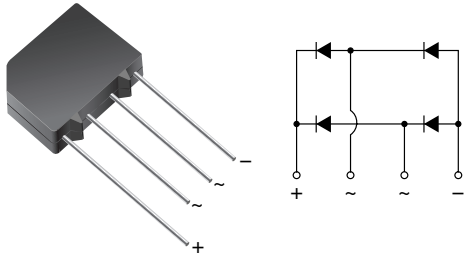


## Glass Passivated Single-Phase Bridge Rectifier



Case Style KBPM

### FEATURES

- UL recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for switching power supply, home appliances, office equipment, and telecommunication applications.

### MECHANICAL DATA

**Case:** KBPM

Epoxy meets UL 94V-0 flammability rating

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

E4 suffix for consumer grade

**Polarity:** As marked on body

| PRIMARY CHARACTERISTICS |                |
|-------------------------|----------------|
| $I_{F(AV)}$             | 2 A            |
| $V_{RRM}$               | 50 V to 1000 V |
| $I_{FSM}$               | 60 A           |
| $I_R$                   | 5 $\mu$ A      |
| $V_F$                   | 1.1 V          |
| $T_J$ max.              | 165 °C         |

| MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)        |                |               |          |          |          |          |          |          |                  |
|---|----------------|---------------|----------|----------|----------|----------|----------|----------|------------------|
| PARAMETER   | SYMBOL         | 2KBP 005M     | 2KBP 01M | 2KBP 02M | 2KBP 04M | 2KBP 06M | 2KBP 08M | 2KBP 10M | 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                |
| Max. average forward output rectified current at $T_A = 55\text{ }^\circ\text{C}$ | $I_{F(AV)}$    | 2.0           |          |          |          |          |          |          | A                |
| Peak forward surge current single half sine-wave superimposed on rated load       | $I_{FSM}$      | 60            |          |          |          |          |          |          | A                |
| Rating for fusing ( $t < 8.3\text{ ms}$ )   | $I^2t$         | 15            |          |          |          |          |          |          | A <sup>2</sup> s |
| Operating junction and storage temperature range                                  | $T_J, T_{STG}$ | - 55 to + 165 |          |          |          |          |          |          | °C               |

| ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |   |        |            |          |          |          |          |          |          |               |
|---|---|--------|------------|----------|----------|----------|----------|----------|----------|---------------|
| PARAMETER   | TEST CONDITIONS   | SYMBOL | 2KBP 005M  | 2KBP 01M | 2KBP 02M | 2KBP 04M | 2KBP 06M | 2KBP 08M | 2KBP 10M | UNIT          |
|   |   |        | 3N253      | 3N254    | 3N255    | 3N256    | 3N257    | 3N258    | 3N259    |               |
| Maximum instantaneous forward voltage drop per diode                                  | 3.14 A  | $V_F$  | 1.1        |          |          |          |          |          |          | V             |
| Maximum DC reverse current at rated DC blocking voltage per diode                     | $T_A = 25\text{ }^\circ\text{C}$<br>$T_A = 125\text{ }^\circ\text{C}$ | $I_R$  | 5.0<br>500 |          |          |          |          |          |          | $\mu\text{A}$ |
| Typical junction capacitance per diode  | 4.0 V, 1 MHz  | $C_J$  | 25         |          |          |          |          |          |          | pF            |

| THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                                    |           |          |          |          |          |          |          |                    |  |
|--|------------------------------------|-----------|----------|----------|----------|----------|----------|----------|--------------------|--|
| PARAMETER  | SYMBOL                             | 2KBP 005M | 2KBP 01M | 2KBP 02M | 2KBP 04M | 2KBP 06M | 2KBP 08M | 2KBP 10M | UNIT               |  |
|  |                                    | 3N253     | 3N254    | 3N255    | 3N256    | 3N257    | 3N258    | 3N259    |                    |  |
| Typical thermal resistance <sup>(1)</sup>  | $R_{\theta JA}$<br>$R_{\theta JL}$ | 30<br>11  |          |          |          |          |          |          | $^\circ\text{C/W}$ |  |

**Note:**

(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

| ORDERING INFORMATION (Example) |                 |                        |               |                      |
|--------------------------------|-----------------|------------------------|---------------|----------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE        |
| 2KBP06M-E4/45                  | 1.895           | 45                     | 30            | Tube                 |
| 2KBP06M-E4/51                  | 1.895           | 51                     | 600           | Anti-static PVC tray |
| 3N257-E4/45                    | 1.895           | 45                     | 30            | Tube                 |
| 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)

