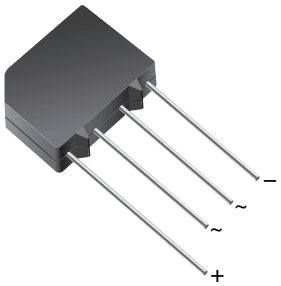
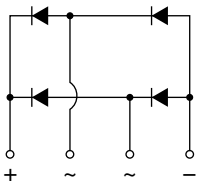
# 3KBP005M, 3KBP01M, 3KBP02M, 3KBP04M, 3KBP06M, 3KBP08M

## Glass Passivated Single-Phase Bridge Rectifier




**Case Style KBPM**

### FEATURES

- UL recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, and telecommunication applications.

### MECHANICAL DATA

**Case:** KBPM

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

**Terminals:** Silver plated leads, solderable per J-STD-002 and JESD22-B102

**Polarity:** As marked on body

| PRIMARY CHARACTERISTICS | |
|---|---|
| Package | KBPM |
| $I_{F(AV)}$ | 3.0 A |
| $V_{RRM}$ | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V |
| $I_{FSM}$ | 80 A |
| $I_R$ | 5 µA |
| $V_F$ at $I_F$ = 3.0 A | 1.05 V |
| $T_J$ max. | 150 °C |
| Diode variations | In-Line |

**MAXIMUM RATINGS** ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | 3KBP005M | 3KBP01M | 3KBP02M | 3KBP04M | 3KBP06M | 3KBP08M | UNIT |
|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | V |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | V |
| Maximum average forward output rectified current at $T_A$ = 55 °C (Fig. 1) | $I_{F(AV)}$ | 3.0 | | | | | | A |
| Peak forward surge current 50 Hz single half sine-wave superimposed on rated load | $I_{FSM}$ | 80 | | | | | | A |
| Rating for fusing (t < 10 ms) | $I^2t$ | 32 | | | | | | $A^2s$ |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | - 55 to + 150 | | | | | | °C |

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | 3KBP005M | 3KBP01M | 3KBP02M | 3KBP04M | 3KBP06M | 3KBP08M | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | 3.0 A | $V_F$ | 1.05 | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_J$ = 25 °C | $I_R$ | 5.0 | | | | | | µA |
| | $T_J$ = 125 °C | | 500 | | | | | | |
| Typical junction capacitance per diode | 4.0 V, 1 MHz | $C_J$ | 25 | | | | | | pF |

| THERMAL CHARACTERISTICS ($T_A$ = 25 °C unless otherwise noted) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PARAMETER | SYMBOL | 3KBP005M | 3KBP01M | 3KBP02M | 3KBP04M | 3KBP06M | 3KBP08M | UNIT |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 30 | | | | | | °C/W |
| | $R_{\theta JL}$ | 11 | | | | | | |

**Note**

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

| ORDERING INFORMATION (Example) | | | | |
|---|---|---|---|---|
| PREFERRED P/N | UNIT WEIGHT (g) | PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| 3KBP06M-E4/51 | 1.912 | 51 | 600 | Anti-static PVC tray |

