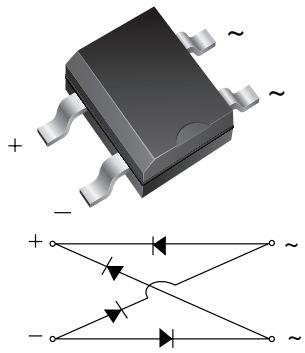
Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier



TO-269AA (MBS)

FEATURES

- UL recognition, file number E54214
- Saves space on printed circuit boards
- Ideal for automated placement
- Fast recovery, low switching loss
- High surge current capability
- 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

RoHS COMPLIANT

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 commercial grade, meets JESD 201 class 1A whisker test

Polarity: As marked on body

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
V_{RRM}	200 V, 400 V
I_{FSM}	30 A
t_{rr}	150 ns
V_F	1.25 V
T_J max.	150 °C

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

PARAMETER		SYMBOL	RMB2S	RMB4S	UNIT
Device marking code			2R	4R	
Maximum repetitive peak reverse voltage		V_{RRM}	200	400	V
Maximum RMS voltage		V_{RMS}	140	280	V
Maximum DC blocking voltage		V_{DC}	200	400	V
Maximum average forward output rectified current at T_A = 30 °C	on glass-epoxy P.C.B. on aluminum substrate	$I_{F(AV)}$	0.5 (1) 0.8 (2)		A
Peak forward surge current 8.3 msec single half sine-wave superimposed on rated load		I_{FSM}	30		A
Rating for fusing (t < 8.3 ms)		I^2t	5.0		A^2s
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

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**RMB2S**	**RMB4S**	**UNIT**
Maximum instantaneous forward voltage drop per diode	0.4 A		V_F	1.25		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		µA
Maximum reverse recovery time per diode	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	150		ns
Typical junction capacitance per diode	4.0 V, 1 MHz		C_J	13		pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)				
PARAMETER	**SYMBOL**	**RMB2S**	**RMB4S**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$	85 (1) 70 (2) 20 (1)		°C/W

Notes:

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(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**
RMB4S-E3/45	0.22	45	100	Tube
RMB4S-E3/80	0.22	80	3000	13" diameter paper tape and reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

