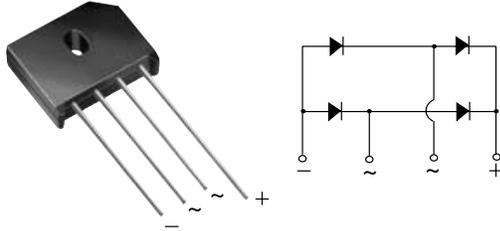


Single-Phase Bridge Rectifier



Case Style KBU

FEATURES

- UL recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- 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 monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances applications.

MECHANICAL DATA

Case: KBU

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

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.

Recommended Torque: 5.7 cm-kg (5 inches-lbs)

| PRIMARY CHARACTERISTICS | |
|-------------------------|----------------|
| $I_{F(AV)}$ | 6 A |
| V_{RRM} | 50 V to 1000 V |
| I_{FSM} | 200 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 | KBU6A | KBU6B | KBU6D | KBU6G | KBU6J | KBU6K | KBU6M | UNIT | |
| 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 rectified output current at $T_C = 100$ °C ⁽¹⁾⁽²⁾ $T_A = 40$ °C ⁽³⁾ | $I_{F(AV)}$ | 6.0 | | | | | | 6.0 | | A |
| Peak forward surge current single sine-wave superimposed on rated load | I_{FSM} | 250 | | | | | | | | A |
| Operating junction and storage temperature range | T_J, T_{STG} | - 50 to + 150 | | | | | | | | °C |

Notes:

- (1) Recommended mounted position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw
- (2) Thermal resistance from junction to ambient with units in free air, P.C.B. mounted on 0.5 x 0.5" (12 x 12 mm) copper pads, 0.375" (9.5 mm) lead length
- (3) Thermal resistance from junction to case with units mounted on a 2.6 x 1.4 x 0.06" thick (6.5 x 3.5 x 0.15 cm) aluminum plate

| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|--|-------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | KBU6A | KBU6B | KBU6D | KBU6G | KBU6J | KBU6K | KBU6M | UNIT |
| Maximum instantaneous forward drop per diode | 6.0 A | V _F | | | | 1.0 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | T _A = 25 °C | I _R | | | | 5.0 | | | | μA |
| | T _A = 125 °C | | | | | 1.0 | | | | mA |

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|---|------------------|-------|-------|-------|-------|-------|-------|-------|------|--|
| PARAMETER | SYMBOL | KBU6A | KBU6B | KBU6D | KBU6G | KBU6J | KBU6K | KBU6M | UNIT | |
| Typical thermal resistance ⁽¹⁾ | R _{θJA} | | | | 8.6 | | | | °C/W | |
| | R _{θJC} | | | | 3.1 | | | | | |

Note:

- (1) Thermal resistance from junction to ambient with units in free air, P.C.B. mounted on 0.5 x 0.5" (12 x 12 mm) copper pads, 0.375" (9.5 mm) lead length

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|----------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| KBU6J-E4/51 | 8.0 | 51 | 250 | Anti-static PVC tray |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

