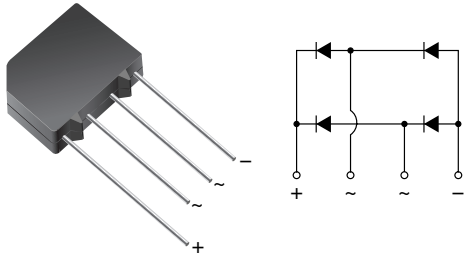


Glass Passivated Single-Phase Bridge Rectifier



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 | |
|-------------------------|----------------|
| $I_{F(AV)}$ | 1.5 A |
| V_{RRM} | 50 V to 1000 V |
| I_{FSM} | 60 A |
| I_R | 5 μ A |
| V_F | 1.0 V |
| T_J max. | 150 °C |

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | | | | |
|---|----------------|---------------|---------|---------|---------|---------|---------|---------|------------------|
| 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 ⁽¹⁾ | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage ⁽¹⁾ | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage ⁽¹⁾ | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward output rectified current at $T_A = 40$ °C | $I_{F(AV)}$ | 1.5 | | | | | | | A |
| Peak forward surge current single half sine-wave ⁽¹⁾ | I_{FSM} | 60 40 | | | | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 10 | | | | | | | A ² s |
| Operating junction and storage temperature range ⁽¹⁾ | T_J, T_{STG} | - 55 to + 150 | | | | | | | °C |

Note:

(1) JEDEC registered values

| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|--|---|----------------|----------|---------|---------|------------|---------|---------|---------|------|
| PARAMETER | TEST CONDITIONS | 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 diode ⁽¹⁾ | 1.0 A 1.57 A | V _F | | | | 1.0 1.3 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode ⁽¹⁾ | T _A = 25 °C T _A = 125 °C | I _R | | | | 5.0 500 | | | | μA |
| Typical junction capacitance per diode | 4.0 V, 1 MHz | C _J | | | | 15 | | | | pF |

Note:

(1) JEDEC registered values

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|---|--------------------------------------|----------|---------|---------|----------|---------|---------|---------|------|--|
| 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 ⁽¹⁾ | R _{θJA} R _{θJL} | | | | 40 13 | | | | °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 |
| KBP06M-E4/45 | 1.895 | 45 | 30 | Tube |
| KBP06M-E4/51 | 1.895 | 51 | 600 | Anti-static PVC tray |
| 3N250-E4/45 | 1.895 | 45 | 30 | Tube |
| 3N250-E4/51 | 1.895 | 51 | 600 | Anti-static PVC tray |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

