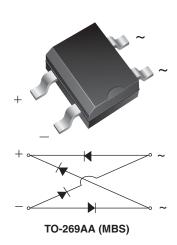


Vishay General Semiconductor

Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier



PRIMARY CHARACTERISTICS					
Package	TO-269AA (MBS)				
I _{F(AV)}	0.5 A				
V_{RRM}	200 V, 400 V, 600 V				
I _{FSM}	35 A				
I _R	5 μΑ				
V_F at $I_F = 0.4$ A	1.0 V				
T _J max.	150 °C				
Diode variations	Quad				

FEATURES





- · Saves space on printed circuit boards
- · 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 <u>www.vishay.com/doc?99912</u>

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: TO-269AA (MBS)

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	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 (fig. 1)	on glass-epoxy PCB (1)		0.5		^		
	on aluminum substrate (2)	I _{F(AV)}				_ A	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	35		Α		
Rating for fusing (t < 8.3 ms)		I ² t	5.0		A ² s		
Operating junction and storage temperature range		T _J , T _{STG}	- 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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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MB2S	MB4S	MB6S	UNIT
Maximum instantaneous forward voltage per diode	I _F = 0.4 A	V _F	1.0		V	
Maximum DC reverse current at rated DC blocking	T _A = 25 °C	5.0		5.0		
voltage per diode	T _A = 125 °C	I _R	100			- μΑ
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	13		pF	

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

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

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		

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

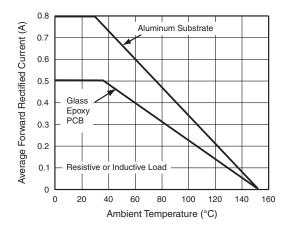


Fig. 1 - Derating Curve for Output Rectified Current

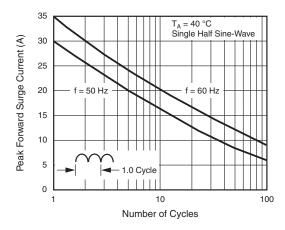


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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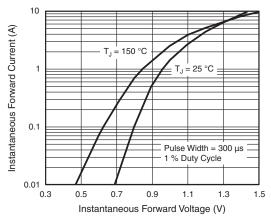


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

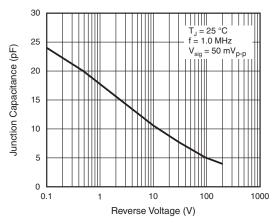


Fig. 5 - Typical Junction Capacitance Per Diode

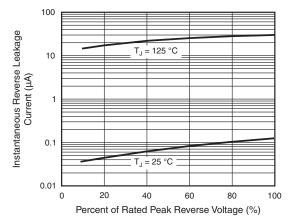
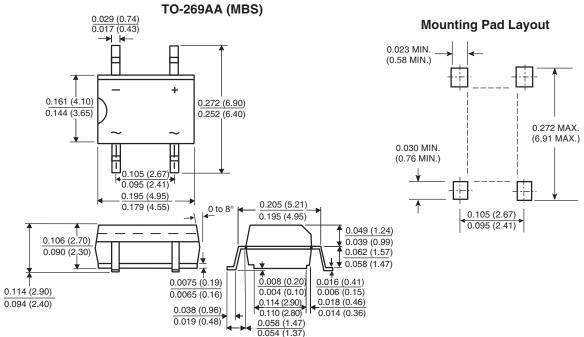


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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