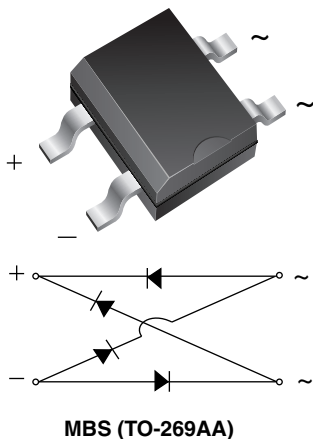


## Miniature Glass Passivated Fast Recovery Surface-Mount Bridge Rectifier



### LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

#### 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                | MBS (TO-269AA) |
| Circuit configuration  | Quad           |

#### 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](http://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:** MBS (TO-269AA)

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 ( $T_A = 25$ °C unless otherwise noted)

| PARAMETER                                                                             | SYMBOL                            | RMB2S       | RMB4S | UNIT             |
|---------------------------------------------------------------------------------------|-----------------------------------|-------------|-------|------------------|
| Device marking code                                                                   |                                   | 2R          | 4R    |                  |
| Maximum repetitive peak reverse voltage                                               | V <sub>RRM</sub>                  | 200         | 400   | V                |
| Maximum RMS voltage                                                                   | V <sub>RMS</sub>                  | 140         | 280   | V                |
| Maximum DC blocking voltage                                                           | V <sub>DC</sub>                   | 200         | 400   | V                |
| Maximum average forward output<br>rectified current at T <sub>A</sub> = 30 °C         | I <sub>F(AV)</sub>                | 0.5         |       | A                |
|                                                                                       |                                   | 0.8         |       |                  |
| Peak forward surge current 8.3 ms single half sine-wave<br>superimposed on rated load | I <sub>FSM</sub>                  | 30          |       | A                |
| Rating for fusing (t < 8.3 ms)                                                        | I <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               |

#### Notes

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

<sup>(2)</sup> 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   |       | $\mu\text{A}$ |
|                                                                   | $T_A = 125\text{ }^{\circ}\text{C}$                                       |          | 100   |       |               |
| Maximum reverse recovery time per diode                           | $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ ,<br>$I_{rr} = 0.25\text{ A}$ | $t_{rr}$ | 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 <sup>(1)</sup> | $R_{\theta JA}$ <sup>(1)</sup> | 85    |       | $^{\circ}\text{C/W}$ |
|                                           | $R_{\theta JA}$ <sup>(2)</sup> | 70    |       |                      |
|                                           | $R_{\theta JL}$ <sup>(1)</sup> | 20    |       |                      |

**Notes**

<sup>(1)</sup> On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

<sup>(2)</sup> 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 |

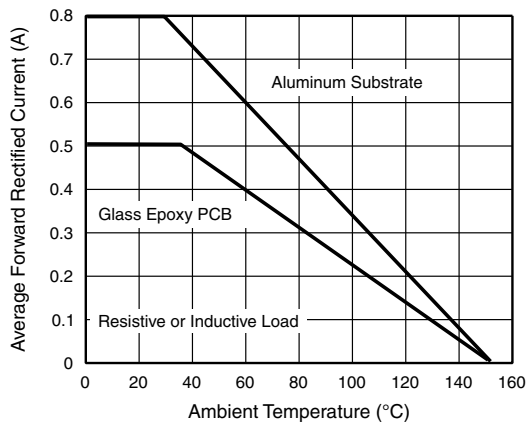
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Maximum Forward Current Derating Curve

