

# MB2S thru MB12S

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers  
 Reverse Voltage 200 to 1200 Volts Forward Current 0.5 Ampere

## Features

- Glass passivated chip junctions
- High surge overload rating: 35A peak
- Saves space on printed circuit boards
- High temperature soldering guaranteed: 260°C/10 seconds.



TO-269AA (MBS)

## Mechanical Data

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



Schematic Diagram

## Maximum Ratings and Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	MB2S	MB4S	MB6S	MB8S	MB10S	MB12S	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	200	400	600	800	1000	1200	V
Maximum RMS Voltage	V <sub>RMS</sub>	140	280	420	560	700	840	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	200	400	600	800	1000	1200	V
Maximum Average Forward Rectified Current-On Glass-Epoxy P.C.B. <sup>1</sup>	I <sub>F(AV)</sub>	0.5						A
Maximum Average Forward Rectified Current-On Aluminum Substrate <sup>2</sup>		0.8						
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed On Rated Load (JEDEC Method)	I <sub>FSM</sub>	35						A
Rating For Fusing (t<8.3ms)	I <sup>2</sup> t	5						A <sup>2</sup> Sec
Maximum Instantaneous Forward Voltage Drop Per Leg At 0.4A	V <sub>F</sub>	1						V
Maximum DC Reverse Current At Rated DC Blocking Voltage Per Leg(T <sub>A</sub> =25°C)	I <sub>R</sub>	5						uA
Maximum DC Reverse Current At Rated DC Blocking Voltage Per Leg(T <sub>A</sub> =125°C)		100						uA
Typical Thermal Resistance Per Leg	R <sub>θJA</sub> <sup>1</sup>	85						°C/W
	R <sub>θJA</sub> <sup>2</sup>	70						
	R <sub>θJL</sub> <sup>1</sup>	20						
Typical Junction Capacitance Per Leg At 4.0V, 1.0MHz	C <sub>J</sub>	13						pF
Operating Junction Temperature	T <sub>J</sub>	-55 To +150						°C
Storage Temperature	T <sub>STG</sub>	-55 To +150						°C

