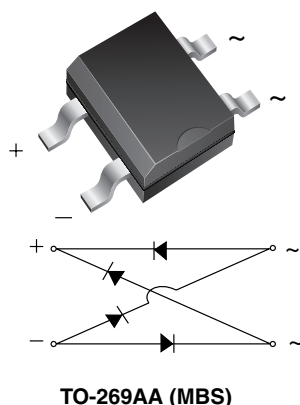


## Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier



### 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
$T_J \text{ max.}$	150 °C

### MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ 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 $T_A = 30\text{ °C}$ on glass-epoxy P.C.B. on aluminum substrate	$I_{F(AV)}$	0.5 <sup>(1)</sup> 0.8 <sup>(2)</sup>		A
Peak forward surge current 8.3 msec single half sine-wave superimposed on rated load	$I_{FSM}$	30		A
Rating for fusing ( $t < 8.3\text{ ms}$ )	$I^2t$	5.0		A <sup>2</sup> 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

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  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	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	$I_R$	5.0 100		$\mu\text{A}$
Maximum reverse recovery time per diode	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	150		ns
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	13		pF

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

PARAMETER	SYMBOL	RMB2S	RMB4S	UNIT
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$	85 <sup>(1)</sup> 70 <sup>(2)</sup> 20 <sup>(1)</sup>		$^{\circ}\text{C/W}$

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

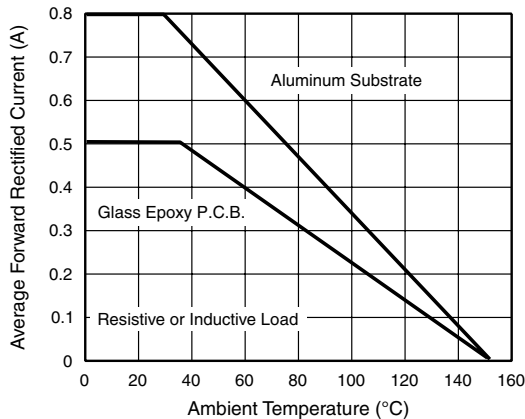
**RATINGS AND CHARACTERISTICS CURVES**( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Figure 1. Maximum Forward Current Derating Curve

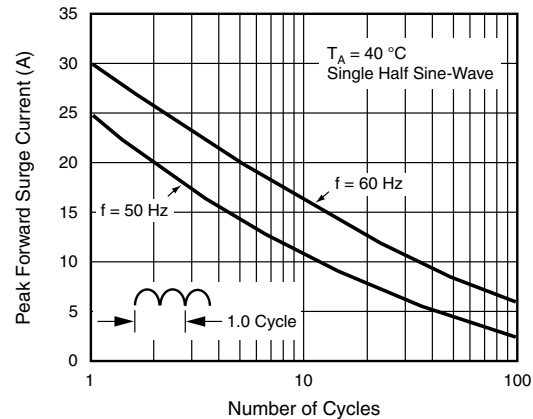


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

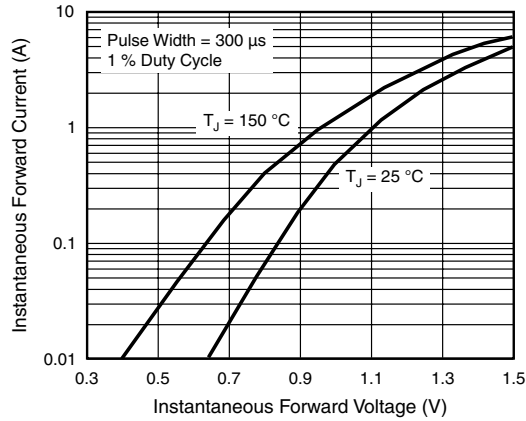


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

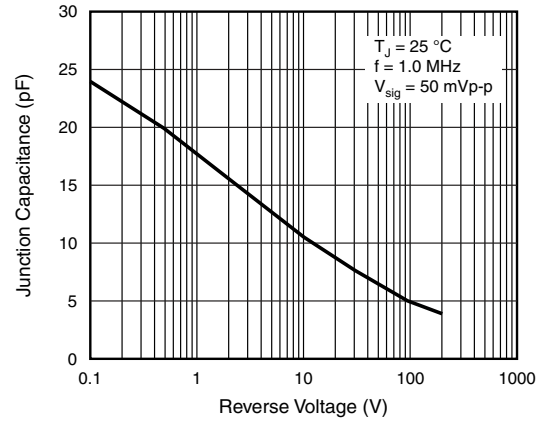


Figure 5. Typical Junction Capacitance Per Diode

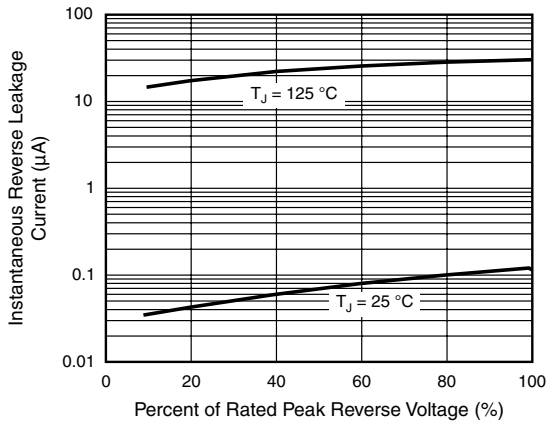
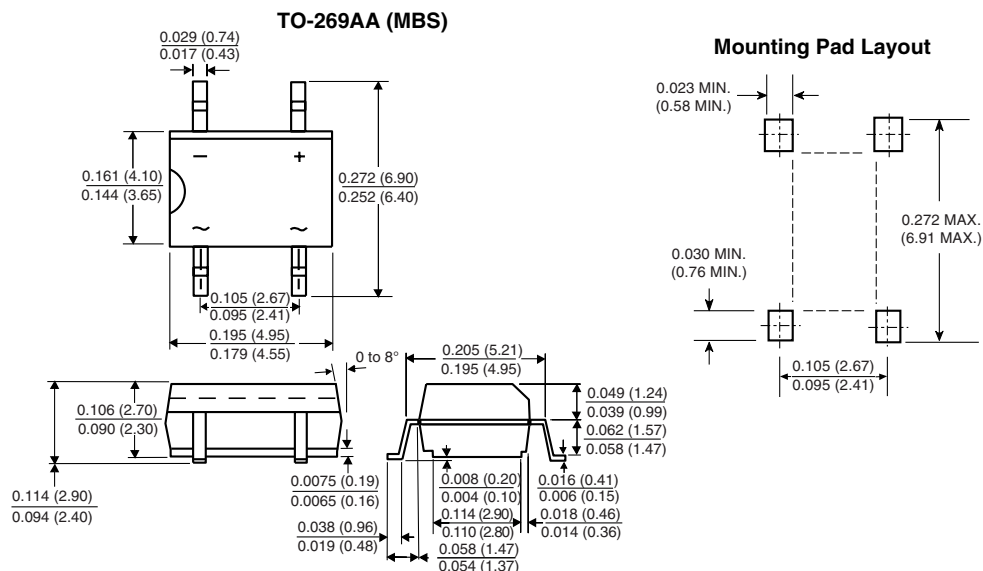


Figure 4. Typical Reverse Leakage Characteristics Per Diode

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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