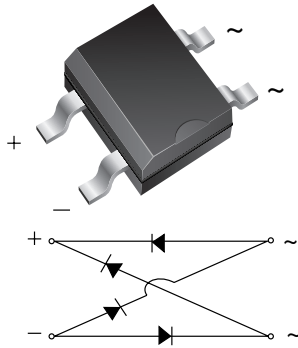


## Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



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 $\mu$ A
$V_F$	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 <sup>2</sup> s
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	$I_R$	5.0	$\mu$ A
	$T_A = 125$ °C		100	
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	B2S	B4S	B6S	UNIT
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$		90 40		$^\circ\text{C/W}$

**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**

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

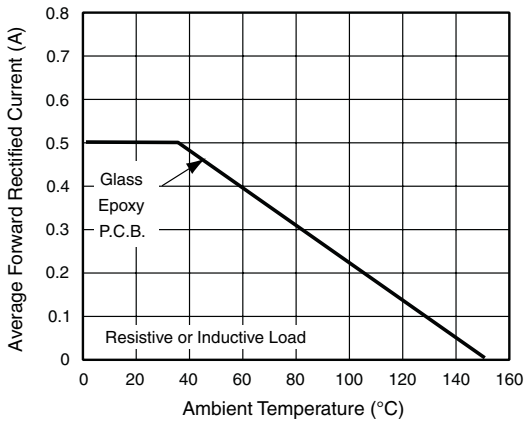


Figure 1. Derating Curve for Output Rectified Current

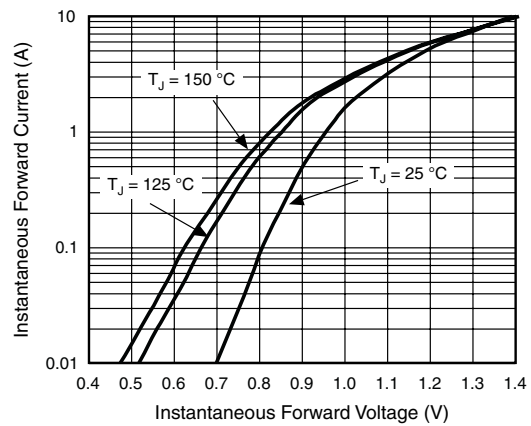


Figure 3. Typical Forward Voltage Characteristics Per Diode

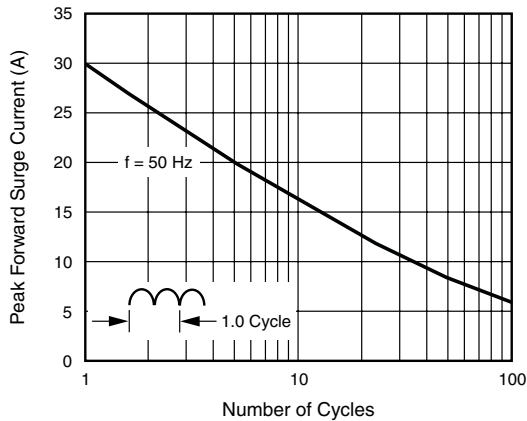


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

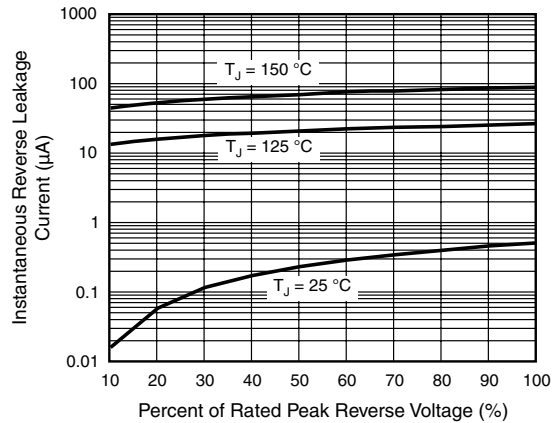


Figure 4. Typical Reverse Leakage Characteristics Per Diode

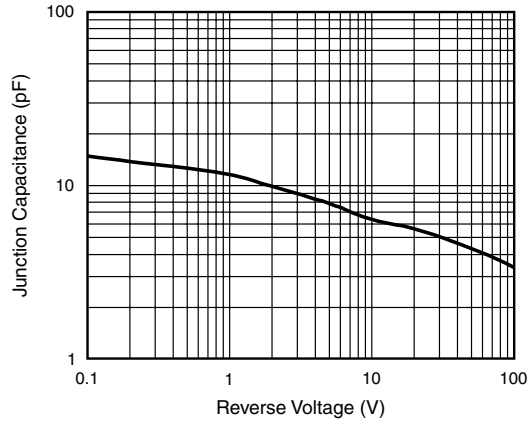
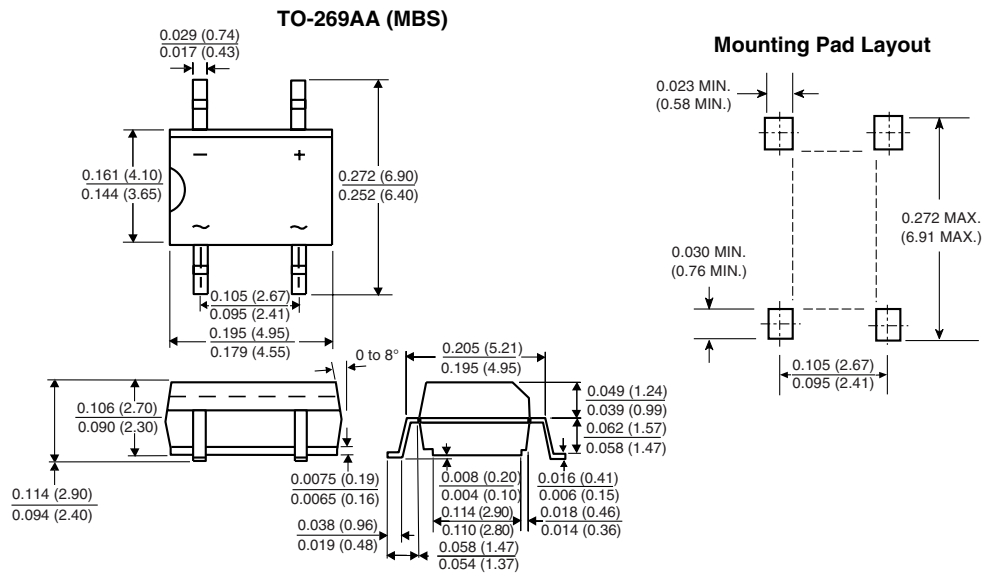


Figure 5. Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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