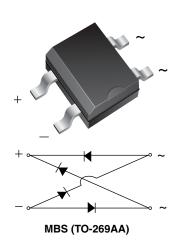


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### Vishay General Semiconductor

## Miniature Glass Passivated Fast Recovery Surface-Mount Bridge Rectifier



#### **LINKS TO ADDITIONAL RESOURCES**



PRIMARY CHARACTERISTICS						
I <sub>F(AV)</sub>	0.5 A					
V <sub>RRM</sub>	200 V, 400 V, 600 V					
I <sub>FSM</sub>	35 A					
I <sub>R</sub>	5 μΑ					
$V_F$ at $I_F = 0.4$ A	1.0 V					
T <sub>J</sub> max.	150 °C					
Package	MBS (TO-269AA)					
Circuit configuration	Quad					

#### **FEATURES**

• UL recognition, file number E54214



RoHS

• Ideal for automated placement

- High 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 <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

#### **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.

#### **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 <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	MB2S	MB4S	MB6S	UNIT
Device marking code			2	4	6	
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	200	400	600	V
Maximum RMS voltage		$V_{RMS}$	140	280	420	V
Maximum DC blocking voltage		V <sub>DC</sub>	200	400	600	V
Maximum average forward output rectified current (fig. 1)	on glass-epoxy PCB (1)	1	0.5			A
	on aluminum substrate (2)	I <sub>F(AV)</sub>		0.8		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I <sub>FSM</sub>	35			А
Rating for fusing (t < 8.3 ms)		l <sup>2</sup> t	5.0		A <sup>2</sup> s	
Operating junction and storage temperature range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +150			°C

#### Notes

- $^{(1)}$  On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads
- (2) On aluminum substrate PCB with an area of 0.8" x 0.8" (20 mm x 20 mm) mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) solder pad



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MB2S	MB4S	MB6S	UNIT
Maximum instantaneous forward voltage per diode	I <sub>F</sub> = 0.4 A	V <sub>F</sub>		1.0		V
Maximum DC reverse current at rated DC blocking	T <sub>A</sub> = 25 °C	I_	5.0		μΑ	
voltage per diode	T <sub>A</sub> = 125 °C	IR				
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	13		pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MB2S	MB4S	MB6S	UNIT
	R <sub>0JA</sub> (1)	85			
Typical thermal resistance	R <sub>0JA</sub> (2)	70			°C/W
	R <sub>0JL</sub> (1)		20		

#### Notes

<sup>(2)</sup> On aluminum substrate PCB with an area of 0.8" x 0.8" (20 mm x 20 mm) mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) solder pad

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
MB2S-E3/45	0.22	45	100	Tube		
MB2S-E3/80	0.22	80	3000	13" diameter paper tape and reel		

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

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### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

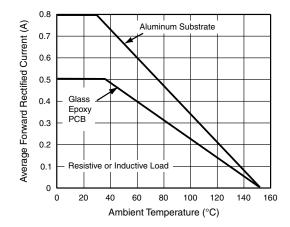


Fig. 1 - Derating Curve for Output Rectified Current

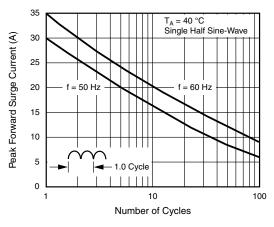


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

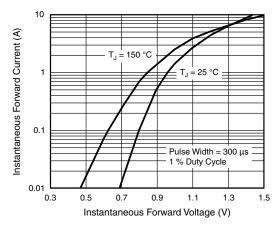


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

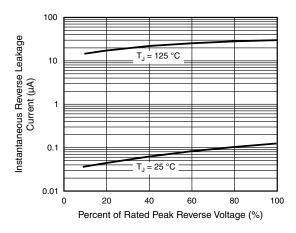


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

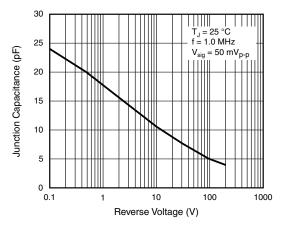
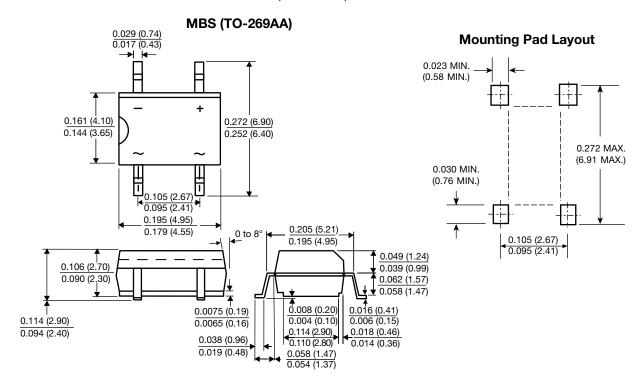


Fig. 5 - Typical Junction Capacitance Per Diode



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





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