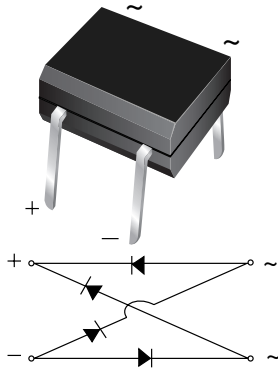


Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style MBM

FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automotive insertion
- High surge current capability
- Recommended for non-automotive applications
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


RoHS
COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA

Case: MBM

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked on body

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
V_{RRM}	200 V, 400 V, 600 V
I_{FSM}	35 A
I_R	5 μ A
V_F	1.0 V
T_J max.	150 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	MB2M	MB4M	MB6M	UNIT
Device marking code		2	4	6	
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)	$I_{F(AV)}$	0.5 ⁽¹⁾ 0.8 ⁽²⁾			A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	35			A
Rating for fusing ($t < 8.3$ ms)	I^2t	5.0			A ² s
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 1.3 mm) pads

(2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20 mm) mounted on 0.05 x 0.05" (1.3 x 1.3 mm) solder pad

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MB2M	MB4M	MB6M	UNIT
Maximum instantaneous forward voltage drop per diode	0.4 A	V_F		1.0		V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	I_R		5.0 100		μA
Typical junction capacitance per diode ⁽¹⁾		C_J		13		pF

Note:

(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 V

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MB2M	MB4M	MB6M	UNIT	
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$		85 ⁽¹⁾ 70 ⁽²⁾ 20 ⁽¹⁾		$^\circ\text{C/W}$	

Notes:

- (1) On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3 mm) pads
- (2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20 mm) mounted on 0.05 x 0.05" (1.3 x 1.3 mm) solder pad

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MB2M-E3/45	0.22	45	100	Tube

RATINGS AND CHARACTERISTICS CURVES

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

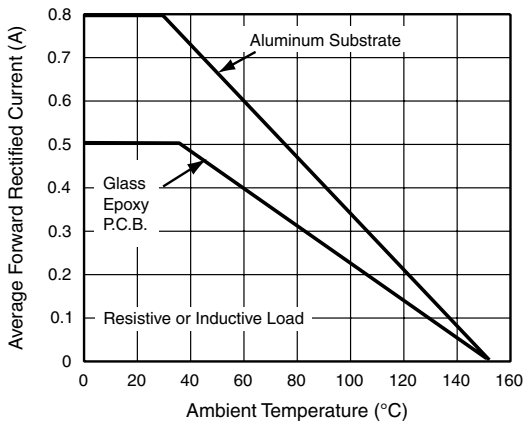


Figure 1. Derating Curve for Output Rectified Current

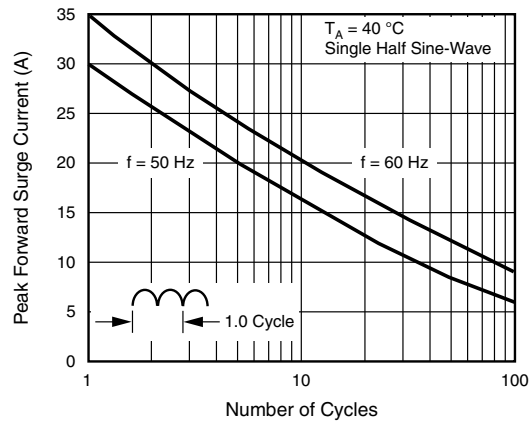


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

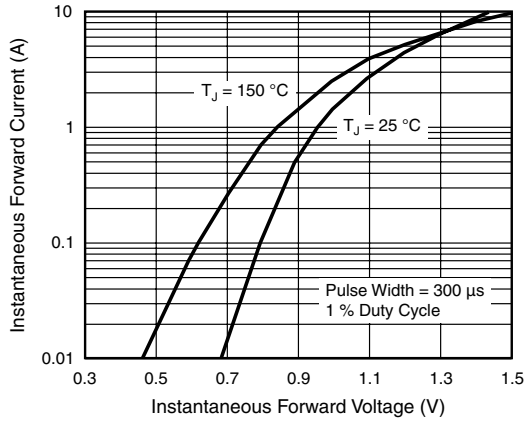


Figure 3. Typical Forward Voltage Characteristics Per Diode

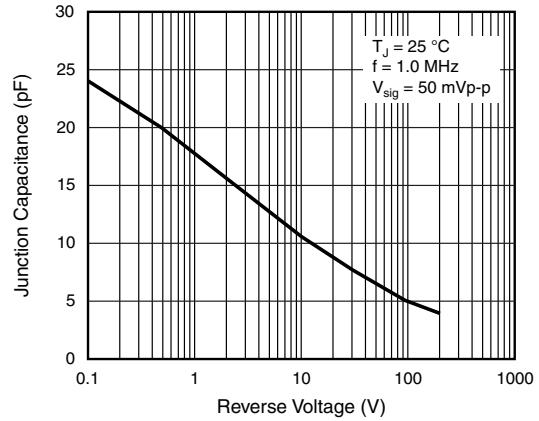


Figure 5. Typical Junction Capacitance Per Diode

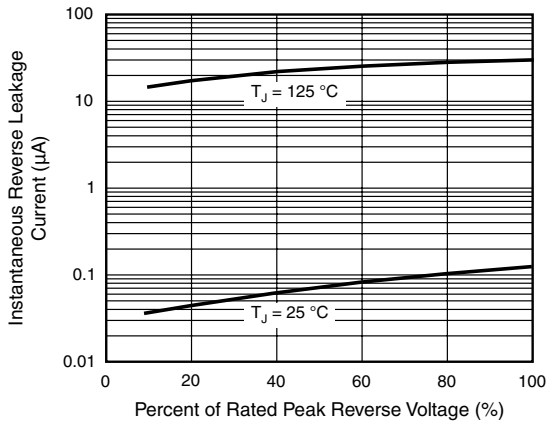
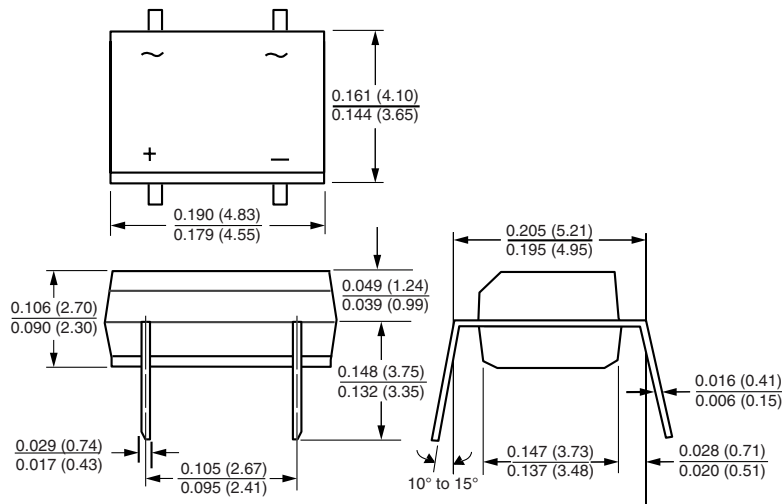


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style MBM





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