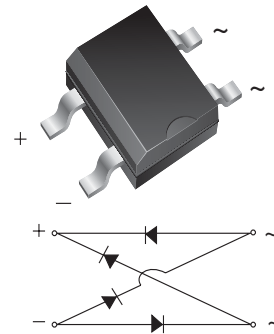


Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier

Major Ratings and 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

TO-269AA (MBS)



Features

- UL Recognition, file number E54214
- Saves space on printed circuit boards
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: TO-269AA (MBS)

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: As marked on body

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

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Parameter	Symbol	MB2S	MB4S	MB6S	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 (see Fig. 1) on glass-epoxy P.C.B. on aluminum substrate	$I_{F(AV)}$		0.5 ⁽¹⁾ 0.8 ⁽²⁾		A
Peak forward surge current 8.3 msec 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 sec
Operating junction and storage temperature range	T_J, T_{STG}		- 55 to + 150		°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	MB2S	MB4S	MB6S	Unit
Max. instantaneous forward voltage drop per leg	at 0.4 A	V_F		1.0		V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	I_R		5.0 100		μA
Typical junction capacitance per leg	at 4.0 V, 1 MHz	C_J		13		pF

Thermal Characteristics

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

Parameter	Symbol	MB2S	MB4S	MB6S	Unit
Typical thermal resistance per leg	$R_{\theta JA}$		85 ⁽¹⁾		$^\circ\text{C/W}$
	$R_{\theta JA}$		70 ⁽²⁾		
	$R_{\theta JL}$		20 ⁽¹⁾		

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

Ratings and Characteristics Curves

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

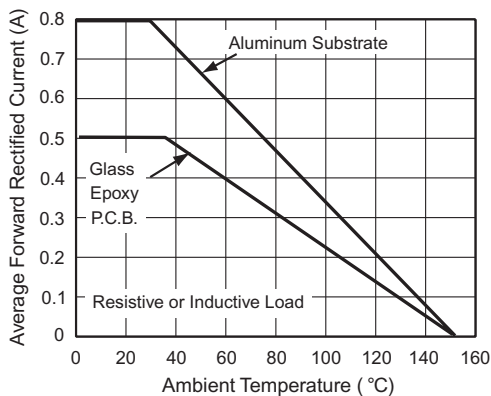


Figure 1. Derating Curve for Output Rectified Current

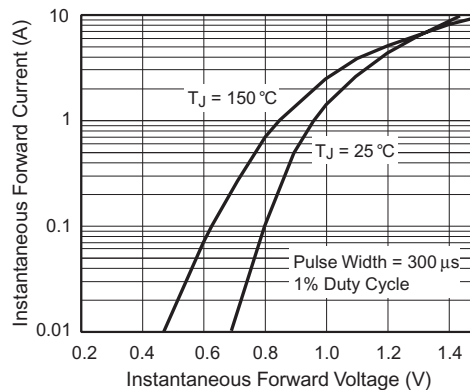


Figure 3. Typical Forward Voltage Characteristics Per Leg

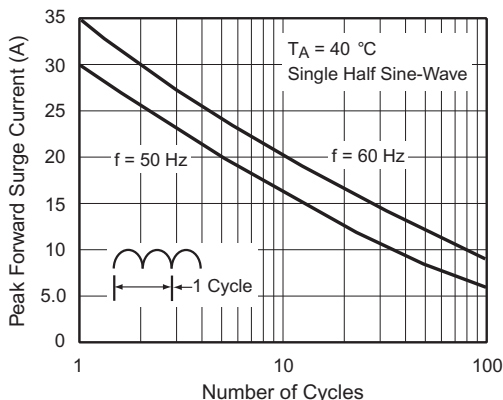


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

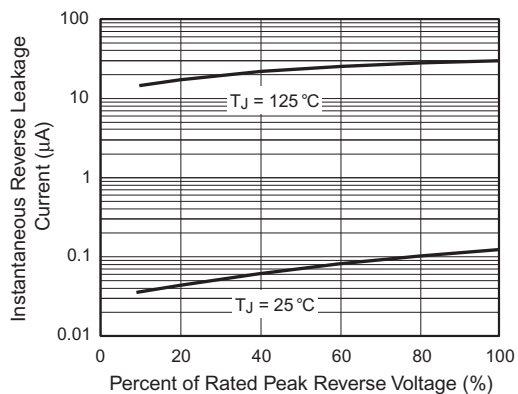


Figure 4. Typical Reverse Leakage Characteristics Per Leg

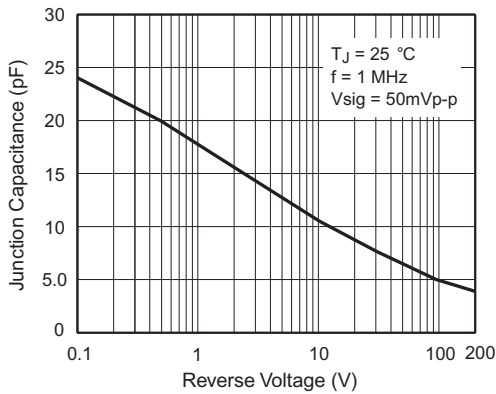


Figure 5. Typical Junction Capacitance Per Leg

Package outline dimensions in inches (millimeters)

