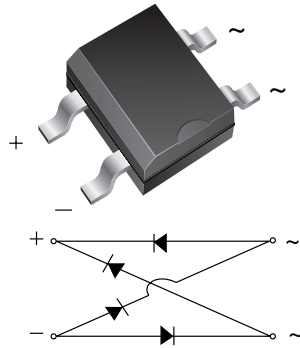


Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier



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 μ 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 ² 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 $T_A = 125$ °C | I_R | 5.0 100 | μ A |
| 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)

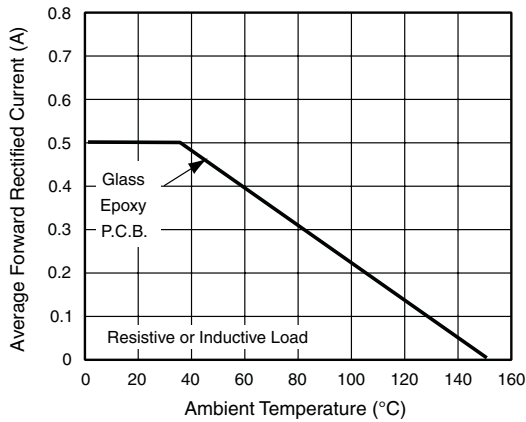


Figure 1. Derating Curve for Output Rectified Current

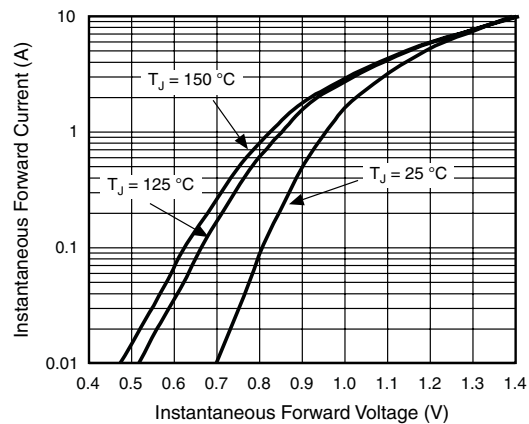


Figure 3. Typical Forward Voltage Characteristics Per Diode

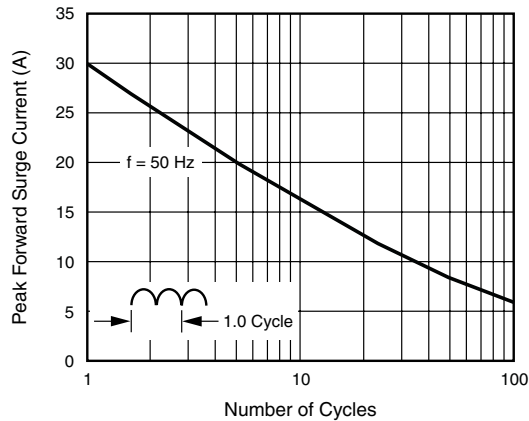


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

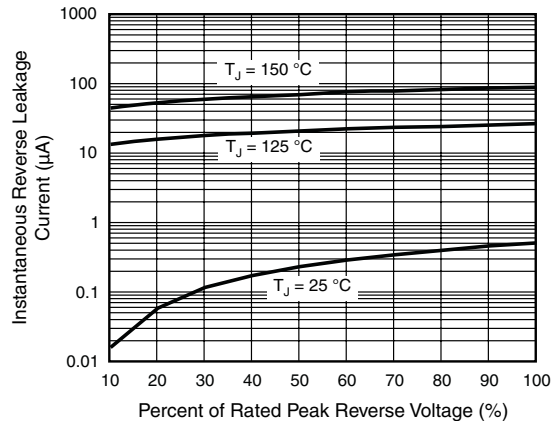


Figure 4. Typical Reverse Leakage Characteristics Per Diode

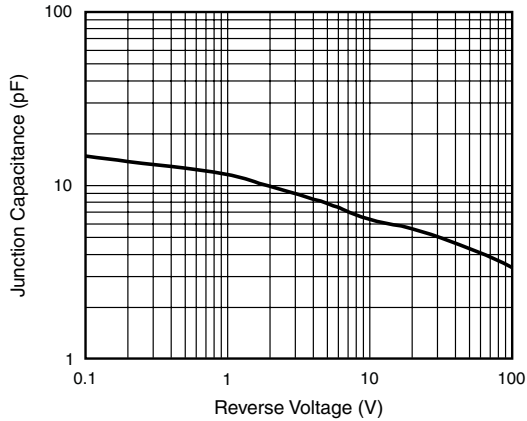
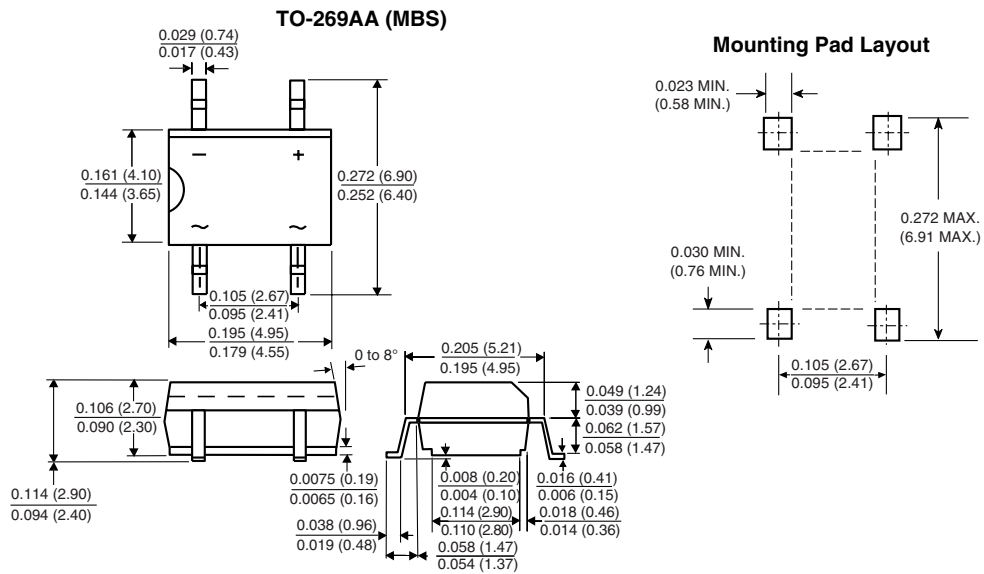


Figure 5. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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