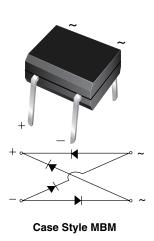


Vishay General Semiconductor

# Miniature Glass Passivated Single-Phase Bridge Rectifiers



PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub> 0.5 A					
$V_{RRM}$	200 V, 400 V, 600 V				
I <sub>FSM</sub>	35 A				
I <sub>R</sub>	5 μΑ				
V <sub>F</sub>	1.0 V				
T <sub>J</sub> max.	150 °C				

#### **FEATURES**





· Ideal for printed circuit boards



Applicable for automative insertion

RoHS

· 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

### **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

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	MB2M	MB4M	МВ6М	UNIT	
Device marking code		2	4	6		
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	٧	
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	V	
Maximum DC blocking voltage	$V_{DC}$	200	400	600	V	
Maximum average forward output on glass-epoxy P.C.B. rectified current (Fig. 1) on aluminum substrate	I <sub>F(AV)</sub>	0.5 <sup>(1)</sup> 0.8 <sup>(2)</sup>			Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	35			А	
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	5.0			A <sup>2</sup> s	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	G - 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

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MB2M	МВ4М	МВ6М	UNIT
Maximum instantaneous forward voltage drop per diode	0.4 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 T <sub>A</sub> = 125 °C	I <sub>R</sub>	5.0 100		μΑ	
Typical junction capacitance per diode (1)		CJ		13		pF

#### Note:

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MB2M	MB4M	МВ6М	UNIT
Typical thermal resistance	$egin{array}{l} R_{ hetaJA} \ R_{ hetaJA} \ R_{ hetaJL} \end{array}$		85 <sup>(1)</sup> 70 <sup>(2)</sup> 20 <sup>(1)</sup>		°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<sub>A</sub> = 25 °C unless otherwise noted)

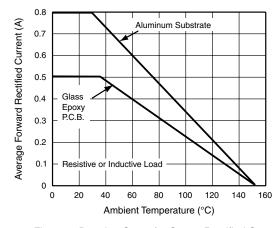


Figure 1. Derating Curve for Output Rectified Current

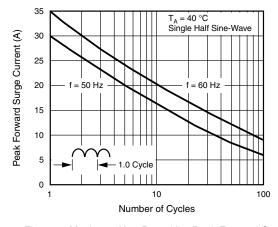


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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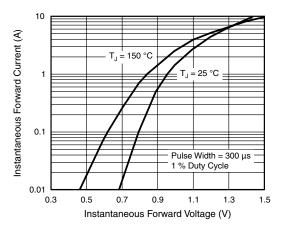


Figure 3. Typical Forward Voltage Characteristics Per Diode

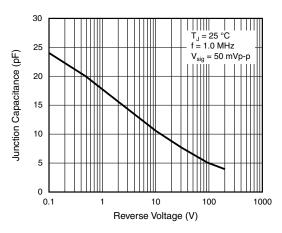


Figure 5. Typical Junction Capacitance Per Diode

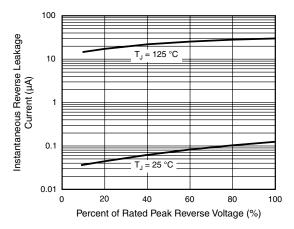
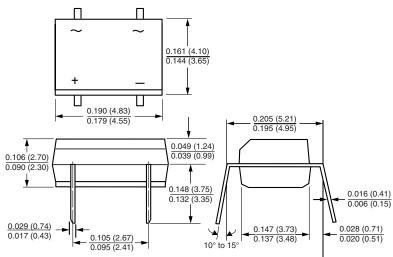


Figure 4. Typical Reverse Leakage Characteristics Per Diode

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

## Case Style MBM





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