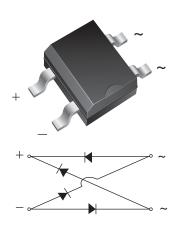


## Vishay General Semiconductor

# Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier

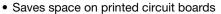


TO-269AA (MBS)

| PRIMARY CHARACTERISTICS                  |                     |  |  |  |
|--|---------------------|--|--|--|
| Package                                  | TO-269AA (MBS)      |  |  |  |
| I <sub>F(AV)</sub>                       | 0.5 A               |  |  |  |
| V <sub>RRM</sub>                         | 200 V, 400 V, 600 V |  |  |  |
| I <sub>FSM</sub>                         | 30 A                |  |  |  |
| I <sub>R</sub>                           | 5 μΑ                |  |  |  |
| V <sub>F</sub> at I <sub>F</sub> = 0.5 A | 1.0 V               |  |  |  |
| T <sub>J</sub> max.                      | 150 °C              |  |  |  |
| Diode variations                         | Quad                |  |  |  |

#### **FEATURES**

• UL recognition, file number E54214



- Ideal for automated placement
- · Middle surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C





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

| MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)                   |                                   |               |     |     |                  |  |
|---|-----------------------------------|---------------|-----|-----|------------------|--|
| PARAMETER   | SYMBOL                            | B2S           | B4S | B6S | UNIT             |  |
| Device marking code   |                                   | B2            | B4  | B6  |                  |  |
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                  | 200           | 400 | 600 | V                |  |
| Maximum RMS voltage   | V <sub>RMS</sub>                  | 140           | 280 | 420 | V                |  |
| Maximum DC blocking voltage   | V <sub>DC</sub>                   | 200           | 400 | 600 | V                |  |
| Maximum average forward output rectified current on glass-epoxy PCB (fig. 1)      | I <sub>F(AV)</sub>                | 0.5 (1)       |     |     | А                |  |
| Peak forward surge current 10 ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 30            |     |     | А                |  |
| Rating for fusing (t < 8.3 ms)  | l <sup>2</sup> t                  | 5.0           |     |     | A <sup>2</sup> s |  |
| Operating junction and storage temperature range                                  | T <sub>J</sub> , T <sub>STG</sub> | - 55 to + 150 |     |     | °C               |  |

#### Note

(1) On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

| <b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted) |                         |                  |        |      |  |  |
|---|-------------------------|------------------|--------|------|--|--|
| PARAMETER   | TEST CONDITIONS         | SYMBOL           | VALUES | UNIT |  |  |
| Maximum instantaneous forward voltage per diode                                   | I <sub>F</sub> = 0.5 A  | V <sub>F</sub>   | 1.0    | V    |  |  |
| Maximum DC reverse current at rated DC blocking voltage per diode                 | T <sub>A</sub> = 25 °C  | . I <sub>R</sub> | 5.0    |      |  |  |
|   | T <sub>A</sub> = 125 °C |                  | 100    | μΑ   |  |  |
| Typical junction capacitance per diode  | 4.0 V, 1 MHz            | CJ               | 13     | pF   |  |  |



# Vishay General Semiconductor

| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                 |     |     |     |      |  |
|---|-----------------|-----|-----|-----|------|--|
| PARAMETER   | SYMBOL          | B2S | B4S | B6S | UNIT |  |
| Typical thermal resistance (1)  | $R_{\theta JA}$ | 90  |     |     | °C/W |  |
| Typical thermal resistance V  | $R_{	heta JL}$  | 40  |     |     |      |  |

#### Note

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm 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<sub>A</sub> = 25 °C unless otherwise noted)

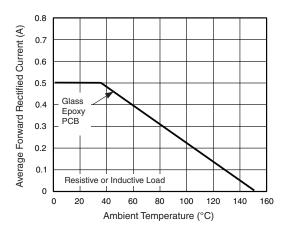


Fig. 1 - Derating Curve for Output Rectified Current

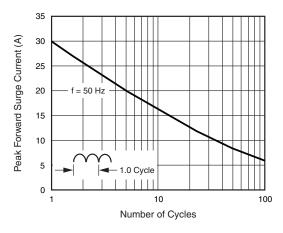


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

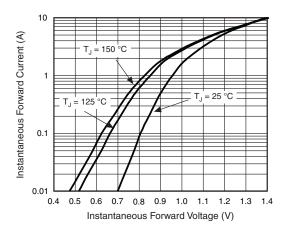


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

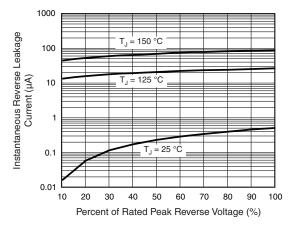


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode



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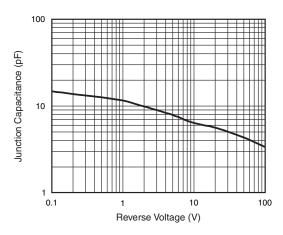
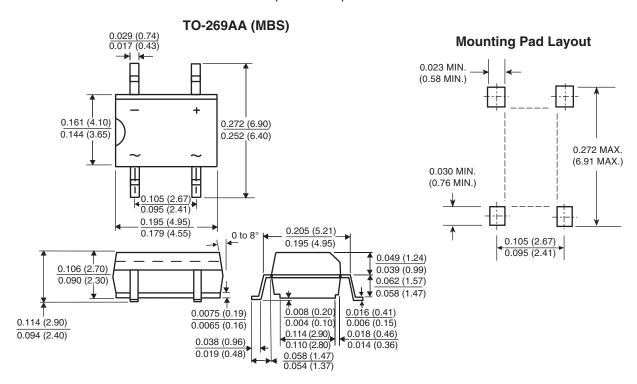


Fig. 5 - Typical Junction Capacitance Per Diode

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





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