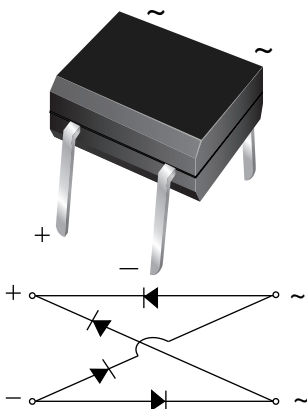


# Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style MBM

## PRIMARY CHARACTERISTICS

|                        |                     |
|------------------------|---------------------|
| Package                | MBM                 |
| $I_{F(AV)}$            | 0.5 A               |
| $V_{RRM}$              | 200 V, 400 V, 600 V |
| $I_{FSM}$              | 30 A                |
| $I_R$                  | 5 $\mu$ A           |
| $V_F$ at $I_F = 0.5$ A | 1.0 V               |
| $T_J$ max.             | 150 °C              |
| Diode variations       | Quad                |

## FEATURES

- UL recognized, file number E54214
- Ideal for printed circuit boards
- Applicable for automotive insertion
- Middle surge current capability
- Recommended for non-automotive applications
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

## TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications.

## MECHANICAL DATA

**Case:** MBM

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked on body

## MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                                                                                        | SYMBOL         | B2M                | B4M | B6M | UNIT             |
|--------------------------------------------------------------------------------------------------|----------------|--------------------|-----|-----|------------------|
| Device marking code                                                                              |                | B2                 | B4  | B6  |                  |
| Maximum repetitive peak reverse voltage                                                          | $V_{RRM}$      | 200                | 400 | 600 | V                |
| Maximum RMS voltage                                                                              | $V_{RMS}$      | 140                | 280 | 420 | V                |
| Maximum DC blocking voltage                                                                      | $V_{DC}$       | 200                | 400 | 600 | V                |
| Maximum average forward output rectified current (fig. 1) on glass-epoxy PCB                     | $I_{F(AV)}$    | 0.5 <sup>(1)</sup> |     |     | A                |
| Peak forward surge current 10 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$      | 30                 |     |     | A                |
| Rating for fusing ( $t < 8.3$ ms)                                                                | $I^2t$         | 5.0                |     |     | A <sup>2</sup> s |
| Operating junction and storage temperature range                                                 | $T_J, T_{STG}$ | - 55 to + 150      |     |     | °C               |

### Note

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

## ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                                                         | TEST CONDITIONS         | SYMBOL         | B2M | B4M | B6M | UNIT |
|-------------------------------------------------------------------|-------------------------|----------------|-----|-----|-----|------|
| Maximum instantaneous forward voltage drop per diode              | I <sub>F</sub> = 0.5 A  | V <sub>F</sub> | 1.0 |     |     | V    |
| Maximum DC reverse current at rated DC blocking voltage per diode | T <sub>A</sub> = 25 °C  | I <sub>R</sub> | 5.0 |     |     | μA   |
|                                                                   | T <sub>A</sub> = 125 °C |                | 100 |     |     |      |
| Typical junction capacitance per diode                            | 4.0 V, 1 MHz            | C <sub>J</sub> | 13  |     |     | pF   |

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

| PARAMETER                                 | SYMBOL           | B2M | B4M | B6M | UNIT |
|-------------------------------------------|------------------|-----|-----|-----|------|
| Typical thermal resistance <sup>(1)</sup> | R <sub>θJA</sub> | 90  |     |     | °C/W |
|                                           | R <sub>θJL</sub> | 40  |     |     |      |

**Note**

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

**ORDERING INFORMATION** (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
|---------------|-----------------|------------------------|---------------|---------------|
| B2M-E3/45     | 0.22            | 45                     | 100           | Tube          |

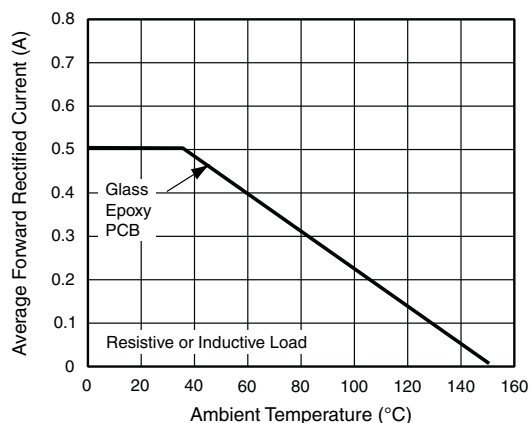
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve for Output Rectified Current

