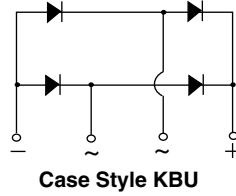




Single-Phase Bridge Rectifier



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_{RMS}
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

LINKS TO ADDITIONAL RESOURCES



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)

| PRIMARY CHARACTERISTICS | |
|--|---|
| Package | KBU |
| I _{F(AV)} | 6 A |
| V _{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| I _{FSM} | 200 A |
| I _R | 5 μA |
| V _F at I _F = 6 A | 1.0 V |
| T _J max. | 150 °C |
| Circuit configurations | In-line |

| 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 | I _{F(AV)} | T _C = 100 °C (1)(3) | | | | | | | 6.0 | A |
| | | T _A = 40 °C (2) | | | | | | | 6.0 | |
| 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, PCB mounted on 0.5" x 0.5" (12 mm 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 cm x 3.5 cm 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 | I _F = 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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | | | | | | |
|---|--------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|
| PARAMETER | SYMBOL | KBU6A | KBU6B | KBU6D | KBU6G | KBU6J | KBU6K | KBU6M | UNIT | |
| Typical thermal resistance | $R_{\theta JA}$ ⁽¹⁾ | | | | | 8.6 | | | | °C/W |
| | $R_{\theta JC}$ ⁽²⁾ | | | | | 3.1 | | | | |

Notes

- (1) Thermal resistance from junction to ambient with units in free air, PCB mounted on 0.5" x 0.5" (12 mm x 12 mm) copper pads, 0.375" (9.5 mm) lead length
- (2) Thermal resistance from junction to case with units mounted on a 2.6" x 1.4" x 0.06" thick (6.5 cm x 3.5 cm x 0.15 cm) Al. plate

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

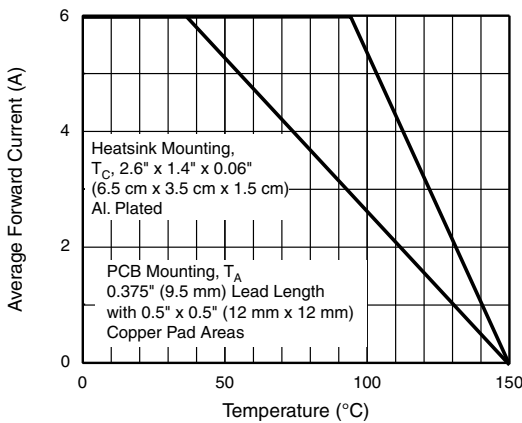


Fig. 1 - Derating Curve Output Rectified Current

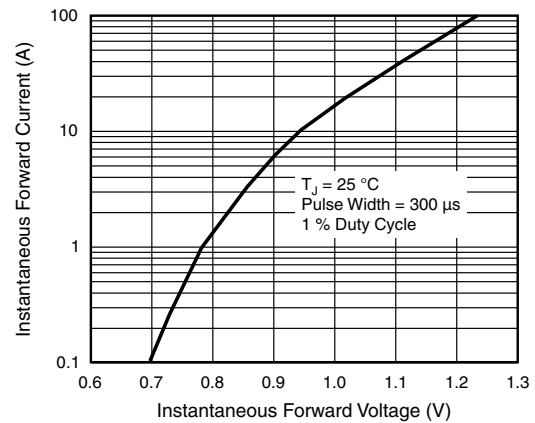


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

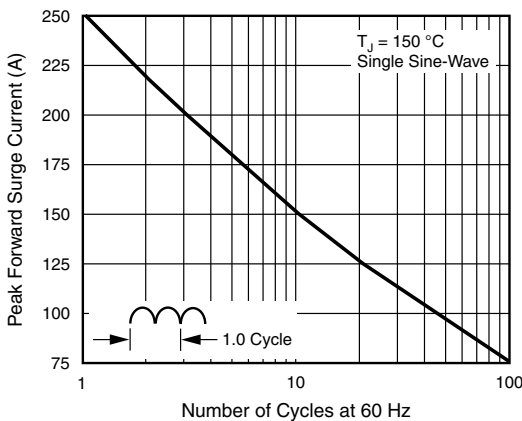


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

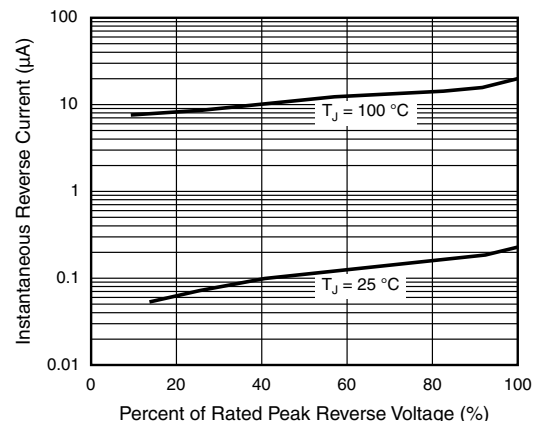


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

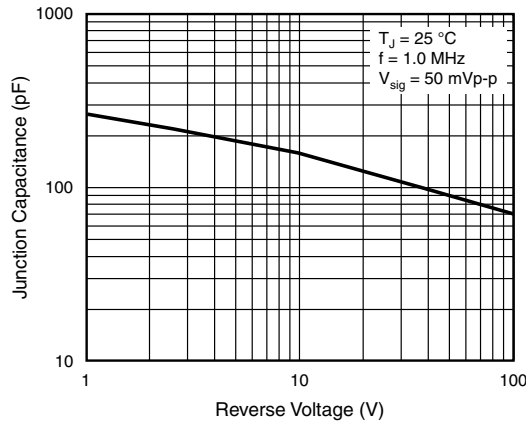


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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