

# KBL005 - KBL10

## Bridge Rectifiers

### Features

- Ideal for printed circuit board .
- Reliable low cost construction.
- High surge current capability.
- UL certified, UL #E326243.



### Absolute Maximum Ratings \* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter                                                                | Value       |     |     |     |     |     |      | Units            |
|-------------|--------------------------------------------------------------------------|-------------|-----|-----|-----|-----|-----|------|------------------|
|             |                                                                          | 005         | 01  | 02  | 04  | 06  | 08  | 10   |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                       | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $V_{RMS}$   | Maximum RMS Bridge Input Voltage                                         | 35          | 70  | 140 | 280 | 420 | 560 | 700  | V                |
| $V_R$       | DC Reverse Voltage (Rated $V_R$ )                                        | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current, @ $T_A = 50^\circ\text{C}$            | 4.0         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half-Sine-Wave | 200         |     |     |     |     |     |      | A                |
| $T_{STG}$   | Storage Temperature Range                                                | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                           | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol          | Parameter                                          | Value | Units                     |
|-----------------|----------------------------------------------------|-------|---------------------------|
| $P_D$           | Power Dissipation                                  | 6.58  | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient, * per leg | 19    | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead, * per leg    | 2.4   | $^\circ\text{C}/\text{W}$ |

\* Device mounted on PCB with 0.375 " (9.5 mm) lead length and 0.5 x 0.5" (13 x 13 mm) copper pads.

### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter                                   | Value | Units         |
|--------|---------------------------------------------|-------|---------------|
| $V_F$  | Forward Voltage, per bridge @ 4.0A          | 1.1   | V             |
| $I_R$  | Reverse Current, total bridge @ Rated $V_R$ |       |               |
|        | $T_A = 25^\circ\text{C}$                    | 5.0   | $\mu\text{A}$ |
|        | $T_A = 100^\circ\text{C}$                   | 500   | $\mu\text{A}$ |

## Typical Performance Characteristics

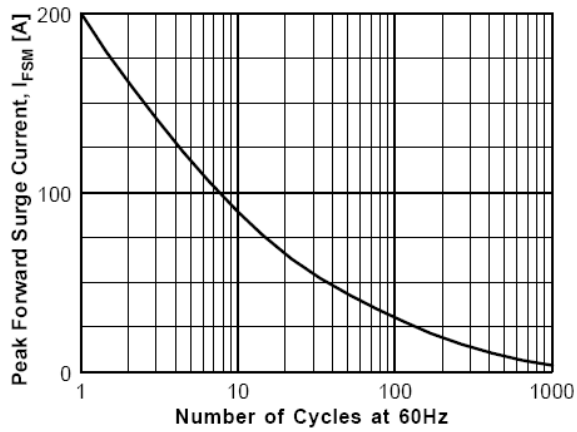


Figure 1. Non-Repetitive Surge Current

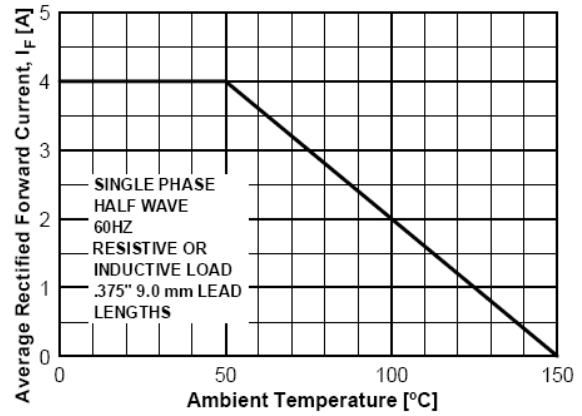


Figure 2. Forward Current Derating Curve

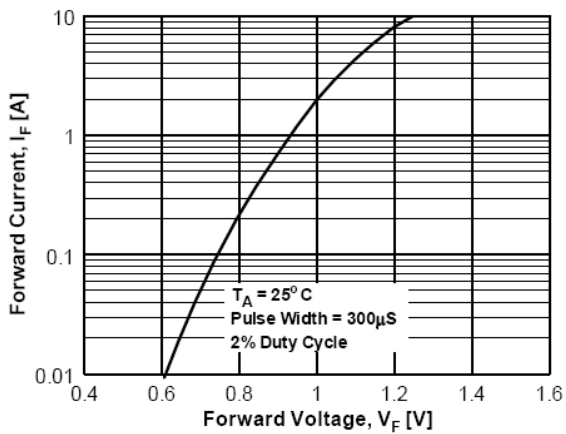


Figure 3. Forward Voltage Characteristics

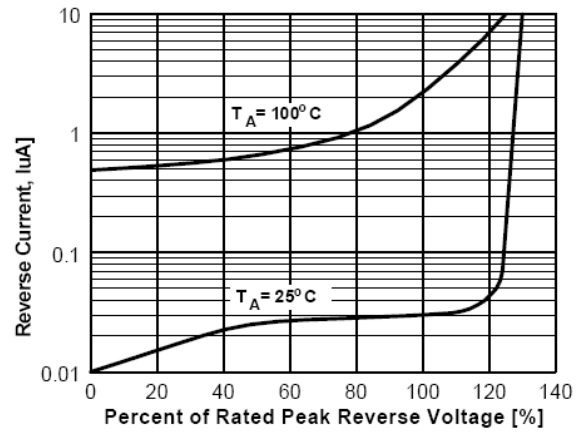


Figure 4. Reverse Current vs Reverse Voltage



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