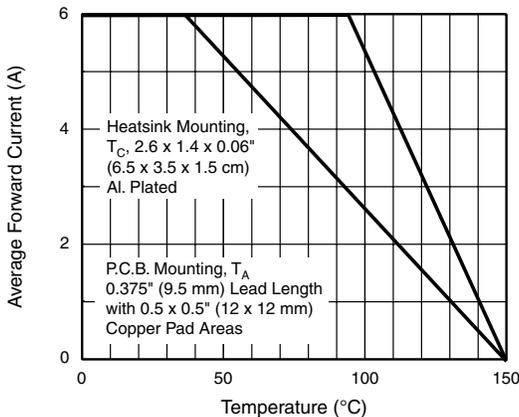


Figure 1. Derating Curve Output Rectified Current

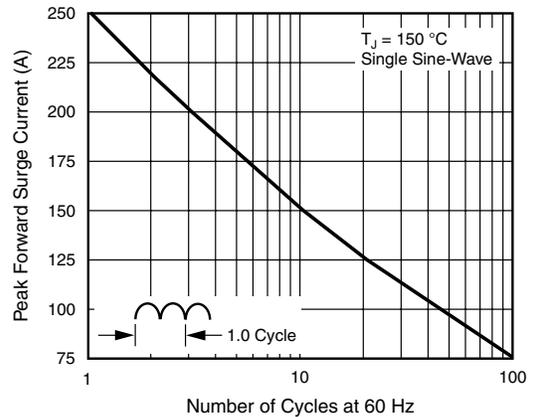


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

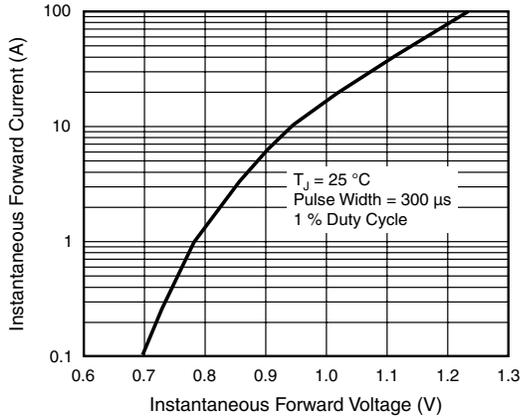


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

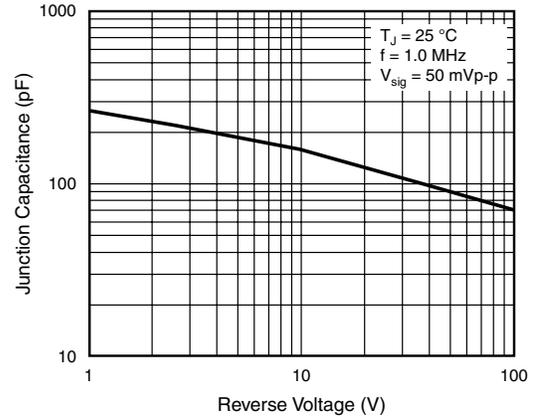


Figure 5. Typical Junction Capacitance Per Diode

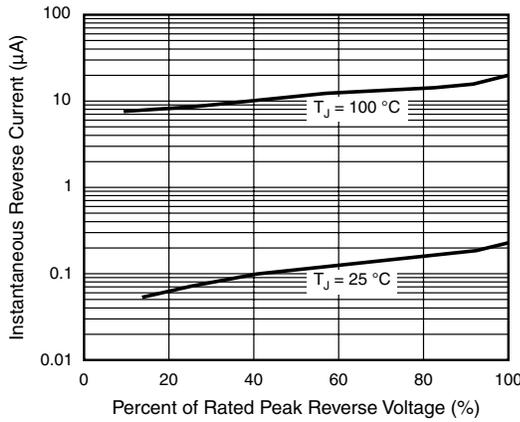
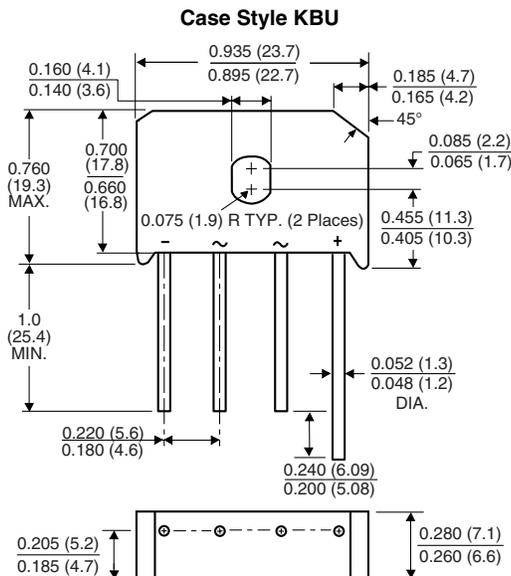


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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