



# KBL4005 THRU KBL410

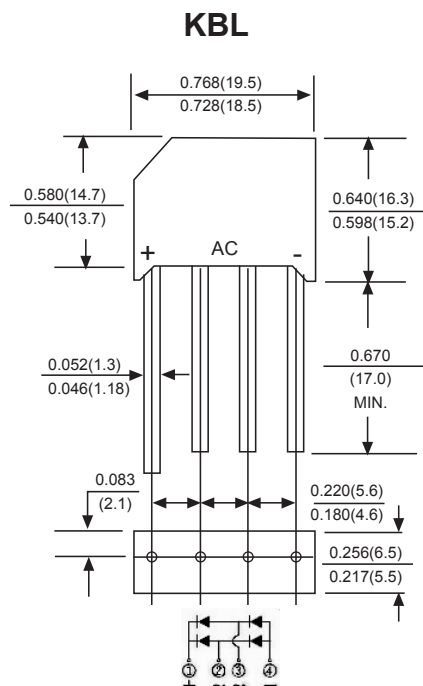
## Single Phase 4.0Amp Glass passivated Bridge Rectifiers

### Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Ideal for printed circuit boards
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### Mechanical data

- **Case** : JEDEC KBL Molded plastic body
- **Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity** : Polarity symbol marking on body
- **Mounting Position** : Any
- **Weight** : 0.22 ounce , 6.21 grams



Dimensions in inches and (millimeters)

### Maximum ratings and electrical characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| Parameter                                                                                                              | SYMBOLS         | KBL4005     | KBL401 | KBL402 | KBL404 | KBL406 | KBL408 | KBL410 | UNITS               |
|------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|--------|--------|--------|--------|--------|--------|---------------------|
| Marking Code                                                                                                           |                 |             |        |        |        |        |        |        |                     |
| 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 output rectified current at $T_c=50^\circ\text{C}$ (Note 2)<br>$T_A=50^\circ\text{C}$ (Note 3) | $I_{AV}$        | 4.0<br>3.0  |        |        |        |        |        |        | A                   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)                 | $I_{FSM}$       | 125         |        |        |        |        |        |        | A                   |
| Rating for Fusing( $t<8.3\text{ms}$ )                                                                                  | $I^2t$          | 166         |        |        |        |        |        |        | A <sup>2</sup> s    |
| Maximum instantaneous forward voltage drop<br>per bridge element at 4.0A                                               | $V_F$           | 1.0         |        |        |        |        |        |        | V                   |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=100^\circ\text{C}$              | $I_R$           | 10<br>1.0   |        |        |        |        |        |        | $\mu\text{A}$<br>mA |
| Typical Junction Capacitance (Note 1)                                                                                  | $C_J$           | 105         |        |        |        |        |        |        | pF                  |
| Typical Thermal Resistance (Note 2)                                                                                    | $R_{\theta JA}$ | 20          |        |        |        |        |        |        | $^\circ\text{C/W}$  |
| Operating junction temperature range                                                                                   | $T_J$           | -65 to +150 |        |        |        |        |        |        | $^\circ\text{C}$    |
| storage temperature range                                                                                              | $T_{STG}$       | -55 to +150 |        |        |        |        |        |        | $^\circ\text{C}$    |

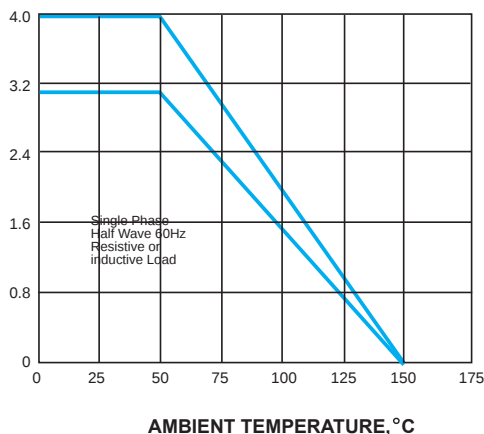
#### NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on 3.0" x 3.0" x 0.11" thick (7.5x7.5x0.3cm) Al. plate.
3. P.C. Board mounted with 0.5" x 0.5" (12x12mm) copper pads, 0.375" (9.5mm) lead length.

### Rating and characteristic curves

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

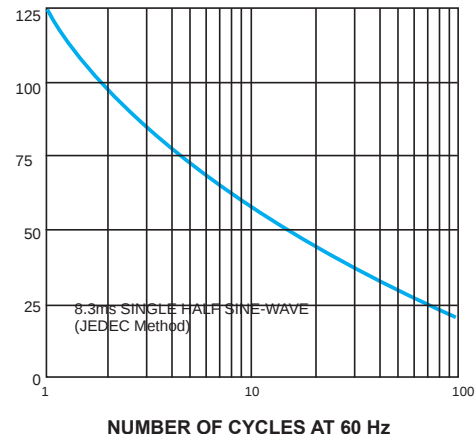


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

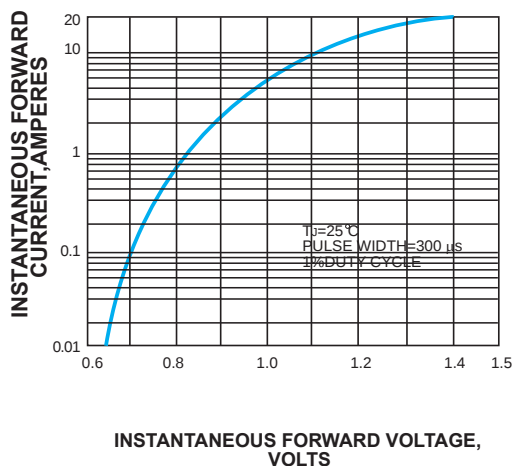


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

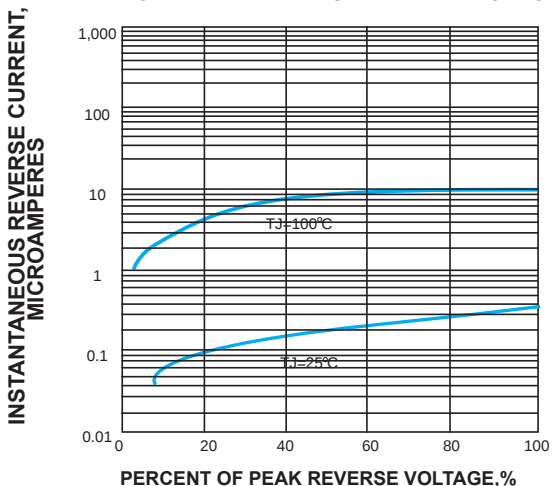
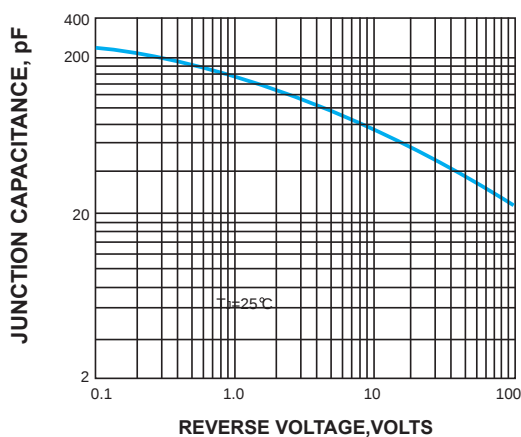


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
 $^\circ\text{C/W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

