

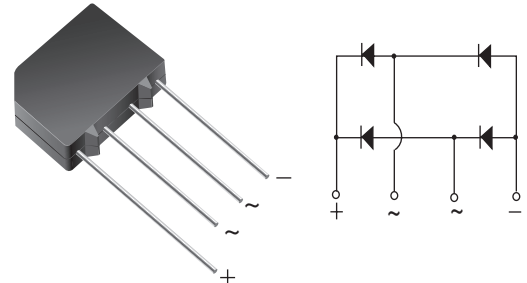


## Glass Passivated Single-Phase Bridge Rectifier

### Major Ratings and Characteristics

|             |                |
|-------------|----------------|
| $I_{F(AV)}$ | 1.5 A          |
| $V_{RRM}$   | 50 V to 1000 V |
| $I_{FSM}$   | 50 A           |
| $I_R$       | 5 $\mu$ A      |
| $V_F$       | 1.0 V          |
| $T_j$ max.  | 150 °C         |

Case Style KBPM



### Features

- UL Recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Meets MSL level 1, per J-STD-020C

### Mechanical Data

**Case:** KBPM

Epoxy meets UL-94V-0 Flammability rating

**Terminals:** Silver plated (E4 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

**Polarity:** As marked on body

### Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, and Telecommunication applications

### Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter   | Symbol         | KBP 005M      | KBP 01M | KBP 02M | KBP 04M | KBP 06M | KBP 08M | KBP 10M | Unit               |
|---|----------------|---------------|---------|---------|---------|---------|---------|---------|--------------------|
|   |                | 3N246         | 3N247   | 3N248   | 3N249   | 3N250   | 3N251   | 3N252   |                    |
| * Maximum repetitive peak reverse voltage                                     | $V_{RRM}$      | 50            | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| * Maximum RMS voltage   | $V_{RMS}$      | 35            | 70      | 140     | 280     | 420     | 560     | 700     | V                  |
| * Maximum DC blocking voltage   | $V_{DC}$       | 50            | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Max. average forward output rectified current at $T_A = 40$ °C                | $I_{F(AV)}$    | 1.5           |         |         |         |         |         |         | A                  |
| * Peak forward surge current single half sine-wave superimposed on rated load | $I_{FSM}$      | 50<br>30      |         |         |         |         |         |         | A                  |
| Rating for fusing ( $t < 8.3$ ms)   | $I^2t$         | 10            |         |         |         |         |         |         | A <sup>2</sup> sec |
| * Operating junction and storage temperature range                            | $T_J, T_{STG}$ | - 55 to + 150 |         |         |         |         |         |         | °C                 |

### Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter   | Test condition                                | Symbol | KBP 005M   | KBP 01M | KBP 02M | KBP 04M | KBP 06M | KBP 08M | KBP 10M | Unit          |
|---|---|--------|------------|---------|---------|---------|---------|---------|---------|---------------|
|   |   |        | 3N246      | 3N247   | 3N248   | 3N249   | 3N250   | 3N251   | 3N252   |               |
| * Maximum instantaneous forward voltage drop per leg              | at 1.0 A<br>at 1.57 A                         | $V_F$  | 1.0<br>1.3 |         |         |         |         |         |         | V             |
| * Maximum DC reverse current at rated DC blocking voltage per leg | $T_A = 25\text{ °C}$<br>$T_A = 125\text{ °C}$ | $I_R$  | 5.0<br>500 |         |         |         |         |         |         | $\mu\text{A}$ |
| Typical junction capacitance per leg                              | at 4.0 V, 1 MHz                               | $C_J$  | 15         |         |         |         |         |         |         | pF            |

### Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter   | Symbol                             | KBP 005M | KBP 01M | KBP 02M | KBP 04M | KBP 06M | KBP 08M | KBP 10M | Unit                 |
|---|------------------------------------|----------|---------|---------|---------|---------|---------|---------|----------------------|
|   |                                    | 3N246    | 3N247   | 3N248   | 3N249   | 3N250   | 3N251   | 3N252   |                      |
| Typical thermal resistance per leg <sup>(1)</sup> | $R_{\theta JA}$<br>$R_{\theta JL}$ | 40<br>13 |         |         |         |         |         |         | $^{\circ}\text{C/W}$ |

Notes:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with, 0.47 x 0.47" (12 x 12 mm) copper pads.

