

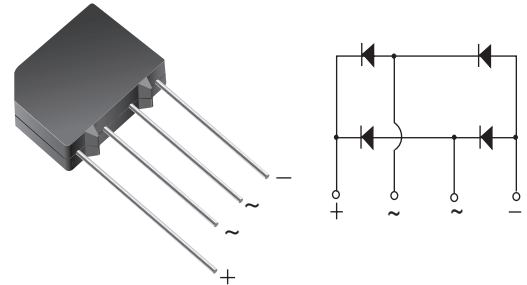


Glass Passivated Single-Phase Bridge Rectifier

Major Ratings and Characteristics

| | |
|-------------|----------------|
| $I_{F(AV)}$ | 1.5 A |
| V_{RRM} | 50 V to 1000 V |
| I_{FSM} | 50 A |
| I_R | 5 μ 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 30 | | | | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 10 | | | | | | | A ² 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 at 1.57 A | V_F | 1.0 1.3 | | | | | | | V |
| * Maximum DC reverse current at rated DC blocking voltage per leg | $T_A = 25\text{ °C}$ $T_A = 125\text{ °C}$ | I_R | 5.0 500 | | | | | | | μA |
| 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 ⁽¹⁾ | $R_{\theta JA}$ $R_{\theta JL}$ | 40 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)

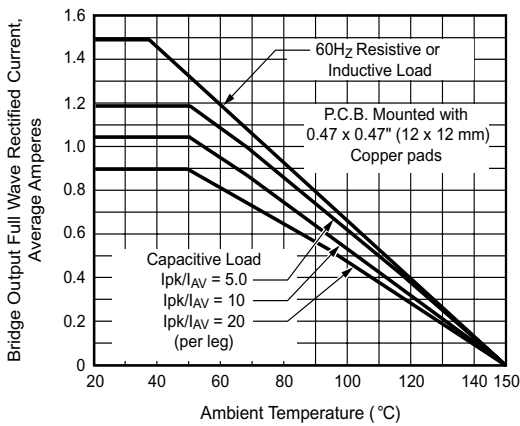


Figure 1. Derating Curve Output Rectified Current

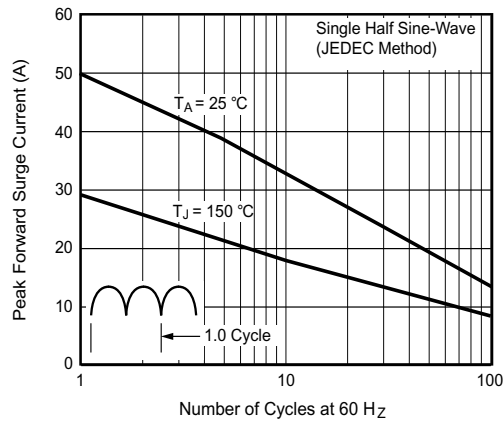


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

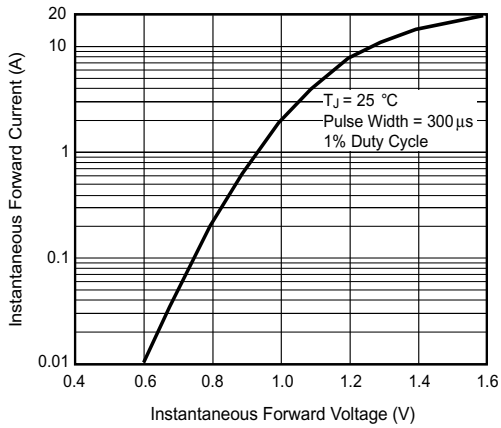


Figure 3. Typical Forward Characteristics Per Leg

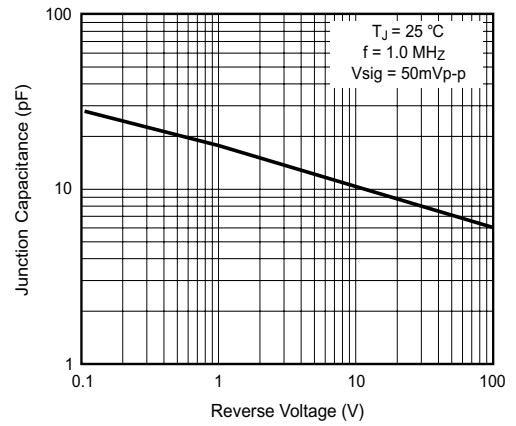


Figure 5. Typical Junction Capacitance Per Leg

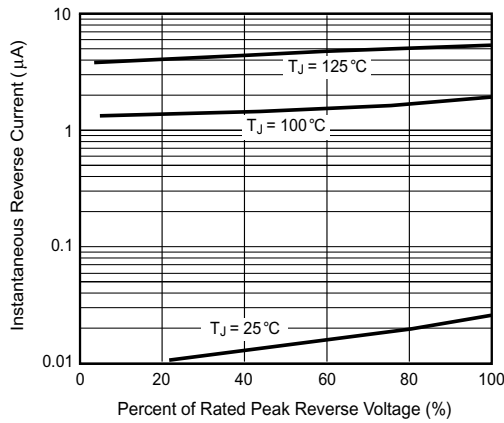


Figure 4. Typical Reverse Leakage Characteristics Per Leg

Package outline dimensions in inches (millimeters)

