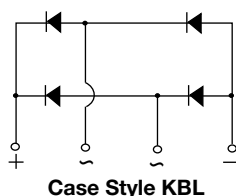
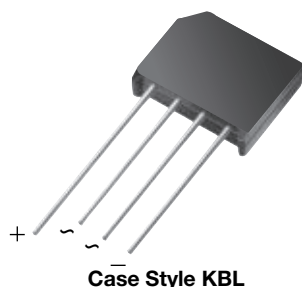


## Single-Phase Bridge Rectifier



### 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)



### LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS |                                                 |
|-------------------------|-------------------------------------------------|
| $I_{F(AV)}$             | 4 A                                             |
| $V_{RRM}$               | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| $I_{FSM}$               | 200 A                                           |
| $I_R$                   | 5 $\mu$ A                                       |
| $V_F$ at $I_F = 4$ A    | 1.1 V                                           |
| $T_J$ max.              | 150 °C                                          |
| Package                 | KBL                                             |
| 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:** KBL

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 ( $T_A = 25$ °C unless otherwise noted)                |                |             |       |       |       |       |       |       |      |
|------------------------------------------------------------------------|----------------|-------------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER                                                              | SYMBOL         | KBL005      | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | 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 current at $T_A = 50$ °C                       | $I_{F(AV)}$    | 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   |

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                         |                |        |       |       |       |       |       |       |      |
|----------------------------------------------------------------------------|-------------------------|----------------|--------|-------|-------|-------|-------|-------|-------|------|
| PARAMETER                                                                  | TEST CONDITIONS         | SYMBOL         | KBL005 | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | UNIT |
| Maximum instantaneous forward drop per diode                               | I <sub>F</sub> = 4.0 A  | V <sub>F</sub> | 1.1    |       |       |       |       |       |       | V    |
| Maximum DC reverse current at rated DC blocking voltage per diode          | T <sub>A</sub> = 25 °C  | I <sub>R</sub> | 5.0    |       |       |       |       |       |       | μA   |
|                                                                            | T <sub>A</sub> = 125 °C |                | 1.0    |       |       |       |       |       |       | mA   |

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

| PARAMETER                  | SYMBOL                          | KBL005 | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | UNIT |
|----------------------------|---------------------------------|--------|-------|-------|-------|-------|-------|-------|------|
| Typical thermal resistance | R <sub>0JA</sub> <sup>(2)</sup> | 19     |       |       |       |       |       |       | °C/W |
|                            | R <sub>0JL</sub> <sup>(1)</sup> | 4.0    |       |       |       |       |       |       |      |

**Notes**

- (1) Thermal resistance from junction to ambient with units mounted on 3.0" x 3.0" x 0.11" thick (7.5 cm x 7.5 cm x 0.3 cm) aluminum plate
- (2) Thermal resistance from junction to lead with units mounted on PCB at 0.375" (9.5 mm) lead length and 0.5" x 0.5" (12 mm x 12 mm) copper pads

**ORDERING INFORMATION** (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE        |
|---------------|-----------------|------------------------|---------------|----------------------|
| KBL06-E4/51   | 6.0             | 51                     | 300           | Anti-static PVC tray |

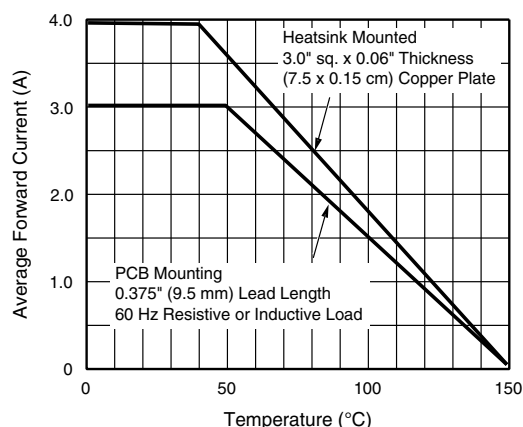
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