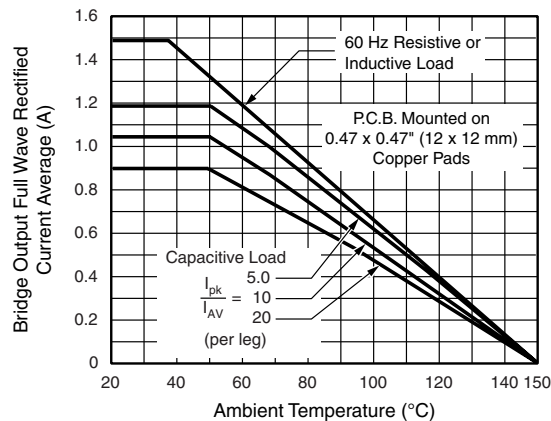


Figure 1. Derating Curve Output Rectified Current

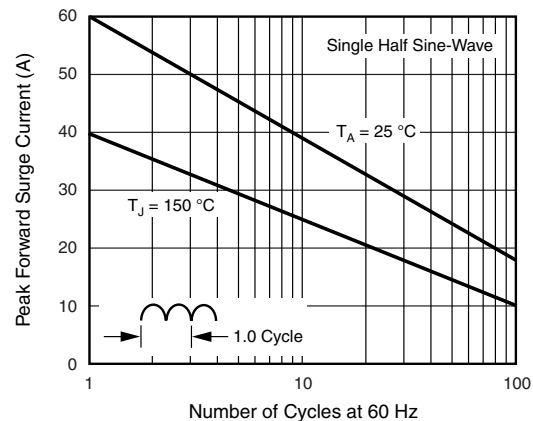


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

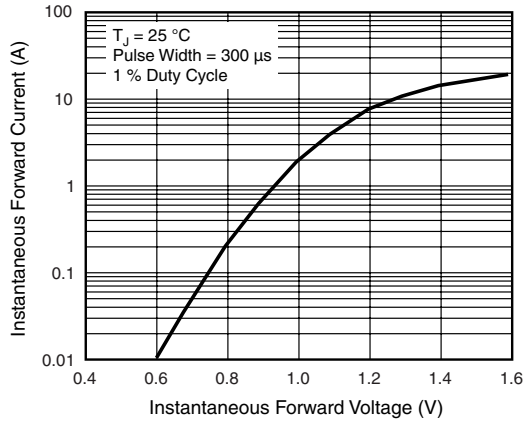


Figure 3. Typical Forward Characteristics Per Diode

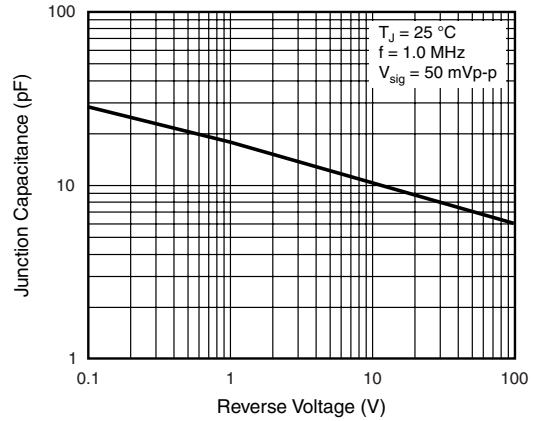


Figure 5. Typical Junction Capacitance Per Diode

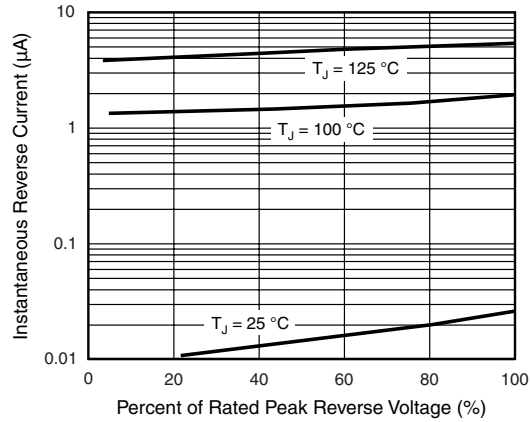
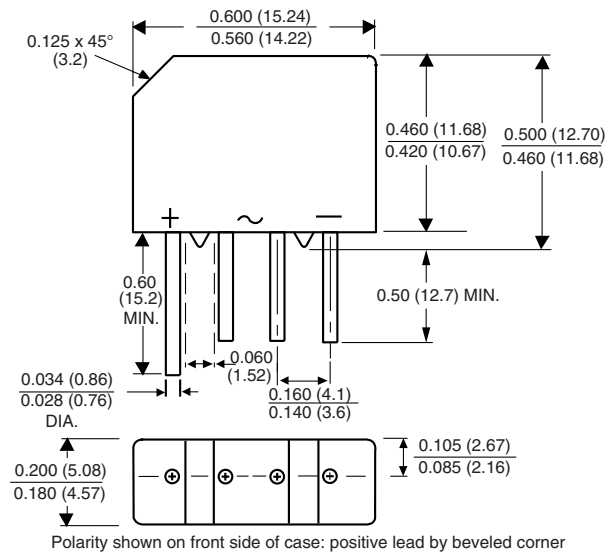


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style KBPM





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