



## Single-Phase Bridge Rectifier



Case Style KBU

### FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- High surge current capability
- Plastic-passivated junction
- High case dielectric strength of 1500 V<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS                |   |
|--|---|
| Package                                | KBU   |
| I <sub>F(AV)</sub>                     | 8 A   |
| V <sub>RRM</sub>                       | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| I <sub>FSM</sub>                       | 300 A   |
| I <sub>R</sub>                         | 10 μA   |
| V <sub>F</sub> at I <sub>F</sub> = 8 A | 1.0 V   |
| T <sub>J</sub> max.                    | 150 °C  |
| Circuit configuration                  | In-line   |

### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances applications.

### MECHANICAL DATA

Case: KBU

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

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

**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 <sub>A</sub> = 25 °C unless otherwise noted)        |                                   |             |       |       |       |       |       |       |      |
|--|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER  | SYMBOL                            | KBU8A       | KBU8B | KBU8D | KBU8G | KBU8J | KBU8K | KBU8M | UNIT |
| Maximum repetitive peak reverse voltage                                | V <sub>RRM</sub>                  | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum RMS voltage  | V <sub>RMS</sub>                  | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V    |
| Maximum DC blocking voltage  | V <sub>DC</sub>                   | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum average forward rectified output current at                    | I <sub>F(AV)</sub>                | 8.0         |       |       |       |       |       |       | A    |
| $T_C = 100\text{ °C}^{(1)(3)}$<br>$T_A = 40\text{ °C}^{(2)}$           |                                   | 6.0         |       |       |       |       |       |       |      |
| Peak forward surge current single sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 300         |       |       |       |       |       |       | A    |
| Operating junction and storage temperature range                       | T <sub>J</sub> , T <sub>STG</sub> | -50 to +150 |       |       |       |       |       |       | °C   |

### Notes

- (1) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw
- (2) Units mounted in free air, no heatsink, PCB at 0.375" (9.5 mm) lead length with 0.5" x 0.5" (12 mm x 12 mm) copper pads
- (3) Units mounted on a 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate heatsink

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                         |                |       |       |       |       |       |       |       |      |
|--|-------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER  | TEST CONDITIONS         | SYMBOL         | KBU8A | KBU8B | KBU8D | KBU8G | KBU8J | KBU8K | KBU8M | UNIT |
| Maximum instantaneous forward drop per diode                               | I <sub>F</sub> = 8.0 A  | V <sub>F</sub> | 1.0   |       |       |       |       |       |       | V    |
| Maximum DC reverse current at rated DC blocking voltage per diode          | T <sub>A</sub> = 25 °C  | I <sub>R</sub> | 10    |       |       |       |       |       |       | μA   |
|  | T <sub>A</sub> = 125 °C |                | 1.0   |       |       |       |       |       |       | mA   |



| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                                |       |       |       |       |       |       |       |      |                    |
|---|--------------------------------|-------|-------|-------|-------|-------|-------|-------|------|--------------------|
| PARAMETER   | SYMBOL                         | KBU8A | KBU8B | KBU8D | KBU8G | KBU8J | KBU8K | KBU8M | UNIT |                    |
| Typical thermal resistance  | $R_{\theta JA}$ <sup>(1)</sup> |       |       |       |       | 18    |       |       |      | $^\circ\text{C/W}$ |
|   | $R_{\theta JC}$ <sup>(2)</sup> |       |       |       |       | 3.0   |       |       |      |                    |

**Notes**

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(2) Units mounted on a 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate heatsink

| <b>ORDERING INFORMATION</b> (Example) |                 |                        |               |                      |
|---------------------------------------|-----------------|------------------------|---------------|----------------------|
| PREFERRED P/N                         | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE        |
| KBU8J-E4/51                           | 8.0             | 51                     | 250           | Anti-static PVC tray |

