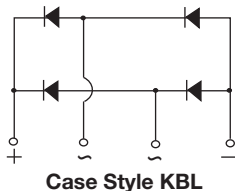
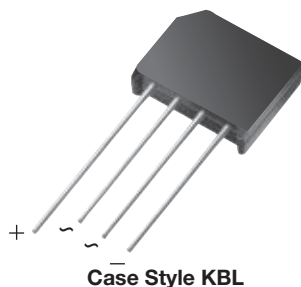


## Single-Phase Bridge Rectifier



### 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)



**RoHS**  
COMPLIANT

### 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)

### PRIMARY CHARACTERISTICS

|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| Package                                | KBL                                             |
| I <sub>F(AV)</sub>                     | 4 A                                             |
| V <sub>RRM</sub>                       | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| I <sub>FSM</sub>                       | 200 A                                           |
| I <sub>R</sub>                         | 5 µA                                            |
| V <sub>F</sub> at I <sub>F</sub> = 4 A | 1.1 V                                           |
| T <sub>J</sub> max.                    | 150 °C                                          |
| Circuit configuration                  | In-line                                         |

### MAXIMUM RATINGS (T<sub>A</sub> = 25 °C unless otherwise noted)

| PARAMETER                                                              | SYMBOL                            | KBL005      | KBL01 | KBL02 | KBL04 | KBL06 | KBL08 | KBL10 | 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 current at T <sub>A</sub> = 50 °C              | I <sub>F(AV)</sub>                | 4.0         |       |       |       |       |       |       | A    |
| Peak forward surge current single sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 200         |       |       |       |       |       |       | A    |
| Operating junction and storage temperature range                       | T <sub>J</sub> , T <sub>STG</sub> | -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>θJA</sub> <sup>(2)</sup> | 19     |       |       |       |       |       |       | °C/W |
|                            | R <sub>θJL</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 |

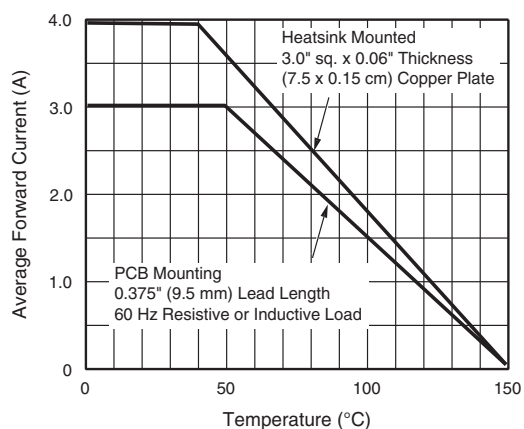
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

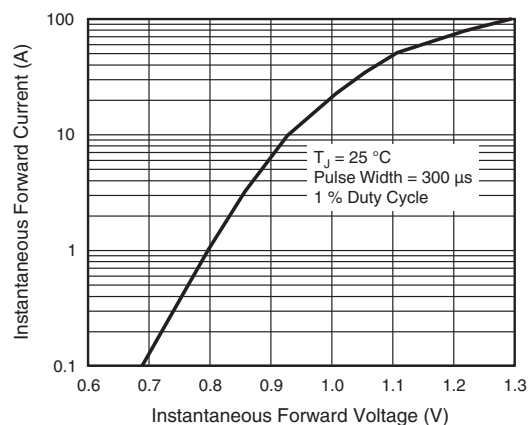


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

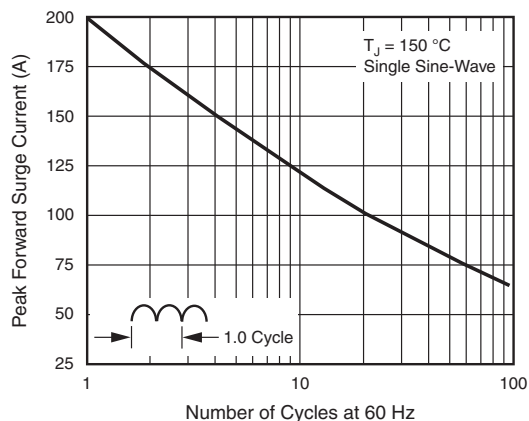


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

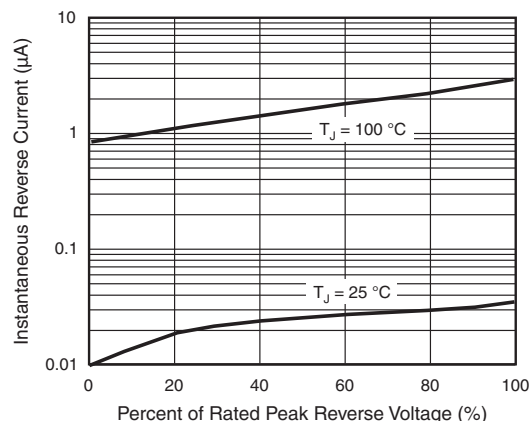


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

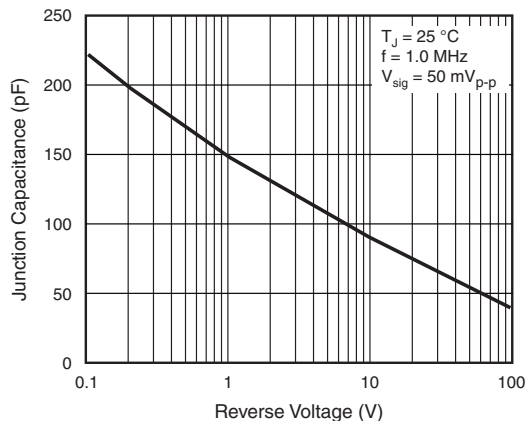
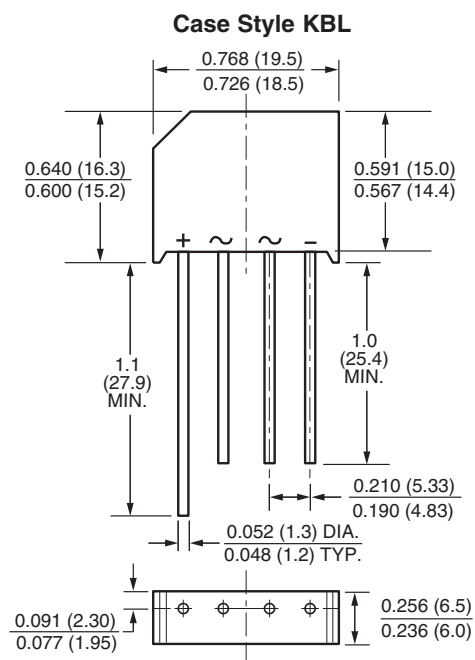


Fig. 5 - Typical Junction Capacitance Per Diode

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





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