## RATINGS AND CHARACTERISTICS CURVES ($T_A$ = 25 °C unless otherwise noted)

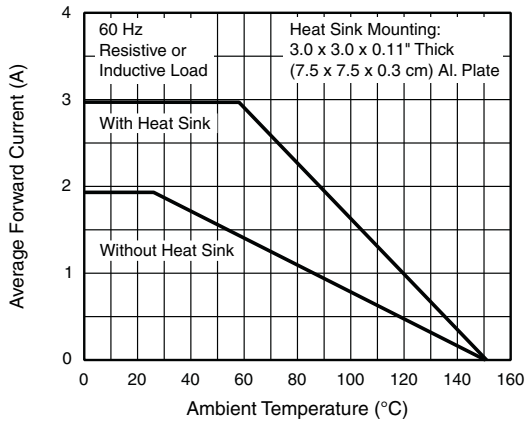



Fig. 1 - Forward Current Derating Curve

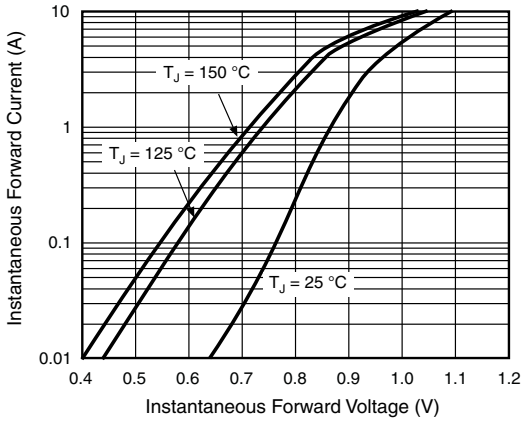



Fig. 3 - Typical Forward Characteristics Per Diode

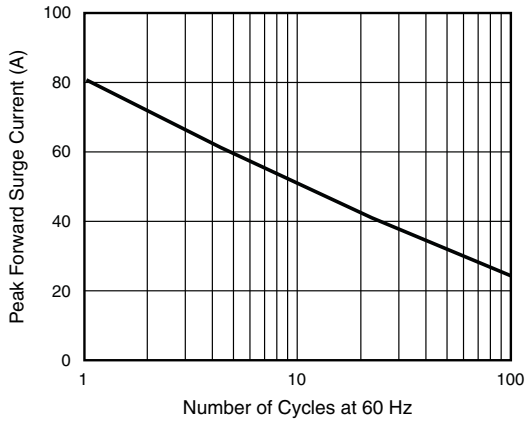



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

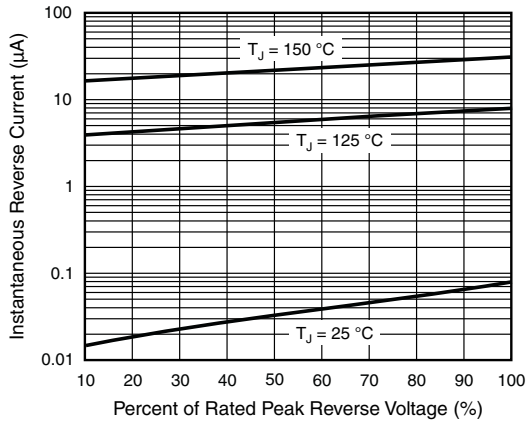



Fig. 4 - Typical Forward Characteristics Per Diode

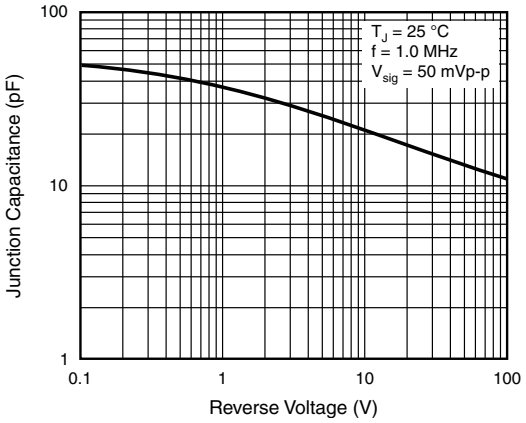
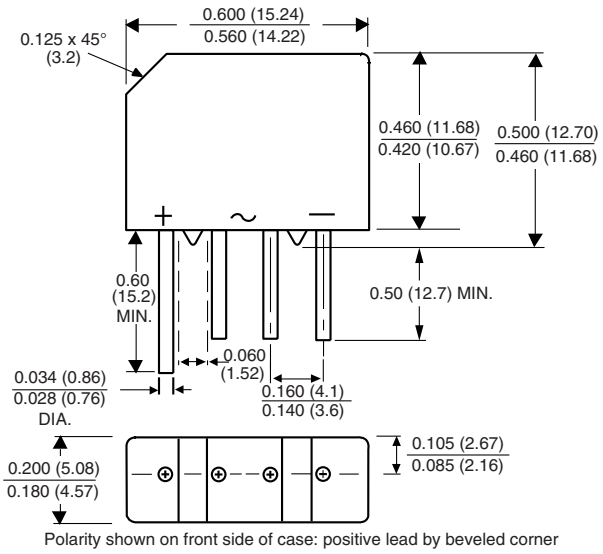



Fig. 5 - Typical Junction Capacitance Per Diode

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

**Case Style KBPM**




Polarity shown on front side of case: positive lead by beveled corner

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