------------------------------|--------------------------------------------------------------|-------------|------------|------------|------------|------------|------------|-------------|------------------|-------------------------------|
| <b>V<sub>FM</sub></b>                 | Forward Voltage per leg                                      | 1.1         |            |            |            |            |            |             | V                | I <sub>o</sub> =12.5A         |
| <b>I<sub>RM</sub></b>                 | Max. Reverse DC Current At Rated DC Blocking Voltage per leg | 10          |            |            |            |            |            |             | μA               | T <sub>C</sub> = 25°C         |
|                                       |                                                              | 1000        |            |            |            |            |            |             | μA               | T <sub>C</sub> = 125°C        |
| <b>I<sup>2</sup>t</b>                 | Rating for Fusing (t<8.3ms)                                  | 373         |            |            |            |            |            |             | A <sup>2</sup> s |                               |
| <b>C<sub>J</sub></b>                  | Typical junction capacitance per leg                         | 300         |            |            |            |            |            |             | pF               | f=1MHz<br>V <sub>R</sub> = 4V |
| <b>R<sub>thjc</sub></b>               | Typical Thermal Resistance per leg                           | 2.6         |            |            |            |            |            |             | °C / W           | Note                          |
| <b>V<sub>ISO</sub></b>                | RMS Isolation Voltage from Case to Leads                     | 2500        |            |            |            |            |            |             | V                |                               |
| <b>T<sub>J</sub>, T<sub>STG</sub></b> | Operating Junction and Storage Temperature Range             | -65 to +150 |            |            |            |            |            |             | °C               |                               |

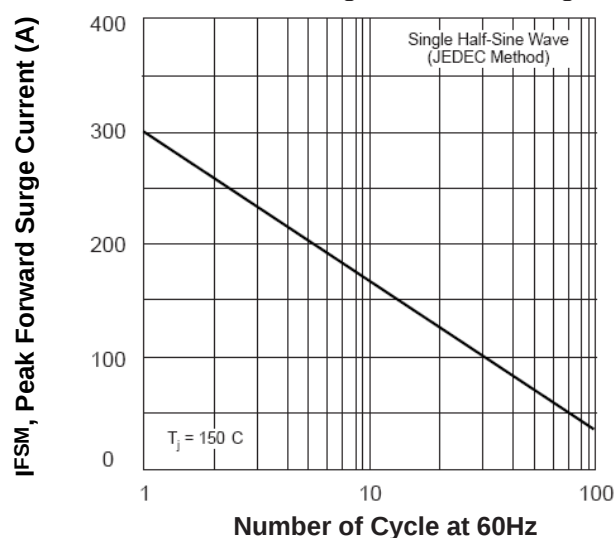
**Note:** Thermal Resistance junction to case, mounted on heatsink.