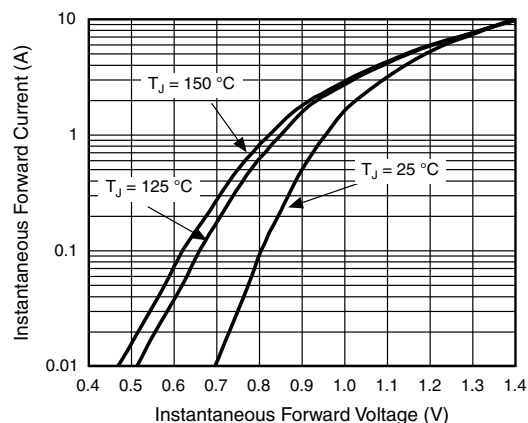


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

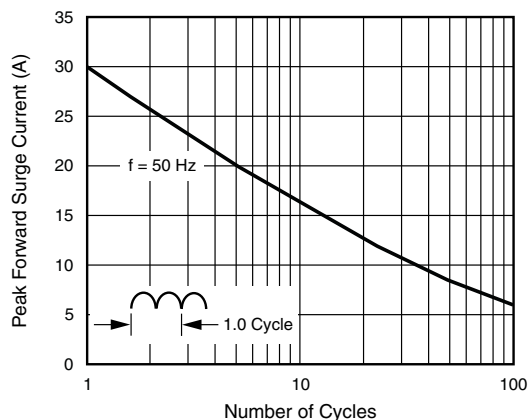


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

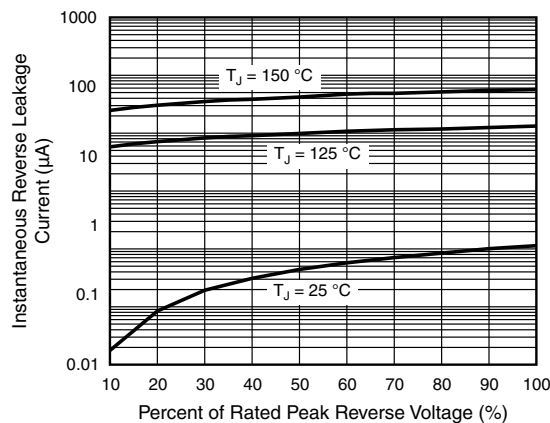


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

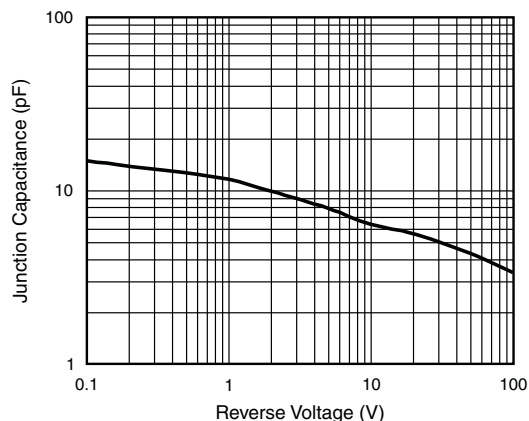
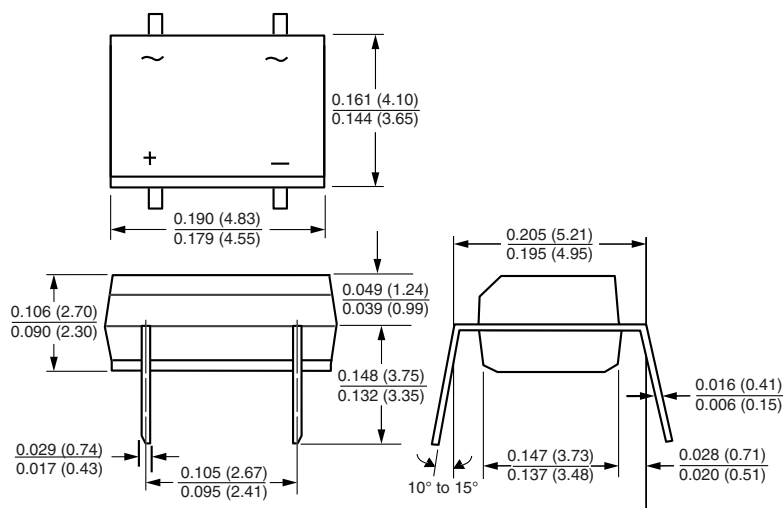


Fig. 5 - Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)  
**Case Style MBM**





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