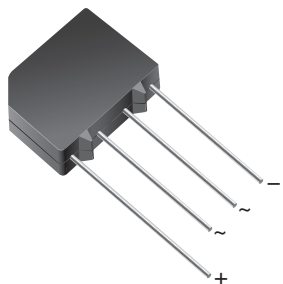
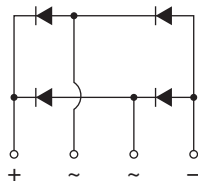


## Glass Passivated Single-Phase Bridge Rectifier



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           |
| $I_{F(AV)}$             | 2.0 A          |
| $V_{RRM}$               | 50 V to 1000 V |
| $I_{FSM}$               | 60 A           |
| $I_R$                   | 5 $\mu$ A      |
| $V_F$ at $I_F = 3.14$ A | 1.1 V          |
| $T_J$ max.              | 165 °C         |
| Diode variations        | In-line        |

### MAXIMUM RATINGS ( $T_A = 25$ °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                                     | $V_{RRM}$      | 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                |
| Maximum average forward output rectified current at $T_A = 55$ °C           | $I_{F(AV)}$    | 2.0         |         |         |         |         |         |         | A                |
| Peak forward surge current single half sine-wave superimposed on rated load | $I_{FSM}$      | 60          |         |         |         |         |         |         | A                |
| Rating for fusing ( $t < 8.3$ ms)                                           | $I^2t$         | 15          |         |         |         |         |         |         | A <sup>2</sup> s |
| Operating junction and storage temperature range                            | $T_J, T_{STG}$ | -55 to +165 |         |         |         |         |         |         | °C               |

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

| PARAMETER                                                               | SYMBOL         | TEST<br>CONDITIONS      | 2KBP005M | 2KBP01M | 2KBP02M | 2KBP04M | 2KBP06M | 2KBP08M | 2KBP10M | UNIT |
|-------------------------------------------------------------------------|----------------|-------------------------|----------|---------|---------|---------|---------|---------|---------|------|
|                                                                         |                |                         | 3N253    | 3N254   | 3N255   | 3N256   | 3N257   | 3N258   | 3N259   |      |
| Maximum instantaneous<br>forward voltage drop per<br>diode              | V <sub>F</sub> | 3.14 A                  | 1.1      |         |         |         |         |         |         | V    |
| Maximum DC reverse<br>current at rated DC<br>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<br>capacitance per diode                               | T <sub>J</sub> | 4.0 V,<br>1 MHz         | 25       |         |         |         |         |         |         | pF   |

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  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 |

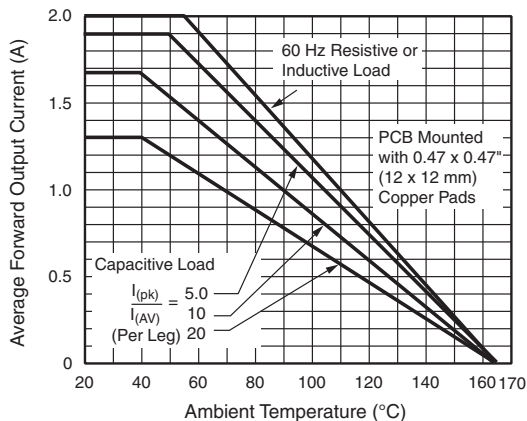
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

