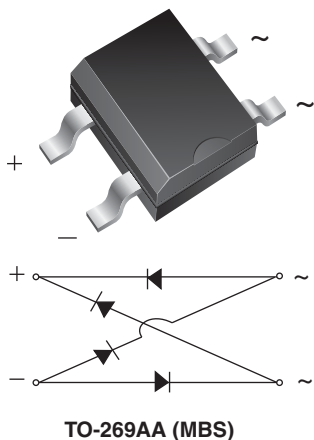


Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier



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 260 °C
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
V_{RRM}	200 V, 400 V
I_{FSM}	30 A
t_{rr}	150 ns
V_F at $I_F = 0.4$ A	1.25 V
T_J max.	150 °C
Package	TO-269AA (MBS)
Diode variations	Quad

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 PCB ⁽¹⁾	0.5		A
	on aluminum substrate ⁽²⁾	0.8		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30		A
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

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

PARAMETER	TEST CONDITIONS	SYMBOL	RMB2S	RMB4S	UNIT
Maximum instantaneous forward voltage per diode	$I_F = 0.4\text{ A}$	V_F	1.25		V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^{\circ}\text{C}$	I_R	5.0		μA
	$T_A = 125\text{ }^{\circ}\text{C}$		100		
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 ⁽¹⁾	$R_{\theta JA}$ ⁽¹⁾	85		$^{\circ}\text{C/W}$
	$R_{\theta JA}$ ⁽²⁾	70		
	$R_{\theta JL}$ ⁽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
RMB4S-E3/45	0.22	45	100	Tube
RMB4S-E3/80	0.22	80	3000	13" diameter paper tape and reel

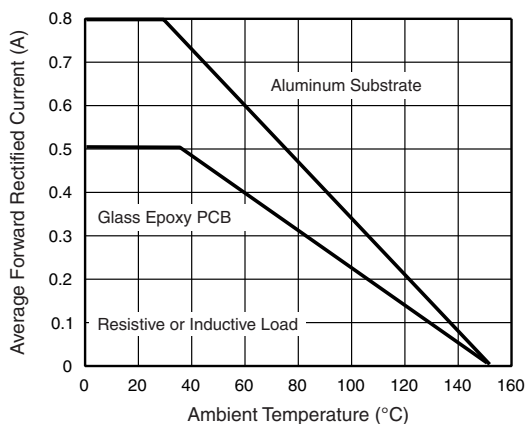
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Maximum Forward Current Derating Curve

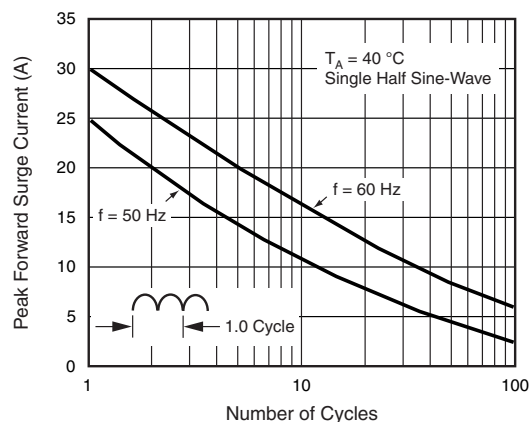


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

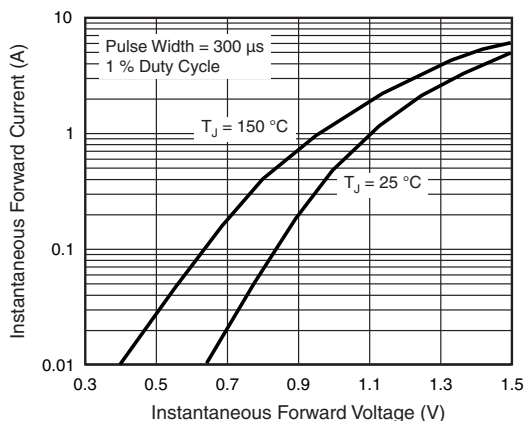


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

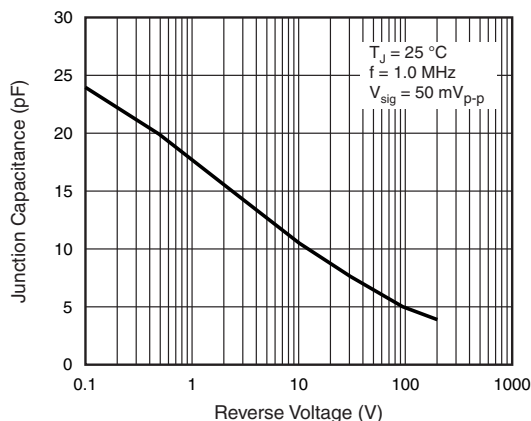


Fig. 5 - Typical Junction Capacitance Per Diode

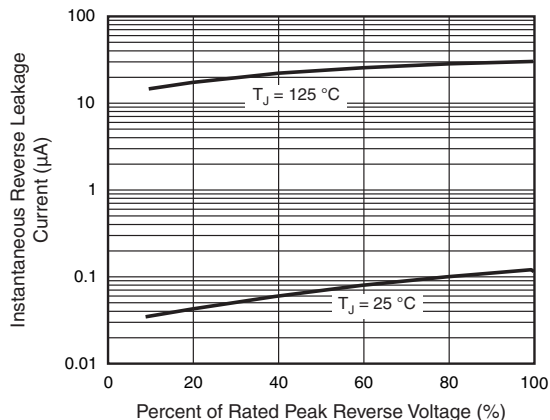
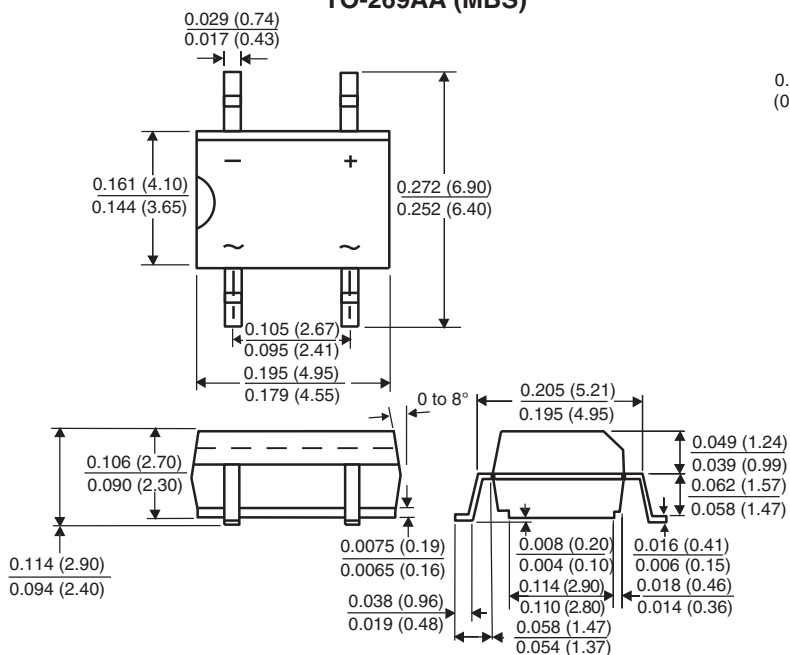
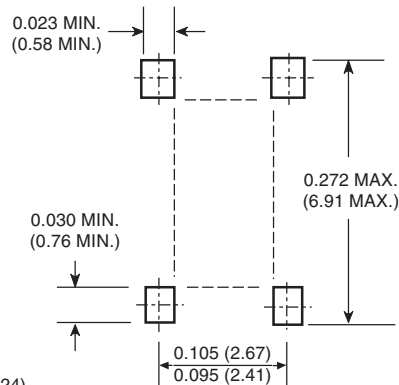


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-269AA (MBS)

Mounting Pad Layout




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