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

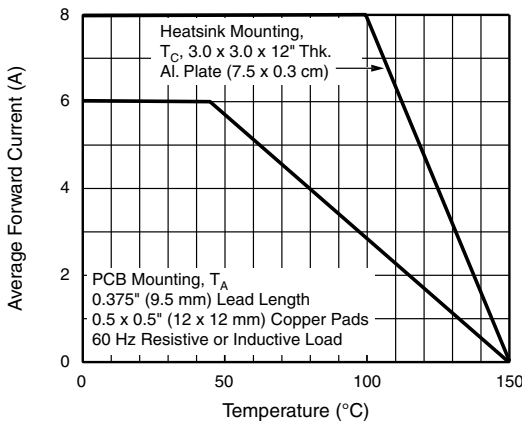


Fig. 1 - Derating Curve Output Rectified Current

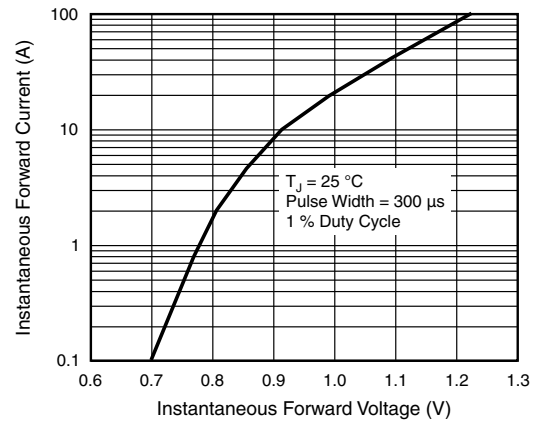


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

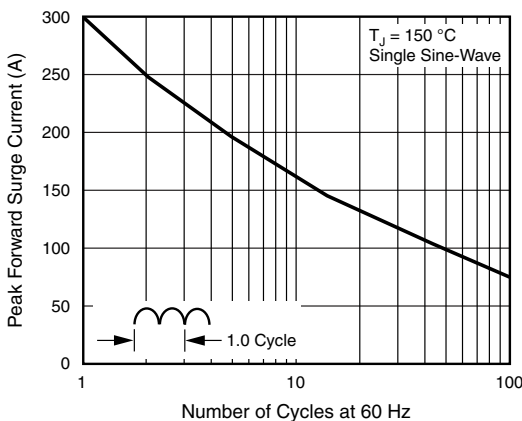


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

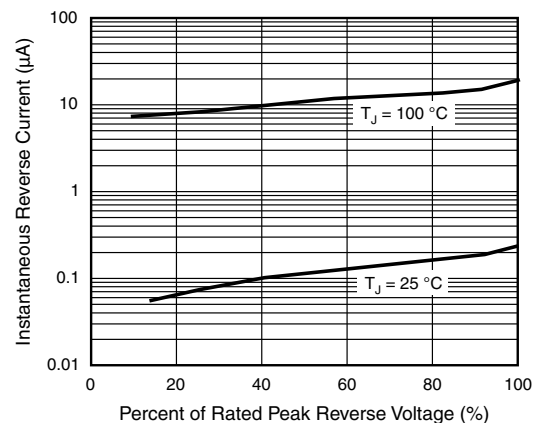


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

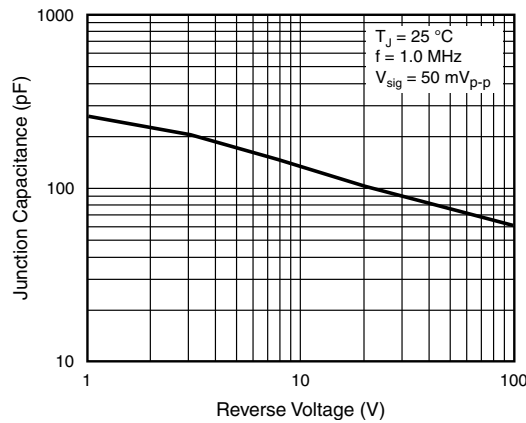


Fig. 5 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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