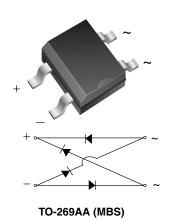


Vishay General Semiconductor

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	0.5 A				
V _{RRM}	200 V, 400 V, 600 V				
I _{FSM}	35 A				
I _R	5 μΑ				
V _F	1.0 V				
T _J max.	150 °C				

FEATURES





· Saves space on printed circuit boards



Ideal for automated placement

High surge current capability

RoHS

 Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C

• Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

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.

MECHANICAL DATA

Case: TO-269AA (MBS)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: As marked on body

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		600	V
Maximum average forward output rectified current (Fig. 1) on glass-epoxy P.C.B. on aluminum substrate	I _{F(AV)}	0.5 ⁽¹⁾ 0.8 ⁽²⁾			А
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	35			А
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 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

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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 drop per diode	0.4 A	V _F		1.0		V
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C T _A = 125 °C	I _R	5.0 100		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	$egin{array}{l} R_{ hetaJA} \ R_{ hetaJA} \ R_{ hetaJL} \end{array}$		85 ⁽¹⁾ 70 ⁽²⁾ 20 ⁽¹⁾		°C/W

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

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)

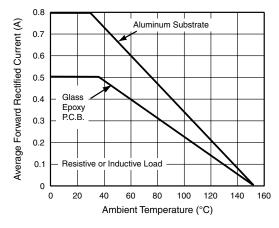


Figure 1. Derating Curve for Output Rectified Current

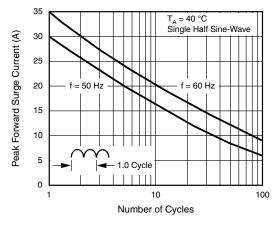


Figure 2. Maximum Non-Repetitive Peak Forward Surge
Current Per Diode



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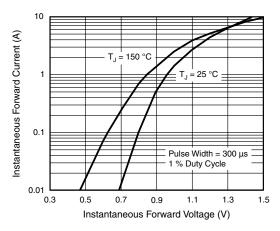


Figure 3. Typical Forward Voltage Characteristics Per Diode

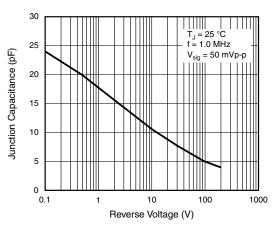


Figure 5. Typical Junction Capacitance Per Diode

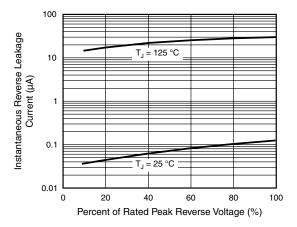
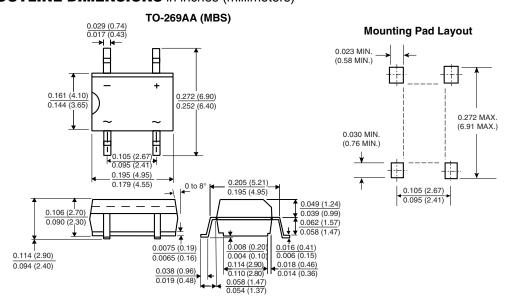


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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