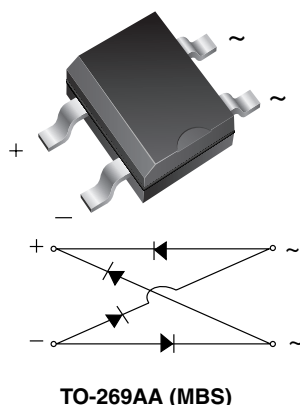


Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier



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 $T_A = 30\text{ °C}$	$I_{F(AV)}$	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 ($t < 8.3\text{ ms}$)	I^2t	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

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		μA
Maximum reverse recovery time per diode	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{rr} = 0.25\text{ A}$	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 ⁽¹⁾ 70 ⁽²⁾ 20 ⁽¹⁾		$^{\circ}\text{C/W}$

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

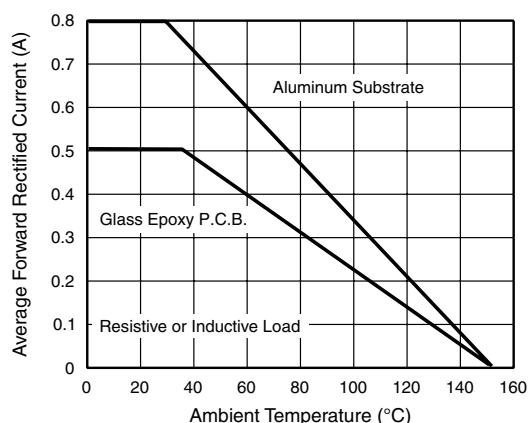
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Maximum Forward Current Derating Curve

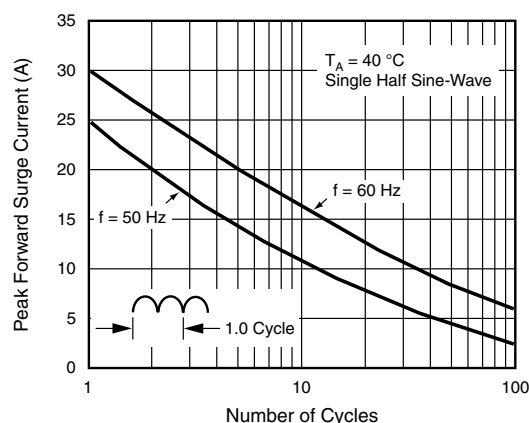


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

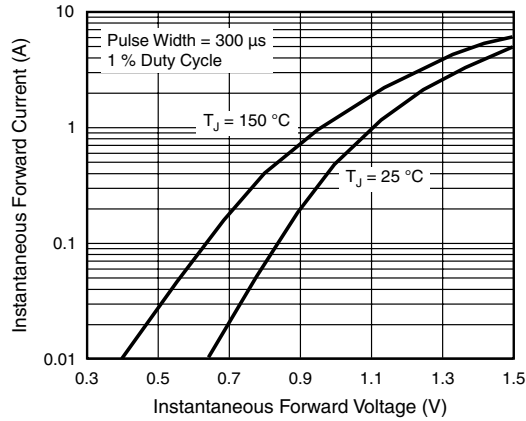


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

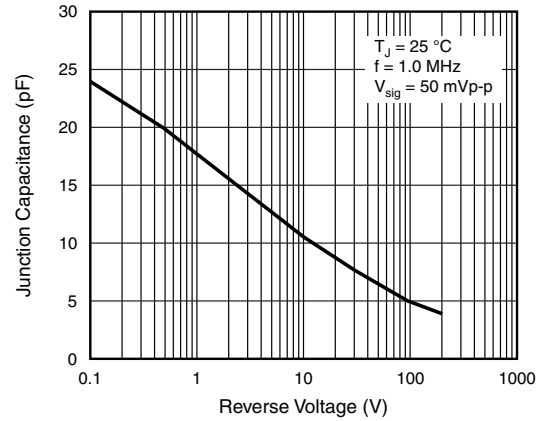


Figure 5. Typical Junction Capacitance Per Diode

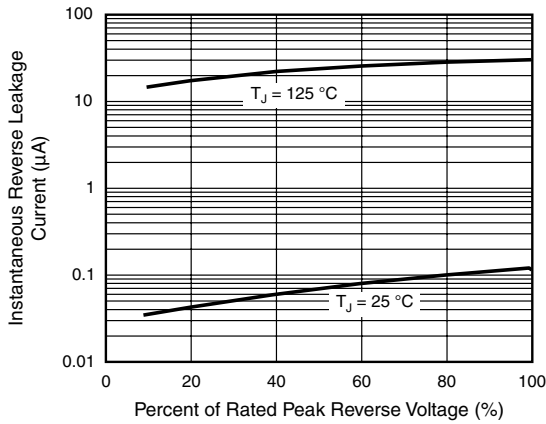
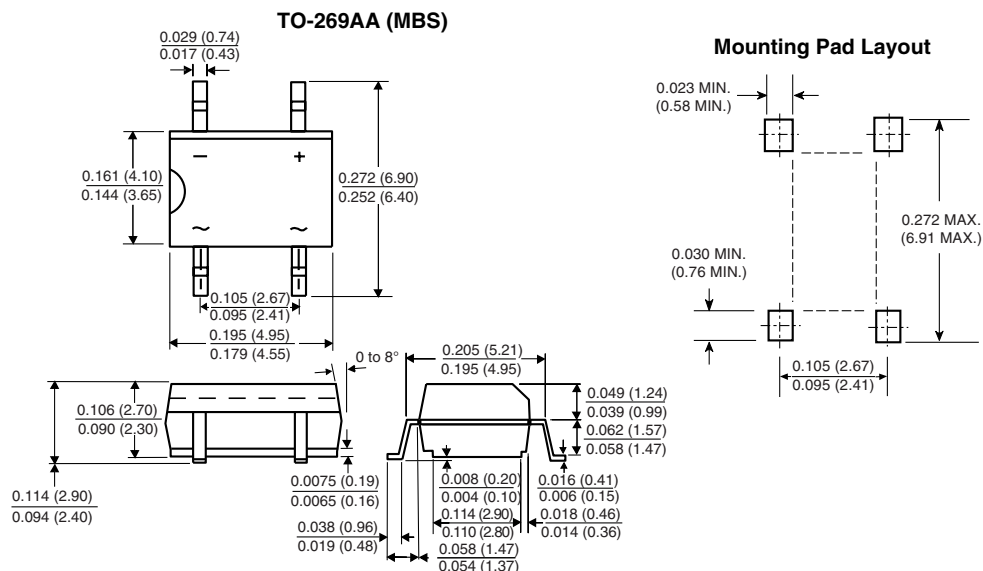


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru