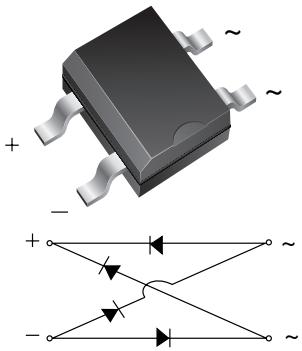
Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



TO-269AA (MBS)

FEATURES

- UL recognition, file number E54214
- Saves space on printed circuit boards
- Ideal for automated placement
- Middle 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.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
V_{RRM}	200 V, 400 V, 600 V
I_{FSM}	30 A
I_R	5 µA
V_F	1.0 V
T_J max.	150 °C

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

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

PARAMETER	SYMBOL	B2S	B4S	B6S	UNIT
Device marking code		B2	B4	B6	
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	V
Maximum average forward output rectified current on glass-epoxy P.C.B. (Fig. 1)	$I_{F(AV)}$	0.5 (1)			A
Peak forward surge current 10 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

Note:

(1) On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3 mm) pads

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	VALUE	UNIT
Max. instantaneous forward voltage drop per diode	0.5 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	µA
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**	**B2S**	**B4S**	**B6S**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$	90 40			°C/W

Note:

(1) On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3 mm) pads

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
B2S-E3/80	0.22	80	3000	13" diameter paper tape and reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

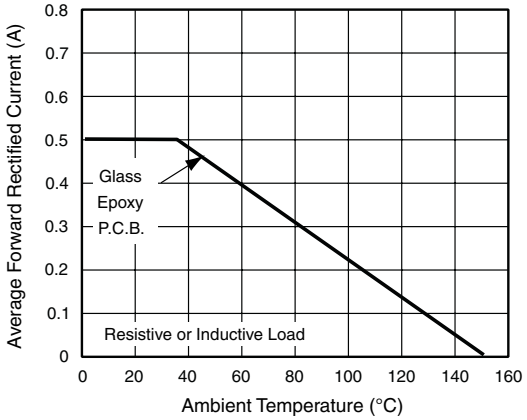


Figure 1. Derating Curve for Output Rectified Current

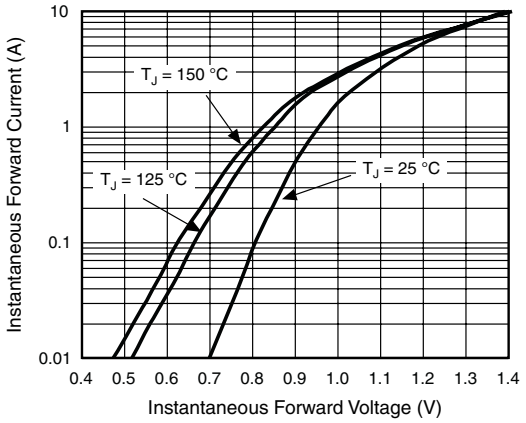


Figure 3. Typical Forward Voltage Characteristics Per Diode

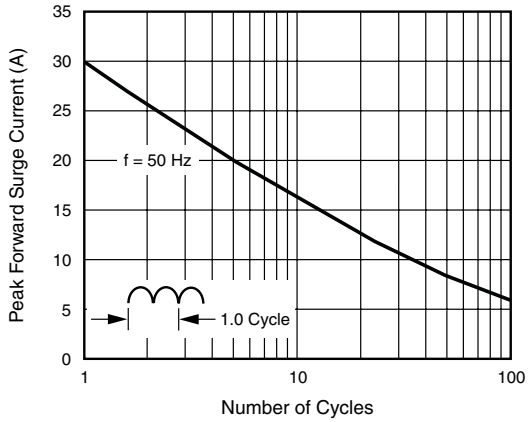


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

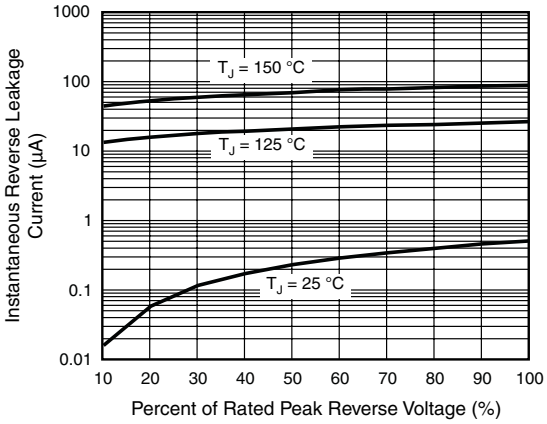


Figure 4. Typical Reverse Leakage Characteristics Per Diode

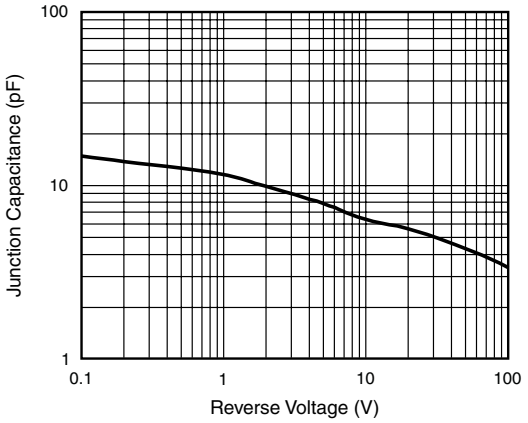
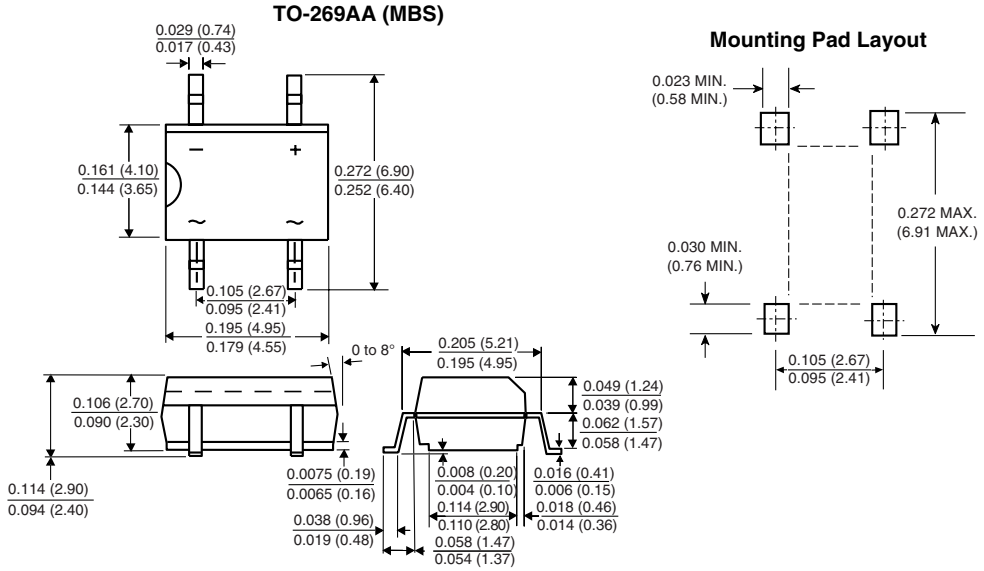


Figure 5. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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