## Typical Characteristics Curves

**Fig.1- Forward Current Derating Curve**



**Fig.2-Max. Non-repetitive Peak Forward Surge Current Per Leg**



# 25A Single-Phase Bridge Rectifier

## MB2505W – MB2510W

Fig.3-Typical Instantaneous Forward Characteristic Per Leg

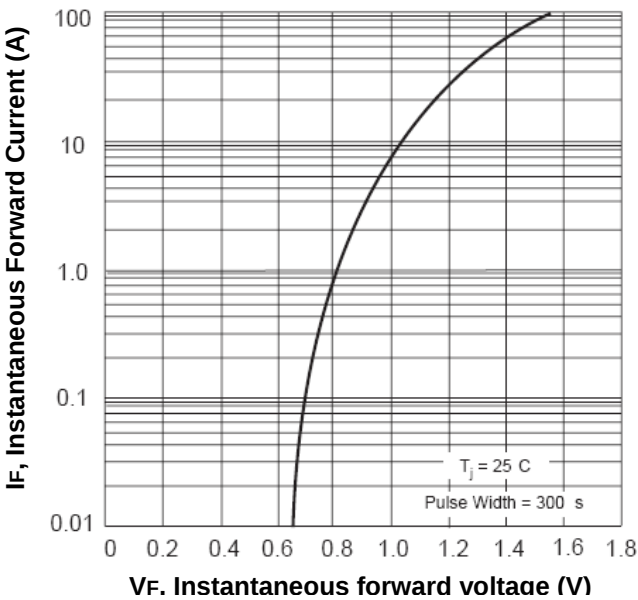


Fig.4-Typical Reverse Characteristics Per Leg

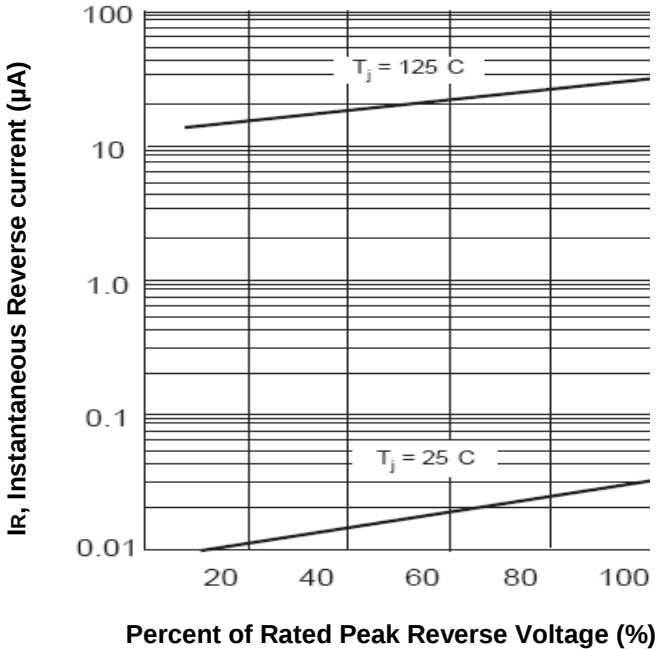
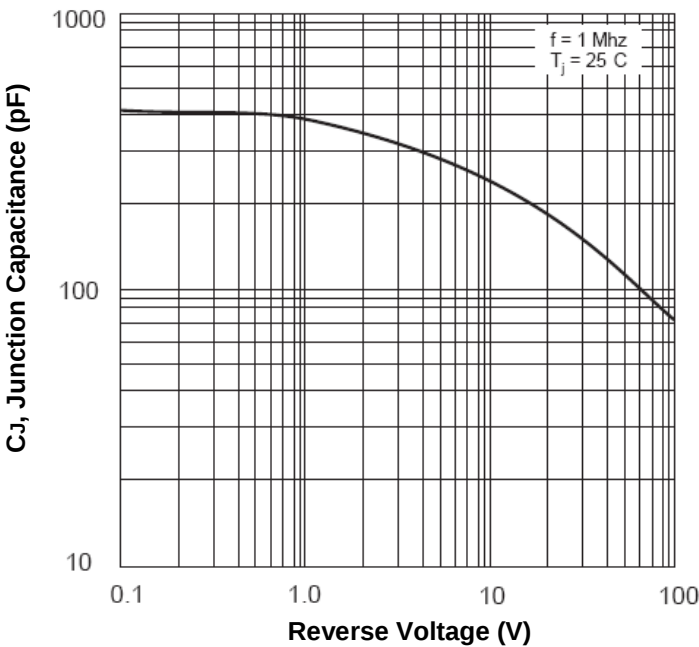


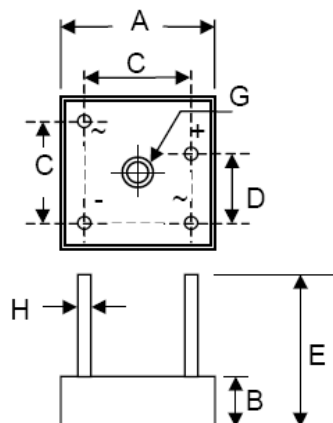
Fig.5-Typical Junction Capacitance Per Leg



# 25A Single-Phase Bridge Rectifier

## MB2505W – MB2510W

### Dimensions in inch (mm)



|                     | KBPC                              |       | KBPC-W |       |
|---------------------|-----------------------------------|-------|--------|-------|
| Dim                 | Min                               | Max   | Min    | Max   |
| A                   | 27.94                             | 28.96 | 27.94  | 28.96 |
| B                   | 10.97                             | 11.23 | 10.97  | 11.23 |
| C                   | 15.50                             | 17.60 | 17.10  | 19.10 |
| D                   | 17.50                             | 18.50 | 10.90  | 11.90 |
| E                   | 22.86                             | 25.40 | 30.50  | —     |
| G                   | Hole for #10 screw, 5.08Ø Nominal |       |        |       |
| H                   | 6.35 Typical                      |       | 0.97Ø  | 1.07Ø |
| All Dimension in mm |                                   |       |        |       |

**KBPC-W (MB35W)**

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