Miniature Glass Passivated Single-Phase Bridge Rectifiers

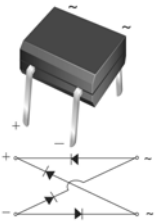
# MB2M thru MB10M

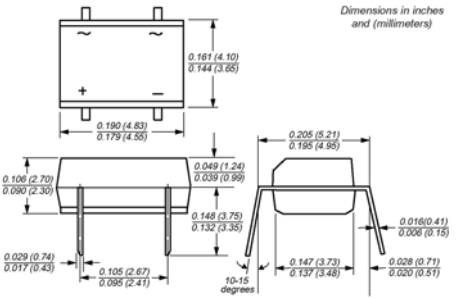
Reverse Voltage 200 to 1000 Volts  Forward Current 0.5 Ampere

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junctions
- High surge overload rating: 35A peak
- Saves space on printed circuit boards
- Recommended for non-automotive applications

**MBM**






## Mechanical Data

- Case: Molded plastic body over passivated junctions
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- Mounting Position: Any
- Weight: 0.078 oz., 0.22 g

## Maximum Ratings and Electrical Characteristics

($T_A$=25°C unless otherwise noted)

| Parameter | Symbol S | MB2M | MB4M | MB6M | MB8M | MB10M | Units |
|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | $V_{RMS}$ | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | $V_{DC}$ | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward output rectified current (see Fig.1) on glass-epoxy P.C.B. on aluminum substrate | $I_{F(AV)}$ | 0.5 (1)<br>0.8 (2) | | | | | Amp |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 35.0 | | | | | Amps |
| Rating for fusing (t < 8.3ms) | $I^2t$ | 5.0 | | | | | $A^2$sec |
| Maximum instantaneous forward voltage drop per leg at 0.4A | $V_F$ | 1.0 | | | | | Volt |
| Maximum DC reverse current at rated DC blocking voltage per leg $T_A$ = 25°C<br>$T_A$ = 125°C | $I_R$ | 5.0<br>100 | | | | | uA |
| Typical thermal resistance per leg | $R_{\theta JA}$<br>$R_{\theta JA}$<br>$R_{\theta JL}$ | 85 (1)<br>70 (2)<br>20 (1) | | | | | °C/W |
| Typical junction capacitance per leg (3) | $C_J$ | 13 | | | | | pF |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | -55 to +150 | | | | | °C |

**Notes:** 1. On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads
2. On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad
3. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

## RATINGS AND CHARACTERISTIC CURVES

($T_A$ = 25°C unless otherwise noted)

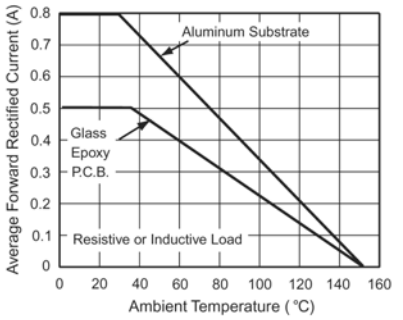



Figure 1. Derating Curve for Output Rectified Current

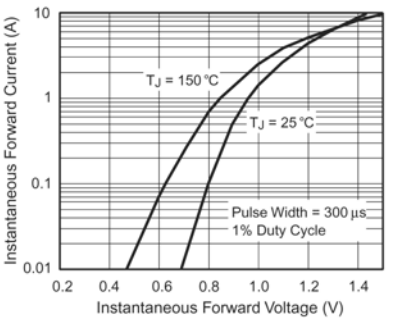



Figure 3. Typical Forward Voltage Characteristics Per Leg

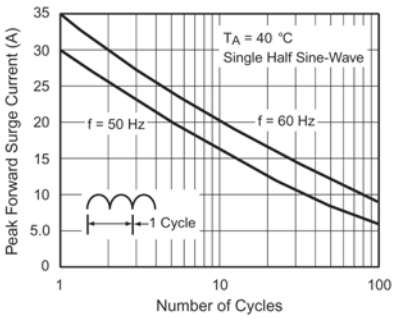



Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

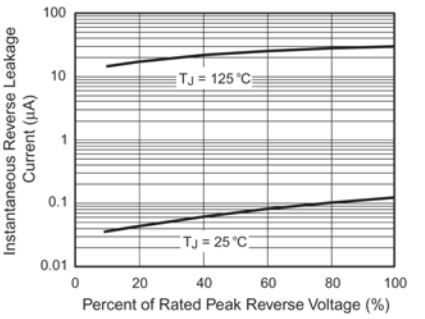



Figure 4. Typical Reverse Leakage Characteristics Per Leg

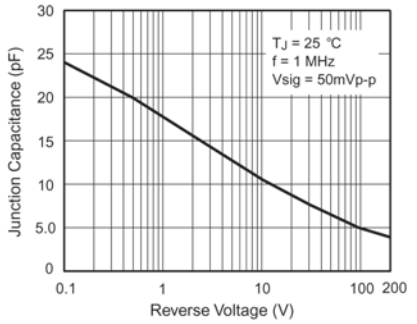



Figure 5. Typical Junction Capacitance Per Leg