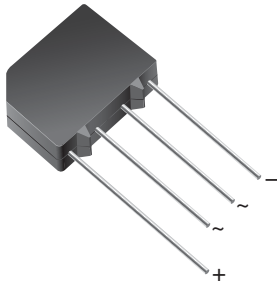
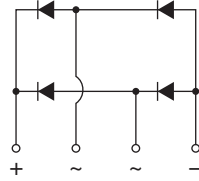




### Glass Passivated Single-Phase Bridge Rectifier



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](http://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 <sub>F(AV)</sub>                        | 2.0 A          |
| V <sub>RRM</sub>                          | 50 V to 1000 V |
| I <sub>FSM</sub>                          | 60 A           |
| I <sub>R</sub>                            | 5 μA           |
| V <sub>F</sub> at I <sub>F</sub> = 3.14 A | 1.1 V          |
| T <sub>J</sub> max.                       | 165 °C         |
| Diode variations                          | In-line        |

| MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)             |                                   |             |         |         |         |         |         |         |                  |
|---|-----------------------------------|-------------|---------|---------|---------|---------|---------|---------|------------------|
| PARAMETER   | SYMBOL                            | 2KBP005M    | 2KBP01M | 2KBP02M | 2KBP04M | 2KBP06M | 2KBP08M | 2KBP10M | UNIT             |
|   |                                   | 3N253       | 3N254   | 3N255   | 3N256   | 3N257   | 3N258   | 3N259   |                  |
| Maximum repetitive peak reverse voltage                                     | V <sub>RRM</sub>                  | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                |
| Maximum RMS voltage   | V <sub>RMS</sub>                  | 35          | 70      | 140     | 280     | 420     | 560     | 700     | V                |
| Maximum DC blocking voltage   | V <sub>DC</sub>                   | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                |
| Maximum average forward output rectified current at T <sub>A</sub> = 55 °C  | I <sub>F(AV)</sub>                | 2.0         |         |         |         |         |         |         | A                |
| Peak forward surge current single half sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 60          |         |         |         |         |         |         | A                |
| Rating for fusing (t < 8.3 ms)  | I <sup>2</sup> t                  | 15          |         |         |         |         |         |         | A <sup>2</sup> s |
| Operating junction and storage temperature range                            | T <sub>J</sub> , T <sub>STG</sub> | -55 to +165 |         |         |         |         |         |         | °C               |

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                |                         |          |         |         |         |         |         |         |      |
|--|----------------|-------------------------|----------|---------|---------|---------|---------|---------|---------|------|
| PARAMETER  | SYMBOL         | TEST CONDITIONS         | 2KBP005M | 2KBP01M | 2KBP02M | 2KBP04M | 2KBP06M | 2KBP08M | 2KBP10M | UNIT |
|  |                |                         | 3N253    | 3N254   | 3N255   | 3N256   | 3N257   | 3N258   | 3N259   |      |
| Maximum instantaneous forward voltage drop per diode                       | V <sub>F</sub> | 3.14 A                  | 1.1      |         |         |         |         |         |         | V    |
| Maximum DC reverse current at rated DC blocking voltage per diode          | I <sub>R</sub> | T <sub>A</sub> = 25 °C  | 5.0      |         |         |         |         |         |         | μA   |
|  |                | T <sub>A</sub> = 125 °C | 500      |         |         |         |         |         |         |      |
| Typical junction capacitance per diode                                     | T <sub>J</sub> | 4.0 V, 1 MHz            | 25       |         |         |         |         |         |         | pF   |



| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                                 |          |         |         |         |         |         |         |      |
|---|---------------------------------|----------|---------|---------|---------|---------|---------|---------|------|
| PARAMETER   | SYMBOL                          | 2KBP005M | 2KBP01M | 2KBP02M | 2KBP04M | 2KBP06M | 2KBP08M | 2KBP10M | UNIT |
|   |                                 | 3N253    | 3N254   | 3N255   | 3N256   | 3N257   | 3N258   | 3N259   |      |
| Typical thermal resistance  | R <sub>θJA</sub> <sup>(1)</sup> | 30       |         |         |         |         |         |         | °C/W |
|   | R <sub>θJL</sub> <sup>(1)</sup> | 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        |
| 2KBP06M-E4/51                  | 1.895           | 51           | 600           | Anti-static PVC tray |
| 3N257-E4/51                    | 1.895           | 51           | 600           | Anti-static PVC tray |

**RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)**

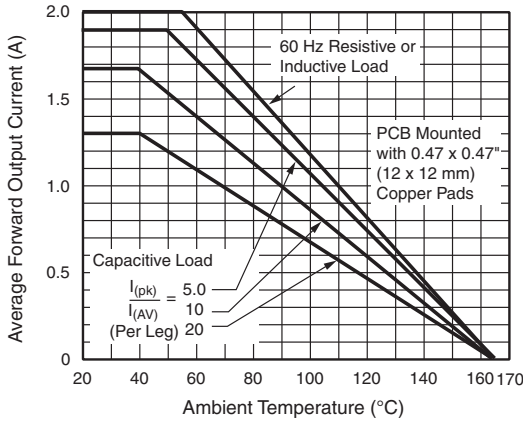


Fig. 1 - Derating Curve Output Rectified Current

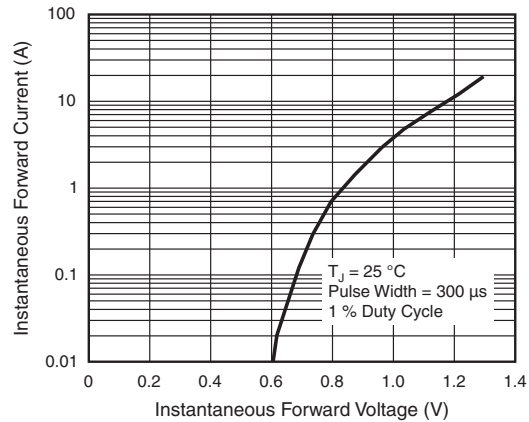


Fig. 3 - Typical Forward Characteristics Per Diode

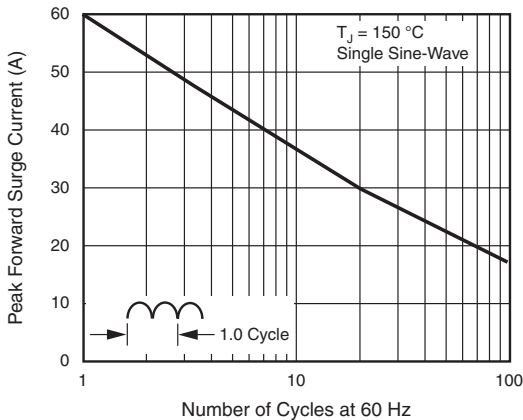


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

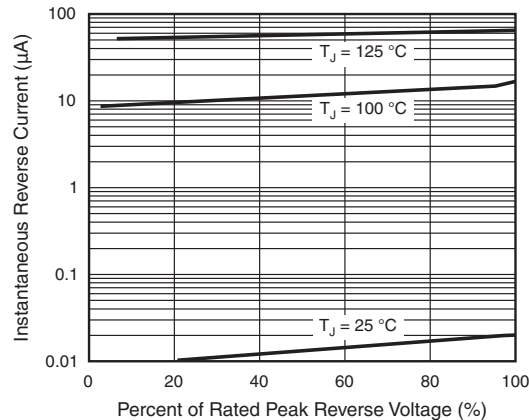


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

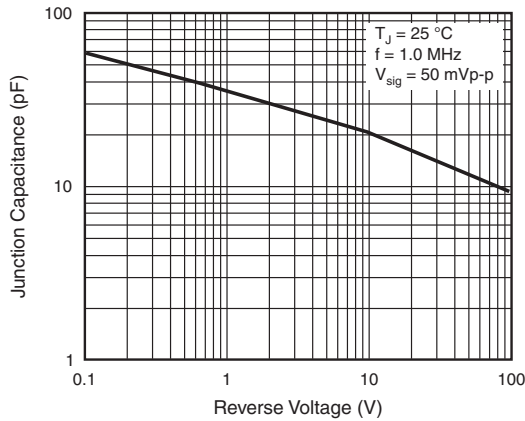
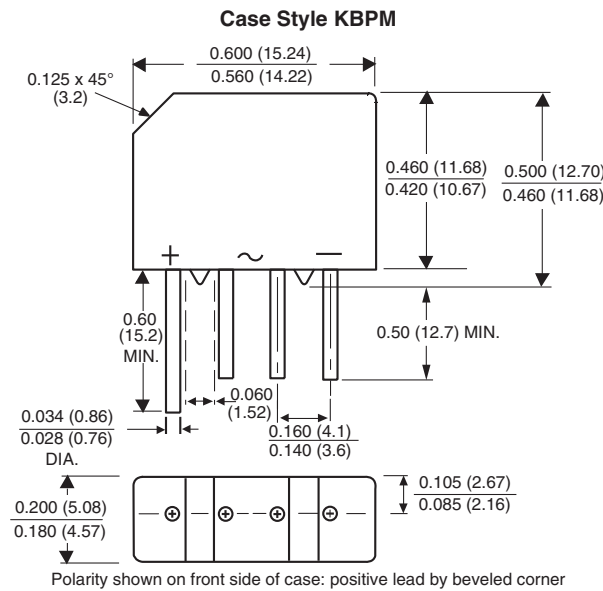


Fig. 5 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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