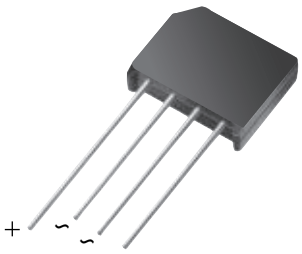
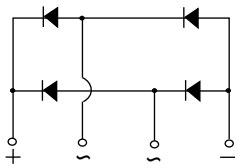
# KBL005, KBL01, KBL02, KBL04, KBL06, KBL08, KBL10

## Single-Phase Bridge Rectifier




Case Style KBL




Case Style KBL

### 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

3D Models

### TYPICAL APPLICATIONS

General purpose use in AC/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, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| $I_{FSM}$ | 200 A |
| $I_R$ | 5 µA |
| $V_F$ at $I_F$ = 4 A | 1.1 V |
| $T_J$ max. | 150 °C |
| Package | KBL |
| Circuit configuration | In-line |

### 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** ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | KBL005 | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward drop per diode | $I_F$ = 4.0 A | $V_F$ | 1.1 | | | | | | | 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 | KBL005 | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | UNIT |
| Typical thermal resistance | $R_{\theta JA}$ (2) | 19 | | | | | | | °C/W |
| | $R_{\theta JL}$ (1) | 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 °C unless otherwise noted)

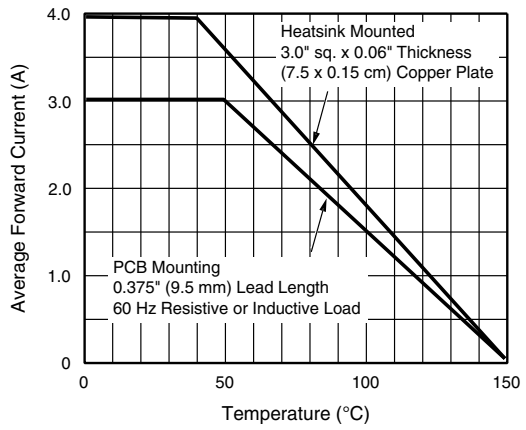



Fig. 1 - Derating Curve Output Rectified Current

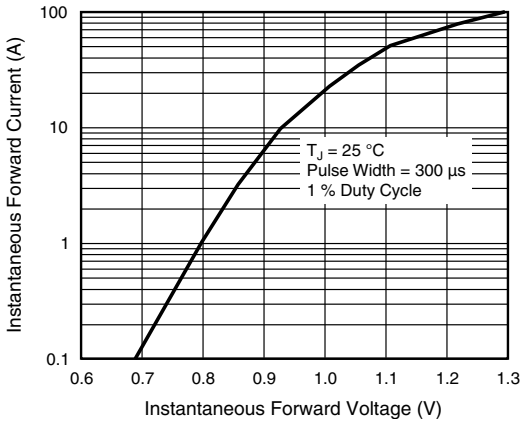



Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

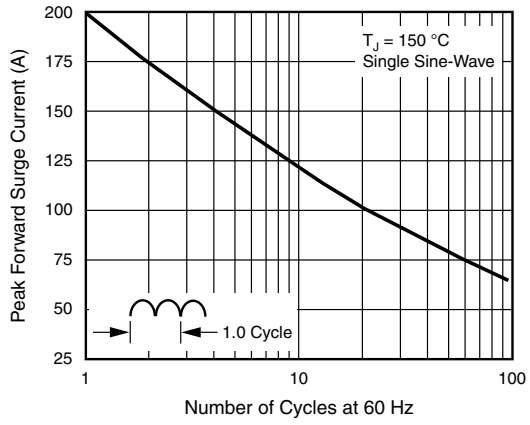



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

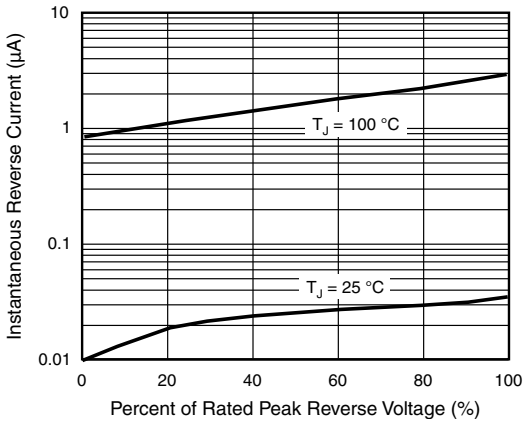



Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

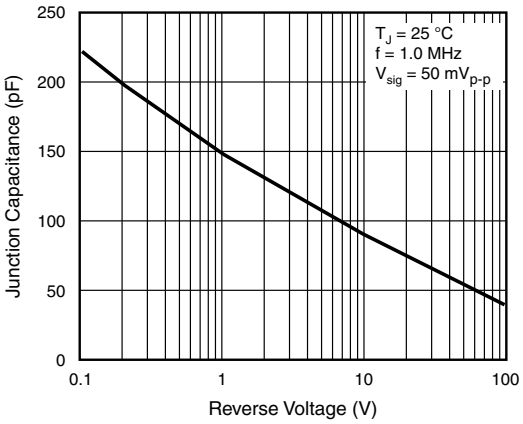
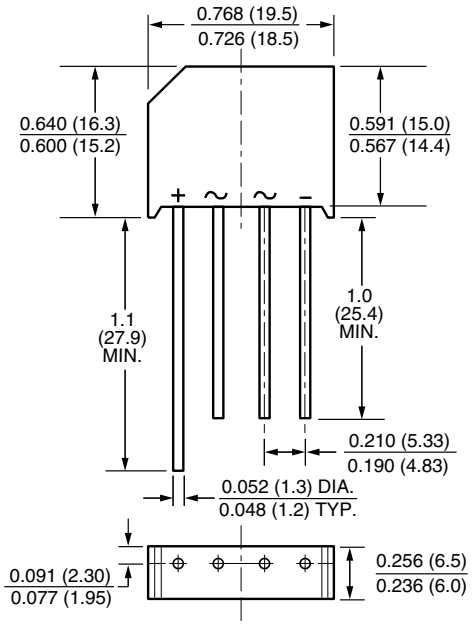



Fig. 5 - Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**Case Style KBL**



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