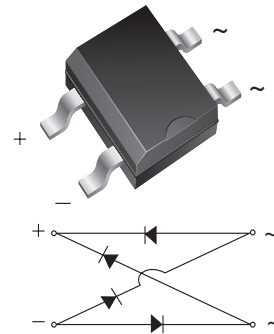


## Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier

### 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 $\mu$ 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 <sup>(1)</sup> 0.8 <sup>(2)</sup>		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 <sup>2</sup> 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		$\mu\text{A}$
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 <sup>(1)</sup>		$^\circ\text{C/W}$
	$R_{\theta JA}$		70 <sup>(2)</sup>		
	$R_{\theta JL}$		20 <sup>(1)</sup>		

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)

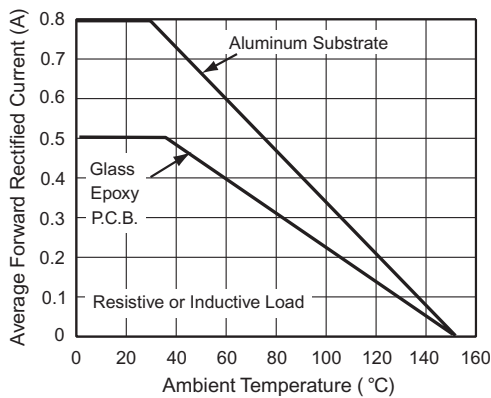


Figure 1. Derating Curve for Output Rectified Current

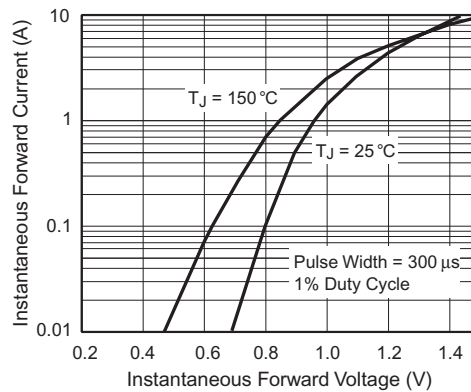


Figure 3. Typical Forward Voltage Characteristics Per Leg

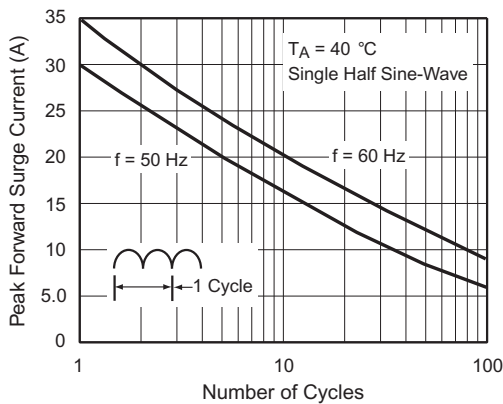


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

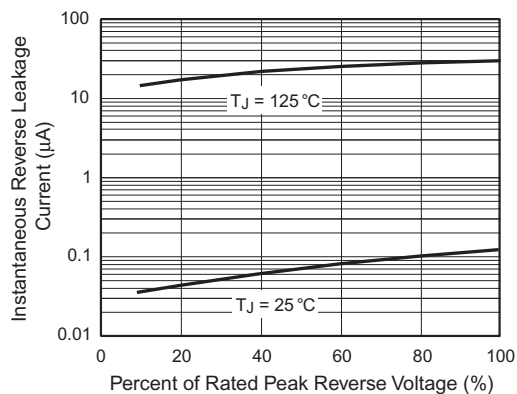


Figure 4. Typical Reverse Leakage Characteristics Per Leg

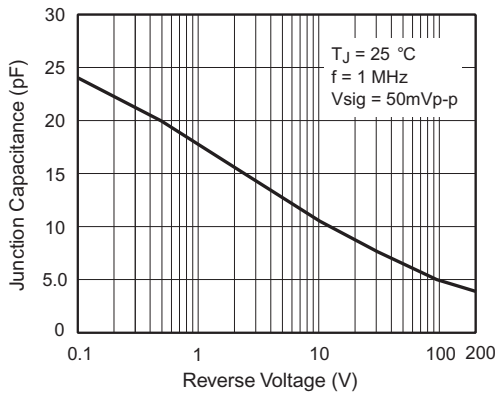


Figure 5. Typical Junction Capacitance Per Leg

## Package outline dimensions in inches (millimeters)