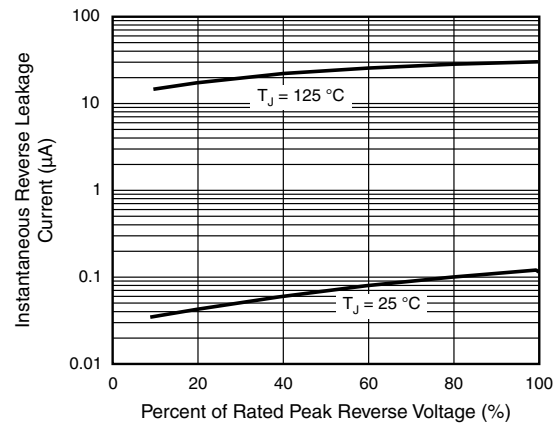


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

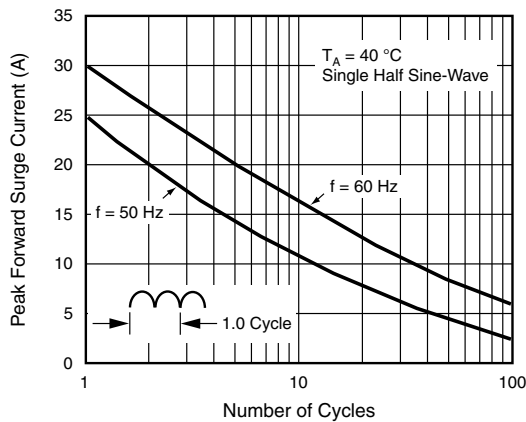


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

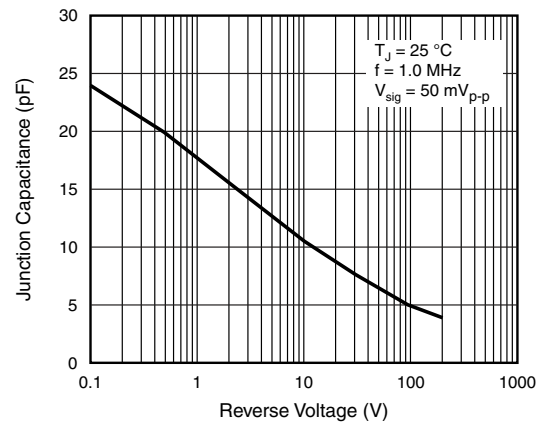


Fig. 5 - Typical Junction Capacitance Per Diode

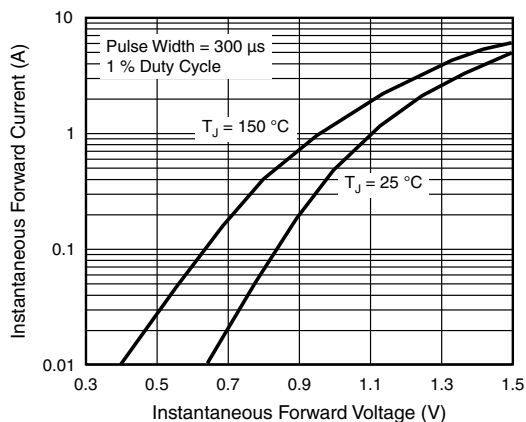
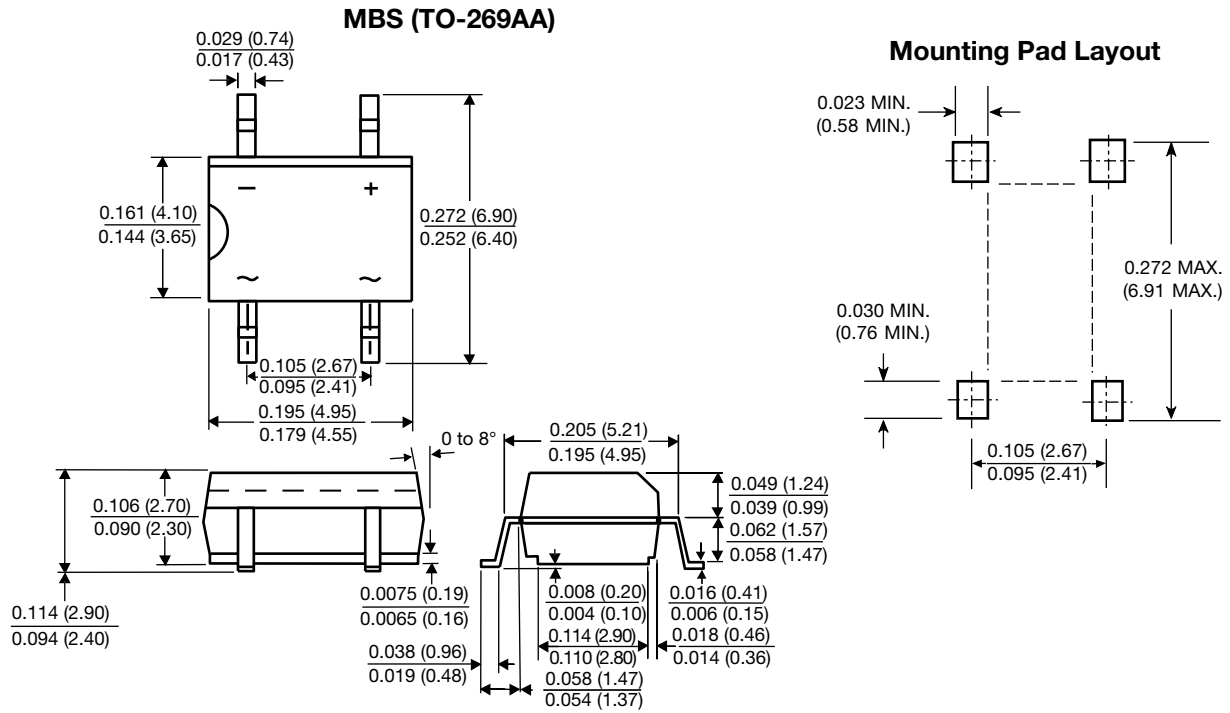


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode



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





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