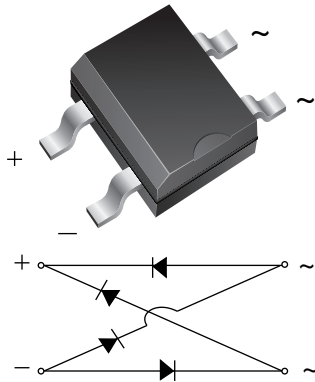


## Miniature Glass Passivated Single-Phase Surface-Mount Bridge Rectifier


**MBS (TO-269AA)**

### FEATURES

- UL recognition, file number E54214
- Saves space on printed circuit boards
- Ideal for automated placement
- Middle surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications.

### LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

#### PRIMARY CHARACTERISTICS

$I_{F(AV)}$	0.5 A
$V_{RRM}$	200 V, 400 V, 600 V
$I_{FSM}$	30 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 0.5$ A	1.0 V
$T_J$ max.	150 °C
Package	MBS (TO-269AA)
Circuit configuration	Quad

### MECHANICAL DATA

**Case:** MBS (TO-269AA)

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** as marked on body

#### MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	B2S	B4S	B6S	UNIT
Device marking code		B2	B4	B6	
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 on glass-epoxy PCB (fig. 1)	$I_{F(AV)}$	0.5 <sup>(1)</sup>			A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	$I_{FSM}$	30			A
Rating for fusing ( $t < 8.3$ ms)	$I^2t$	5.0			A <sup>2</sup> s
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150			°C

#### Note

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUES	UNIT
Maximum instantaneous forward voltage per diode	$I_F = 0.5\text{ A}$	$V_F$	1.0	V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^\circ\text{C}$	$I_R$	5.0	$\mu\text{A}$
	$T_A = 125\text{ }^\circ\text{C}$		100	
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	13	pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	B2S	B4S	B6S	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$		90		$^\circ\text{C/W}$
	$R_{\theta JL}$		40		

**Note**
<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
B2S-E3/80	0.22	80	3000	13" diameter paper tape and reel

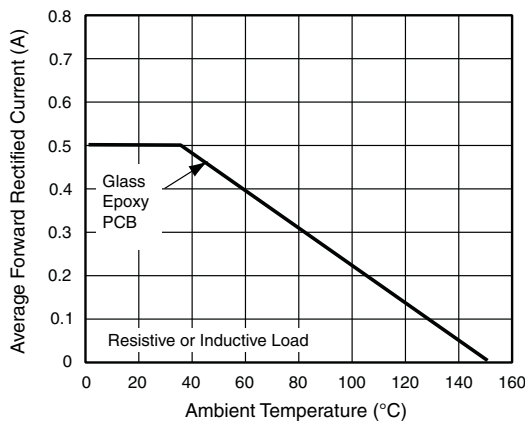
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Derating Curve for Output Rectified Current

