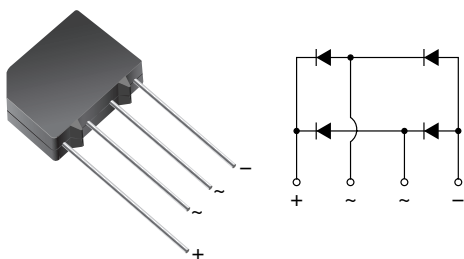


Glass Passivated Single-Phase Bridge Rectifier



Case Style KBPM

PRIMARY CHARACTERISTICS

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

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

MAXIMUM RATINGS ($T_A = 25$ °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 $T_A = 55$ °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 ² s |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 165 | | | | | | | °C |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ 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 | $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$ | I_R | 5.0 500 | | | | | | | μA |
| Typical junction capacitance per diode | 4.0 V, 1 MHz | C_J | 25 | | | | | | | pF |

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ 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 ⁽¹⁾ | R _{θJA} | 30 | | | | | | | °C/W |
| | R _{θJL} | 11 | | | | | | | |

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

($T_A = 25^\circ\text{C}$ unless otherwise noted)

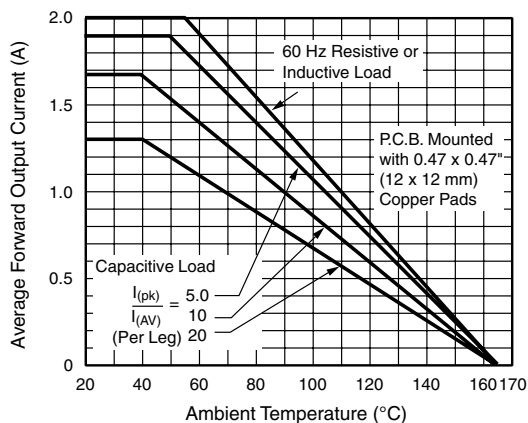


Figure 1. Derating Curve Output Rectified Current

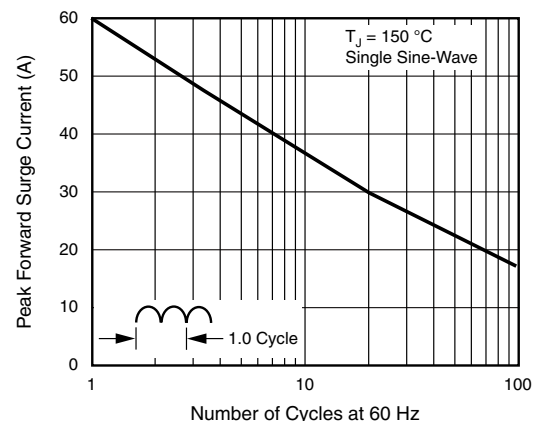


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

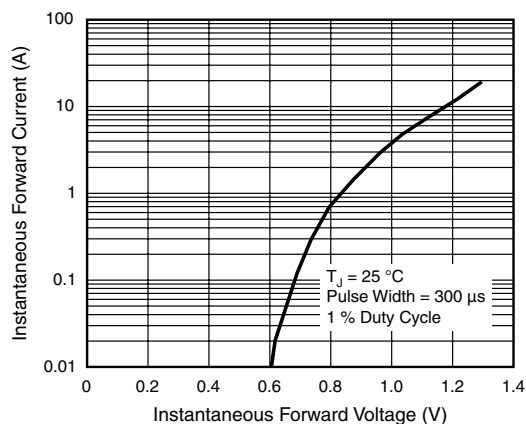


Figure 3. Typical Forward Characteristics Per Diode

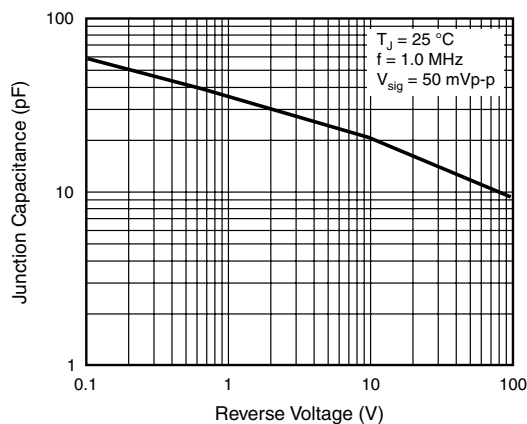


Figure 5. Typical Junction Capacitance Per Diode

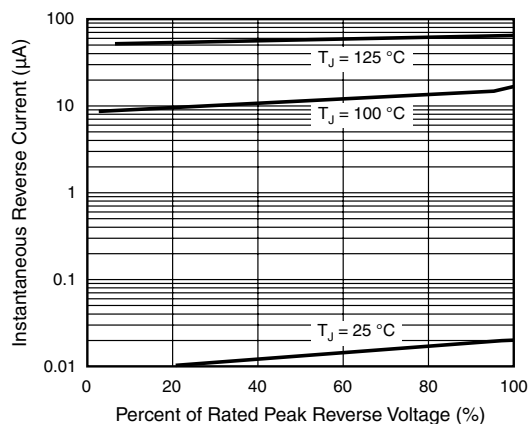
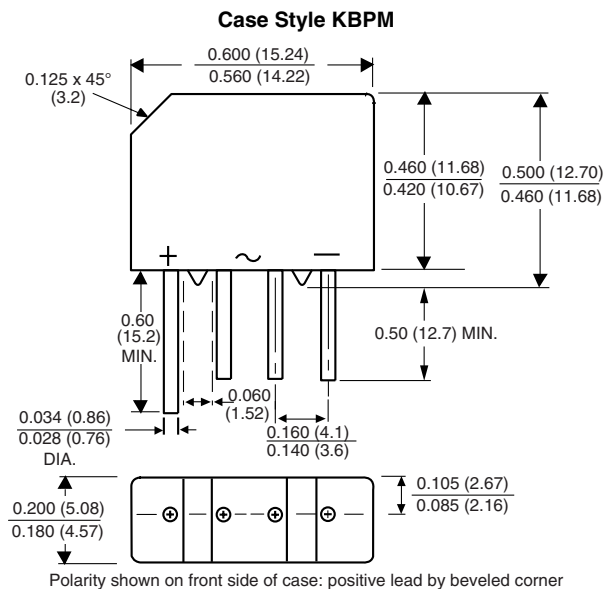


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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