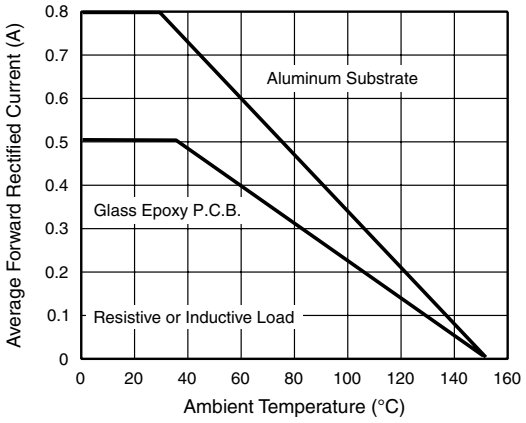


Figure 1. Maximum Forward Current Derating Curve

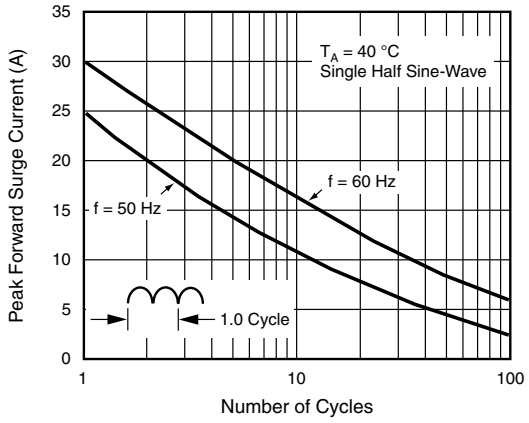


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

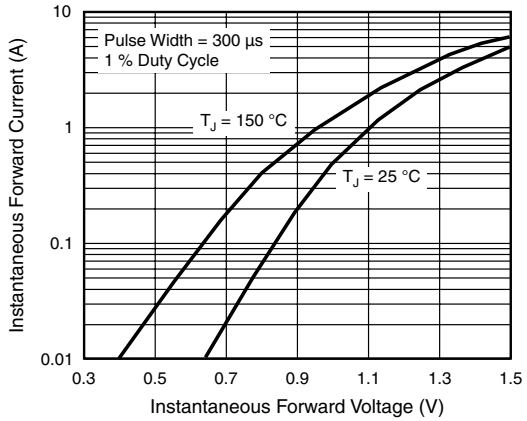


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

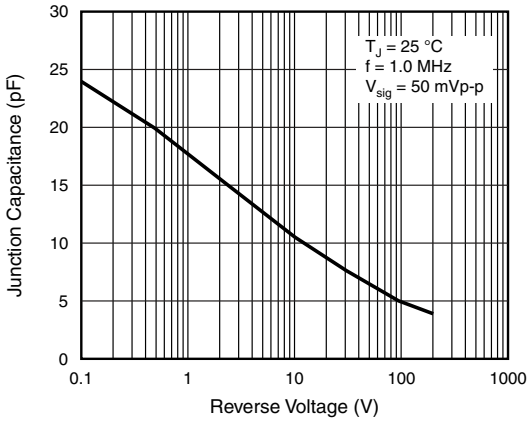


Figure 5. Typical Junction Capacitance Per Diode

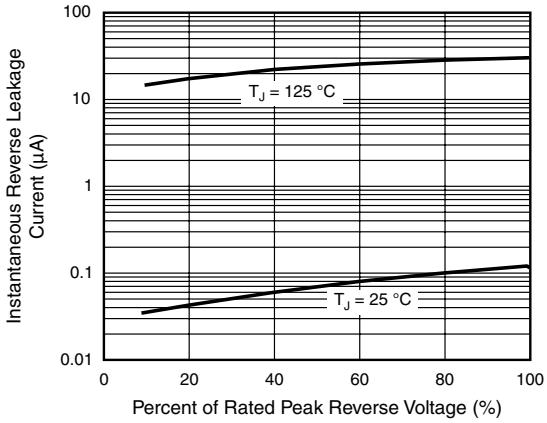
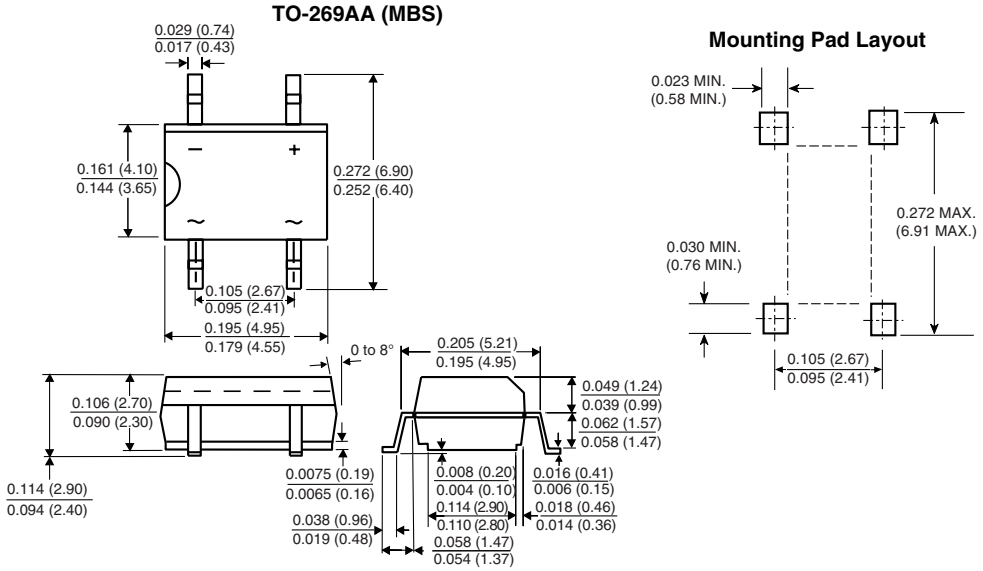


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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