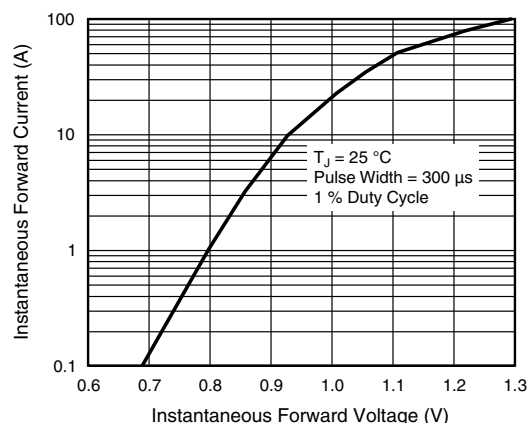


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

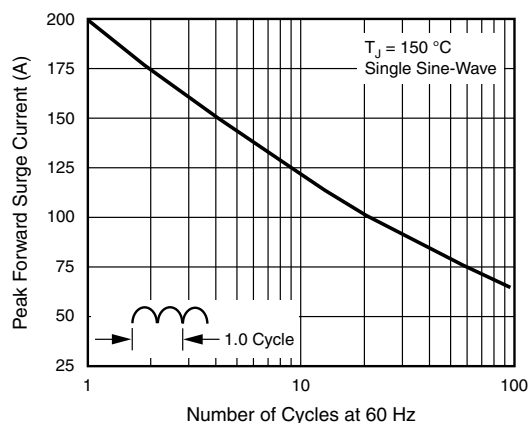


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

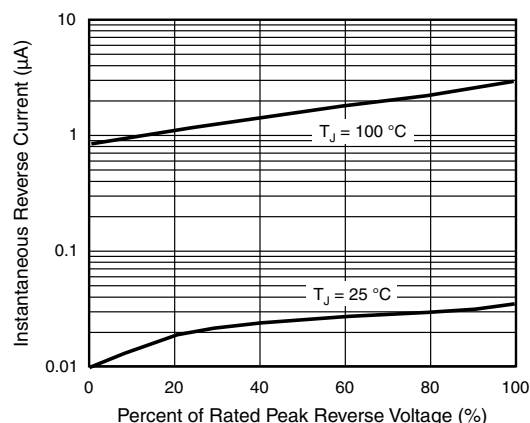


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

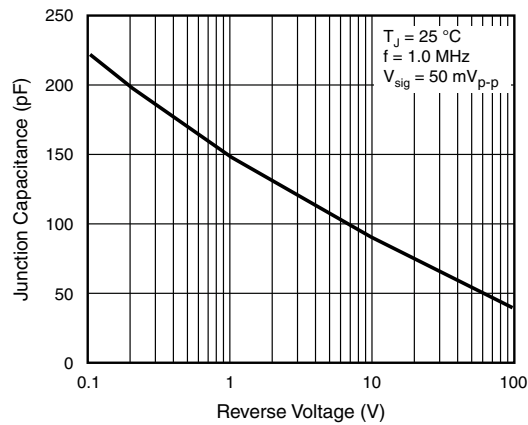
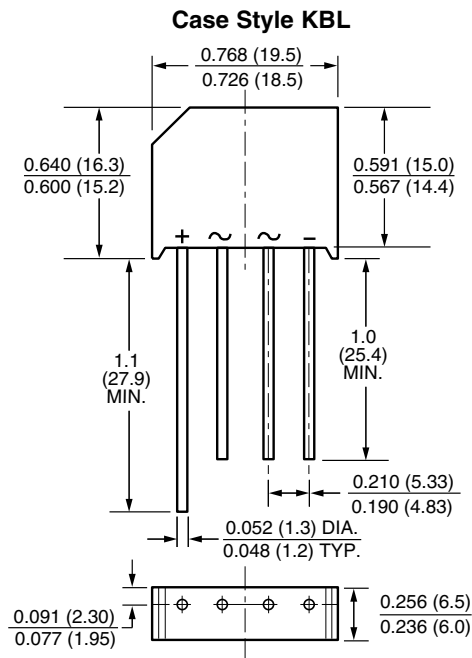


Fig. 5 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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