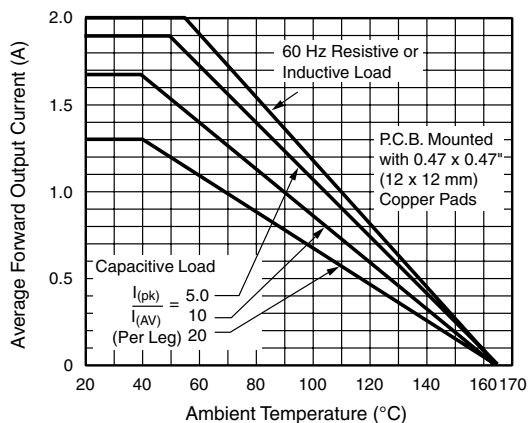


Figure 1. Derating Curve Output Rectified Current

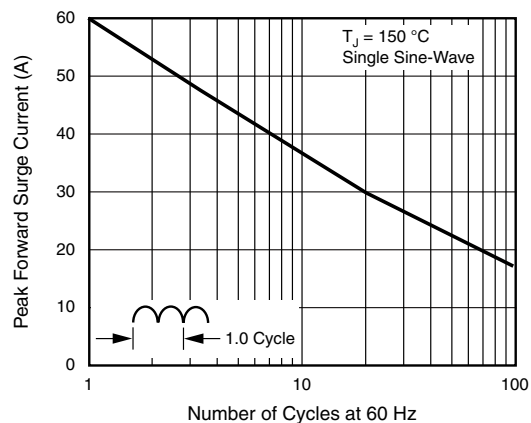


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

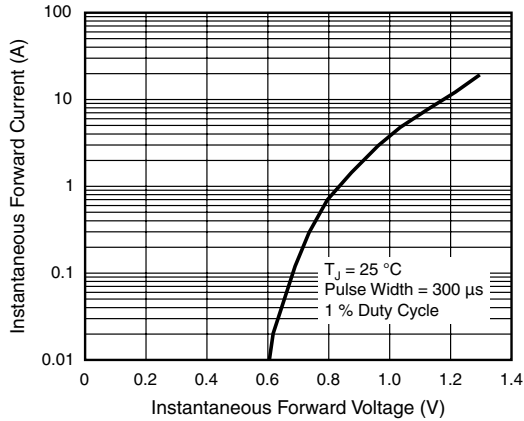


Figure 3. Typical Forward Characteristics Per Diode

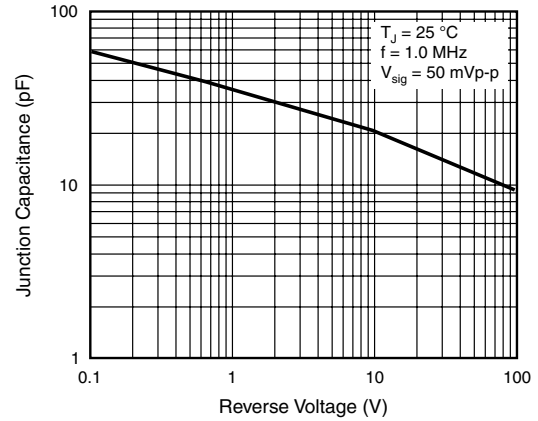


Figure 5. Typical Junction Capacitance Per Diode

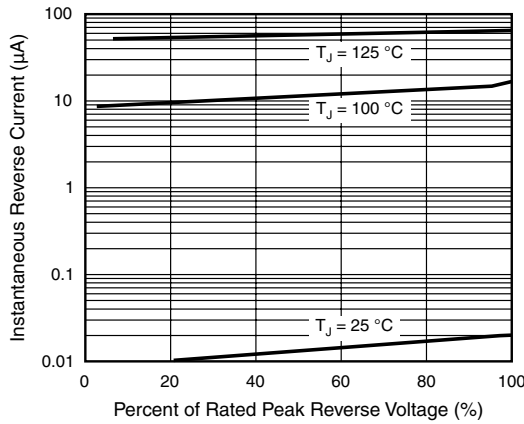


Figure 4. Typical Reverse Leakage Characteristics Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





## Disclaimer

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