**Notes:** 1. On glass epoxy P.C.B. mounted on 0.05 x 0.05 inch (1.3 x 1.3mm) pads

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

## Ratings and Characteristics Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

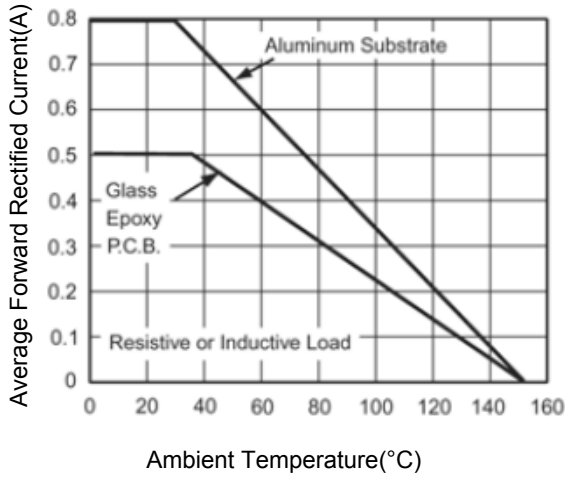


Figure 1. Derating Curve For Output Rectified Current

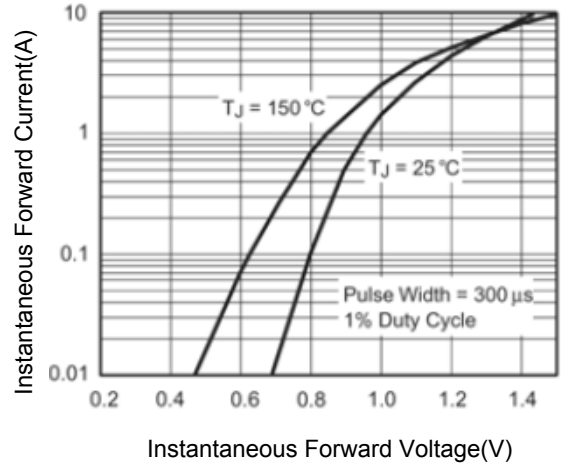


Figure 2. Typical Forward Characteristics Per Leg

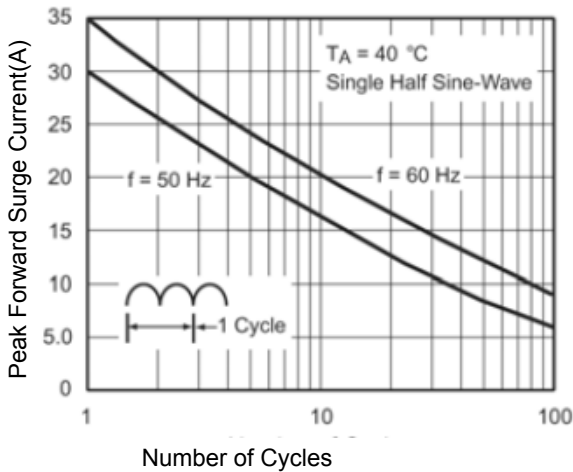


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

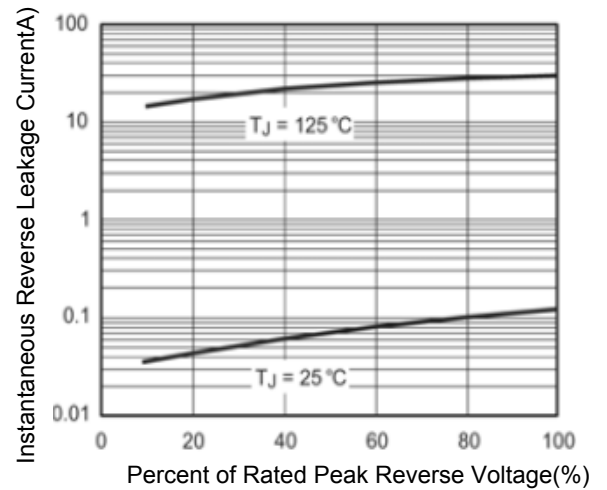


Figure 4. Typical Reverse Leakage Characteristics Per Leg

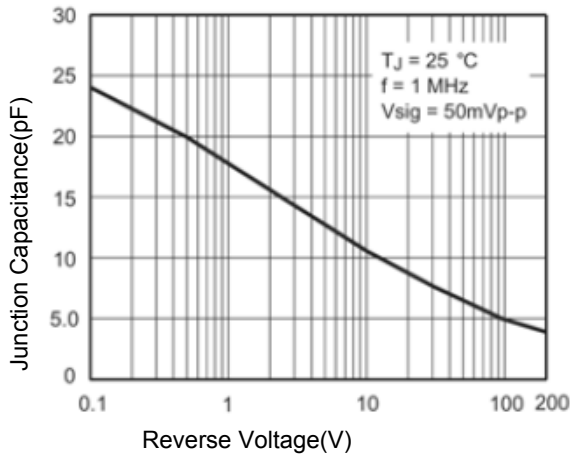
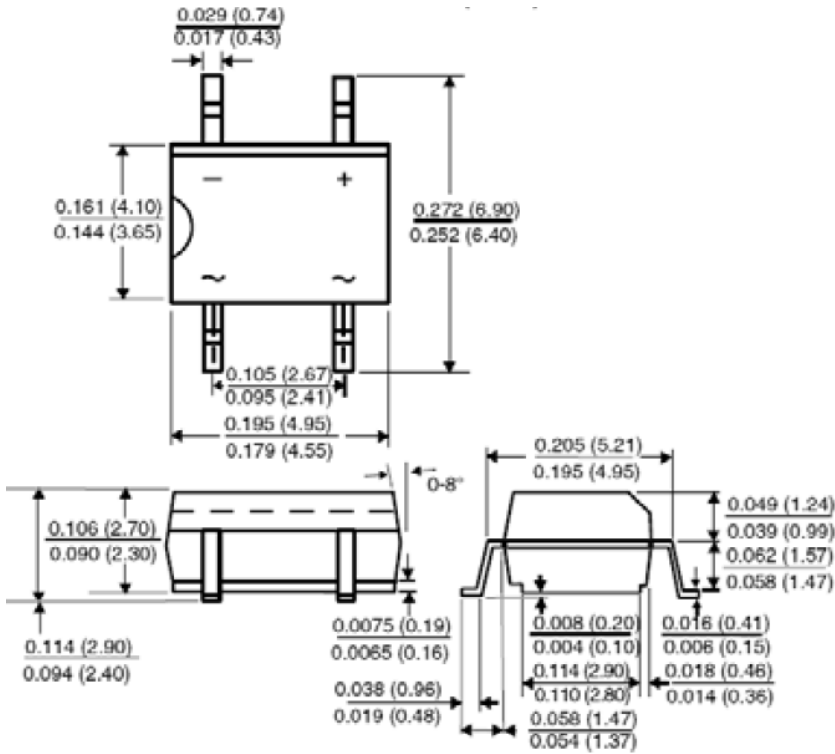


Figure 5. Typical Junction Capacitance Per Leg

## Package Outline Dimensions

in inches (millimeters)

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## Recommended Pad Layout

