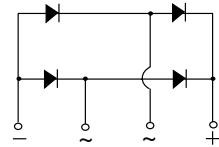




Single-Phase Bridge Rectifier



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.

| PRIMARY CHARACTERISTICS | |
|-------------------------|----------------|
| I _{F(AV)} | 4 A |
| V _{RRM} | 50 V to 1000 V |
| I _{FSM} | 200 A |
| I _R | 5 μA |
| V _F | 1.0 V |
| T _J max. | 150 °C |

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)

| MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|--|-----------------------------------|-------|-------|-------|-------|---------------|-------|-------|------|----|
| PARAMETER | SYMBOL | KBU4A | KBU4B | KBU4D | KBU4G | KBU4J | KBU4K | KBU4M | 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) T _A = 30 °C (2) | I _{F(AV)} | | | | | 4.0 | | | | A |
| Peak forward surge current single sine-wave superimposed on rated load | I _{FSM} | | | | | 200 | | | | A |
| Operating junction and storage temperature range | T _J , T _{STG} | | | | | - 50 to + 150 | | | | °C |

Notes:

(1) Units mounted on a 2.0 x 1.6 x 0.3" thick (5 x 4 x 0.8 cm.) aluminum plate

(2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length

KBU4A thru KBU4M

Vishay General Semiconductor



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|--|-------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | KBU4A | KBU4B | KBU4D | KBU4G | KBU4J | KBU4K | KBU4M | UNIT |
| Maximum instantaneous forward drop per diode | 4.0 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 | KBU4A | KBU4B | KBU4D | KBU4G | KBU4J | KBU4K | KBU4M | UNIT | |
| Typical thermal resistance | R _{θJA} | | | | 19 ⁽²⁾ | | | | °C/W | |
| | R _{θJL} | | | | 4.0 ⁽¹⁾ | | | | | |

Notes:

- (1) Units mounted on a 2.0 x 1.6 x 0.3" thick (5 x 4 x 0.8 cm.) aluminum plate
- (2) Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12 mm) copper pads and 0.375" (9.5 mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|----------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| KBU4J-E4/51 | 8.0 | 51 | 250 | Anti-static PVC tray |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

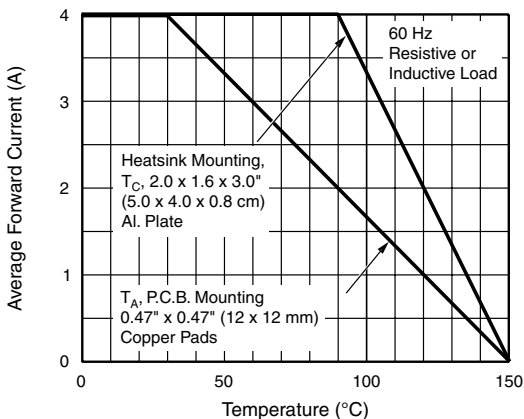


Figure 1. Derating Curve Output Rectified Current

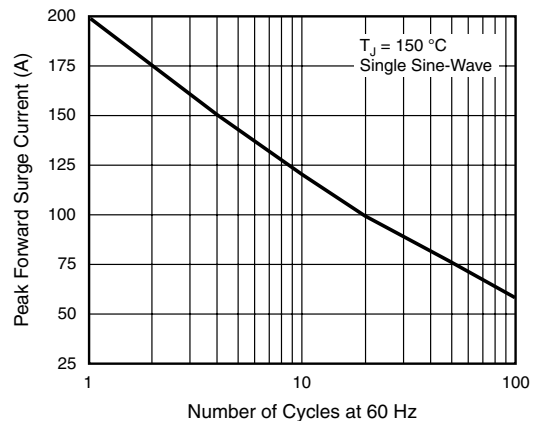


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

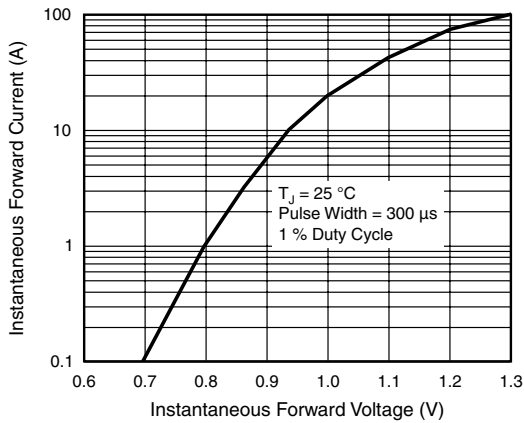


Figure 3. Typical Forward Characteristics Per Diode

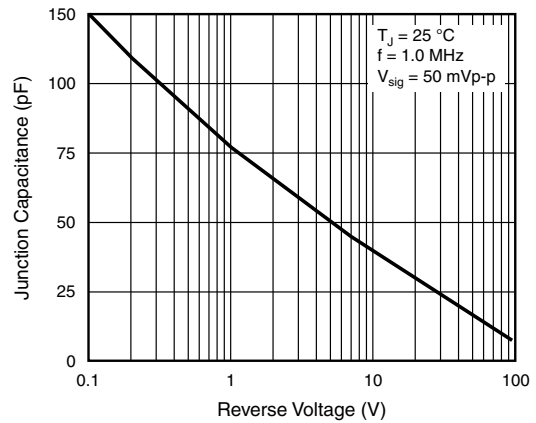


Figure 5. Typical Junction Capacitance Per Diode

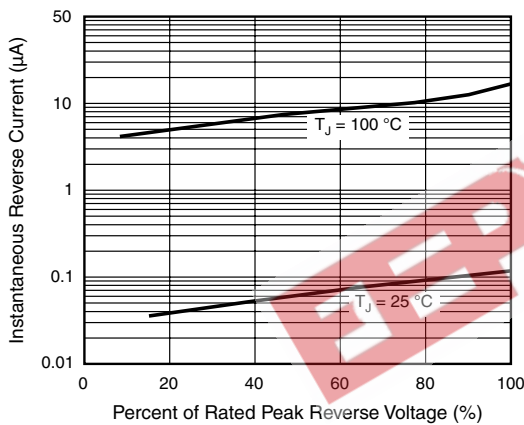
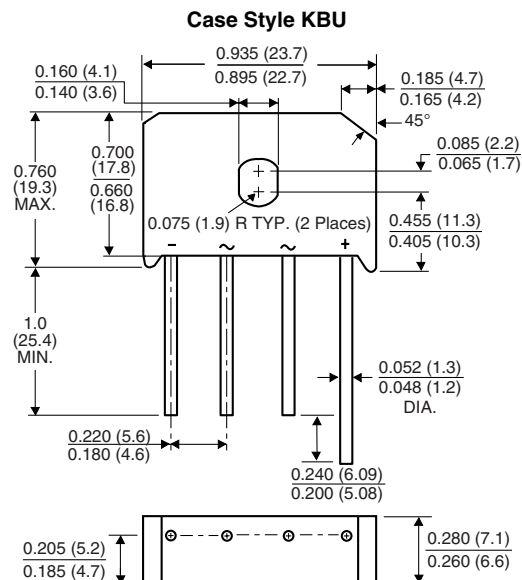


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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