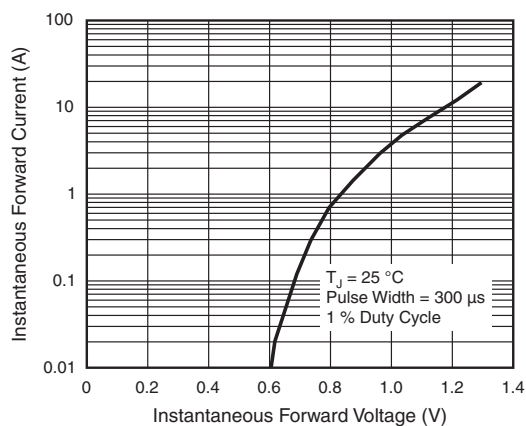


Fig. 3 - Typical Forward Characteristics Per Diode

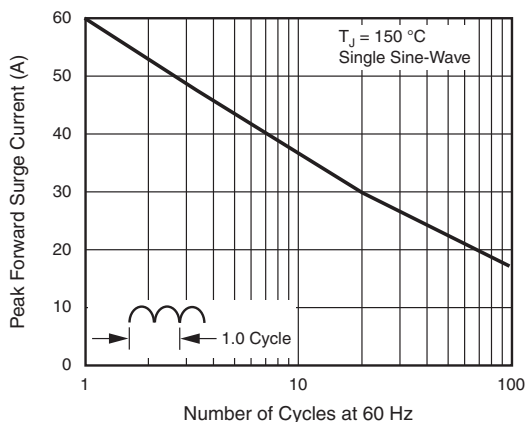


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

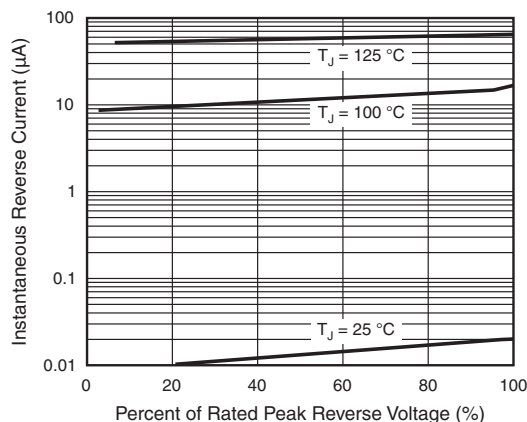


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

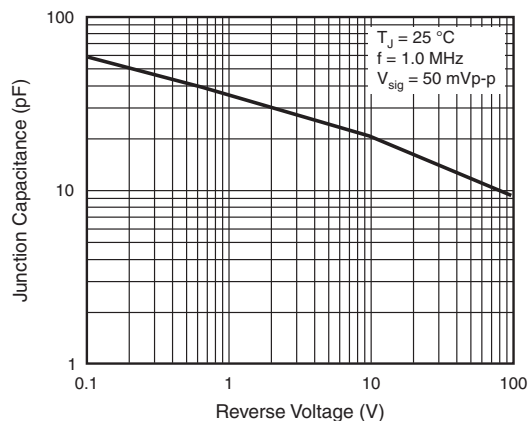
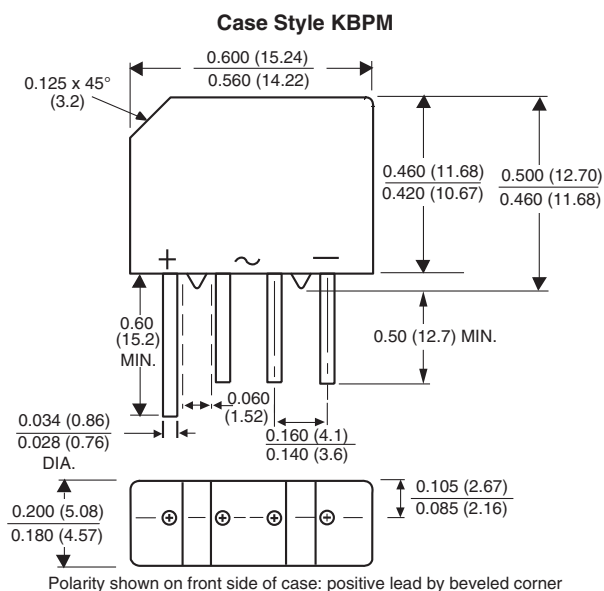


Fig. 5 - Typical Junction Capacitance Per Diode

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




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