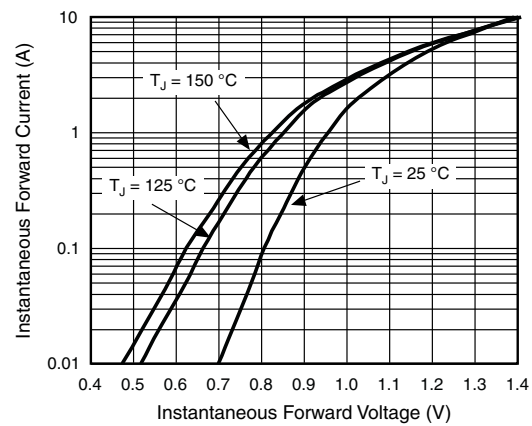


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

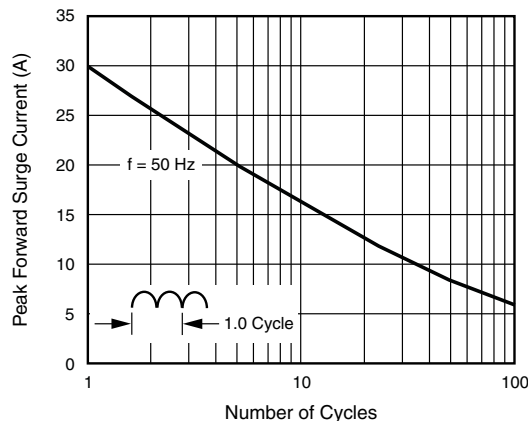


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

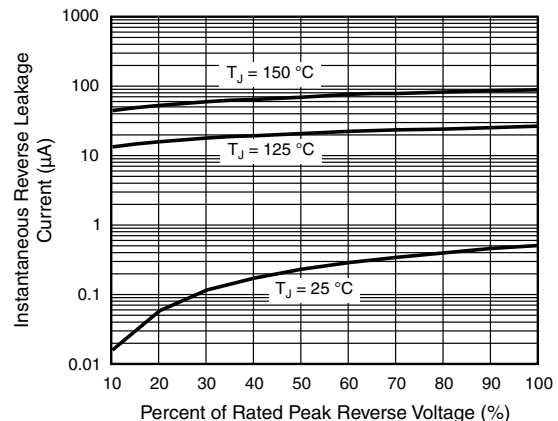


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

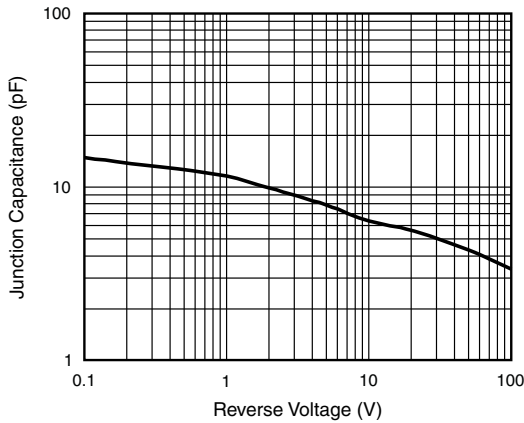
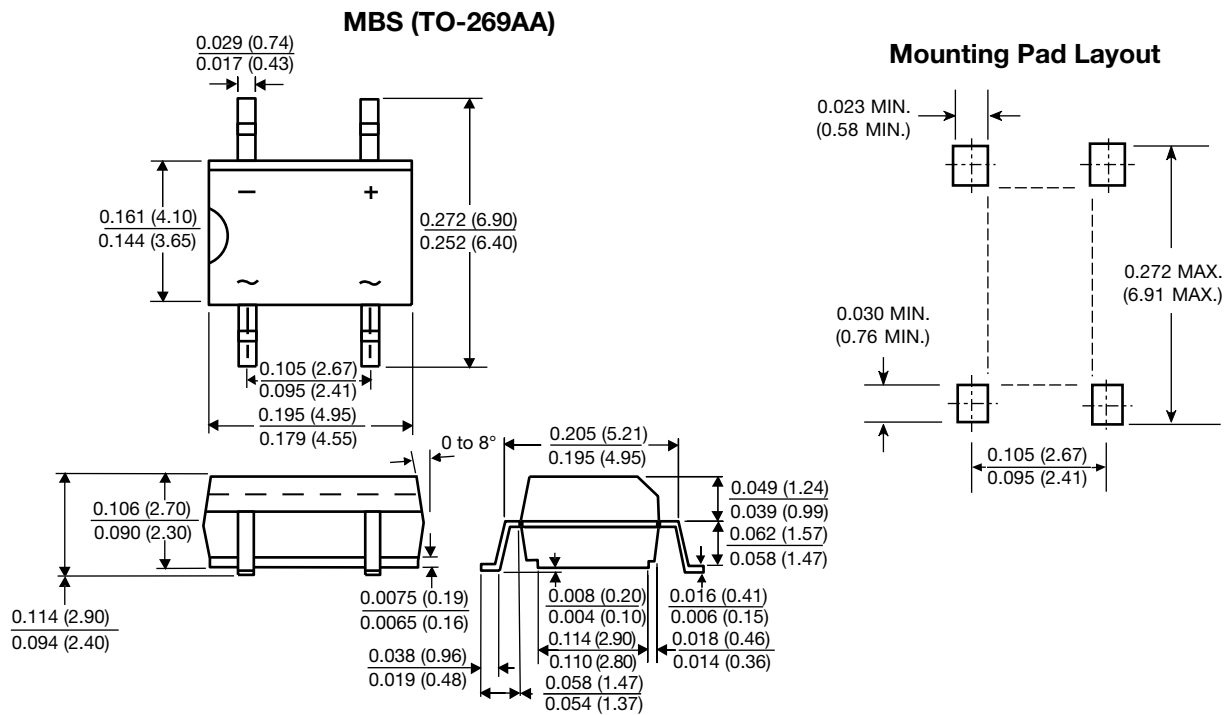


Fig. 5 - Typical Junction Capacitance Per Diode

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





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