\* JEDEC registered values

### Ratings and Characteristics Curves

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

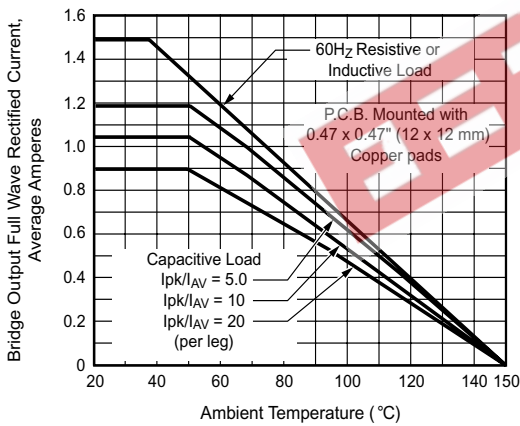


Figure 1. Derating Curve Output Rectified Current

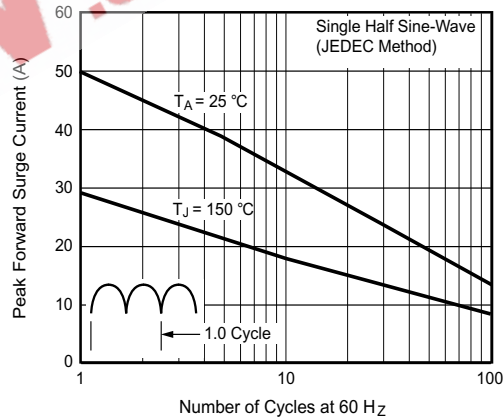


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

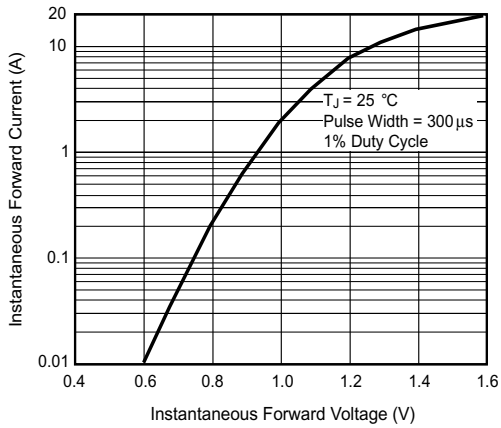


Figure 3. Typical Forward Characteristics Per Leg

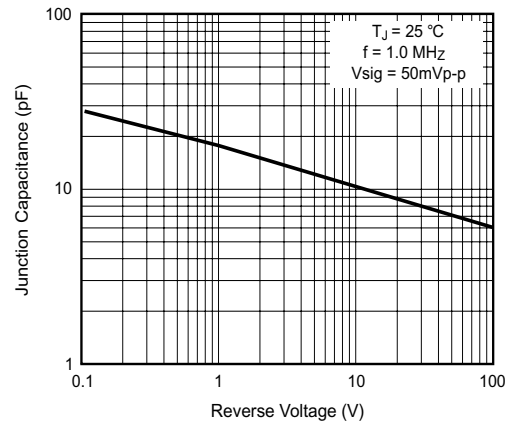


Figure 5. Typical Junction Capacitance Per Leg

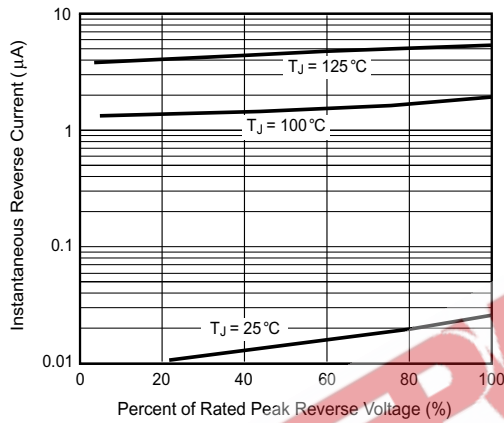


Figure 4. Typical Reverse Leakage Characteristics Per Leg

## Package outline dimensions in inches (millimeters)

