



SYNSEMI SEMICONDUCTOR

MB2S thru MB6S

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers
Voltage Range 200 to 600 Volts Forward Current 0.5 Ampere

Features

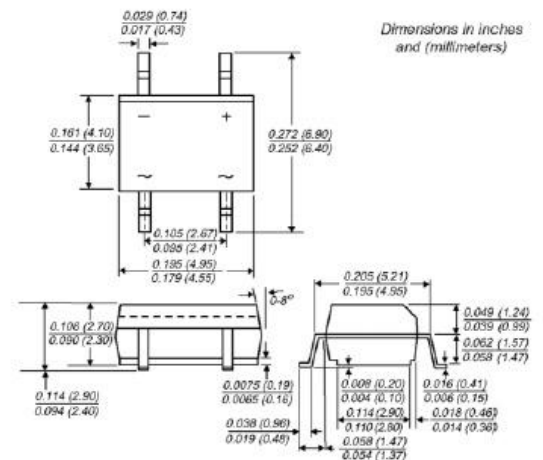
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated chip junctions
- ◆ High surge overload rating: 35A peak
- ◆ Saves space on printed circuit boards
- ◆ High temperature soldering guaranteed: 260°C/10 seconds.



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: 0.078 oz., 0.22 g



Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	MB2S	MB4S	MB6S	Units
Maximum repetitive peak reverse voltage	V_{FRM}	200	400	600	Volts
Maximum RMS voltage	V_{RMS}	140	280	420	Volts
Maximum DC blocking voltage	V_{DC}	200	400	600	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⁾ 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 ($t < 8.3\text{ms}$)	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	I_R		5.0 100		μA
Typical thermal resistance per leg	$R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$		85 ⁽¹⁾ 70 ⁽²⁾ 20 ⁽¹⁾		$^\circ\text{C/W}$
Typical junction capacitance per leg at 4.0V, 1.0MHz	C_j		13		pF
Operating junction and storage temperature range	T_J, T_{STG}		-55 to +150		$^\circ\text{C}$

- 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

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RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Derating Curve for Output Rectified Current

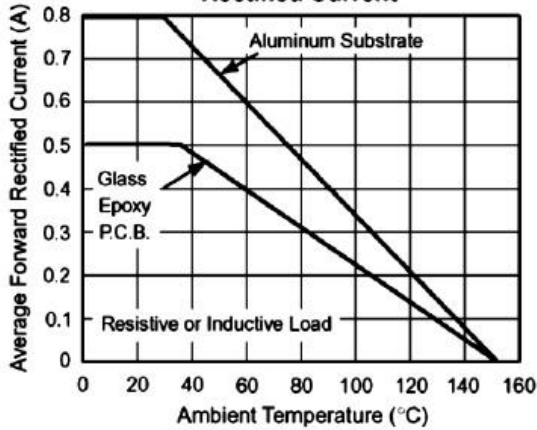


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg

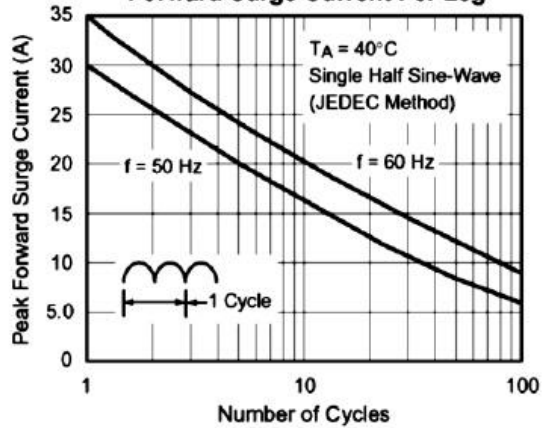


Fig. 3 - Typical Forward Voltage Characteristics Per Leg

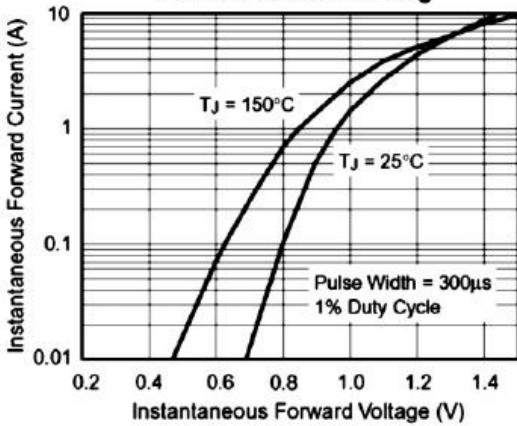


Fig. 4 - Typical Reverse Leakage Characteristics Per Leg

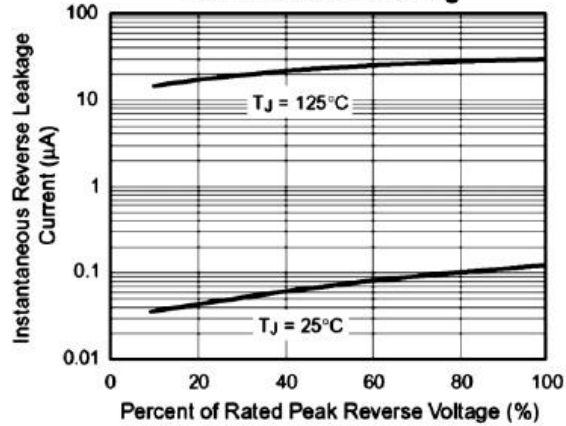


Fig. 5 - Typical Junction Capacitance Per Leg

