FAIRCHILD SEMICONDUCTOR®

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# KBL005 - KBL10
# Bridge Rectifiers

## Features

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


KBL

## Absolute Maximum Ratings * $T_A$ = 25°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 Recitified Forward Current, @ $T_A$ = 50°C | 4.0 | | | | | | | A |
| $I_{FSM}$ | Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave | 200 | | | | | | | A |
| $T_{STG}$ | Storage Temperature Range | -55 to +150 | | | | | | | °C |
| $T_J$ | Operating Junction Temperature | -55 to +150 | | | | | | | °C |

* These ratings are limiting values above which the serviceability of any semiconductor device may by 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 | °C/W |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead, * per leg | 2.4 | °C/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°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 $V_R$<br>$T_A$ = 25°C<br>$T_A$ = 100°C | <br>5.0<br>500 | <br>µA<br>µA |

## Typical Performance Characteristics

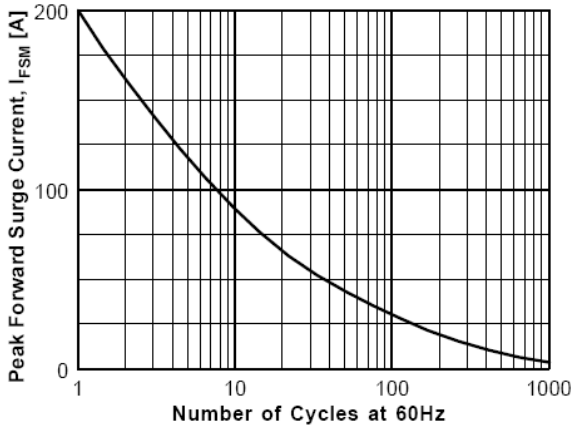


**Figure 1. Non-Repetitive Surge Current**

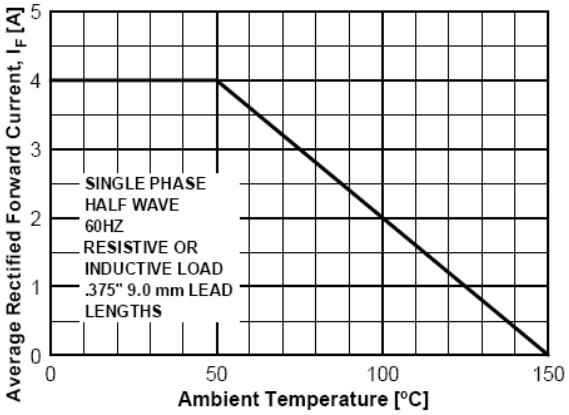


**Figure 2. Forward Current Derating Curve**

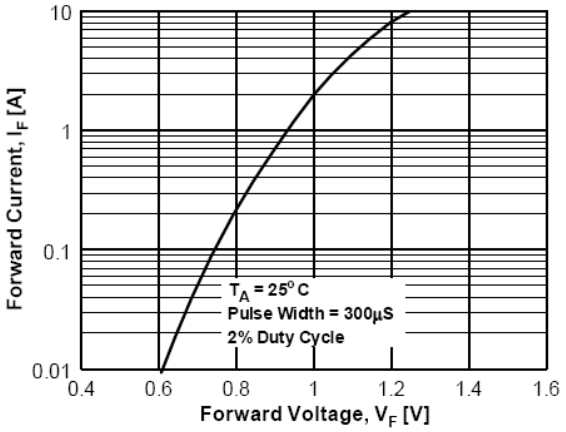


**Figure 3. Forward Voltage Characteristics**

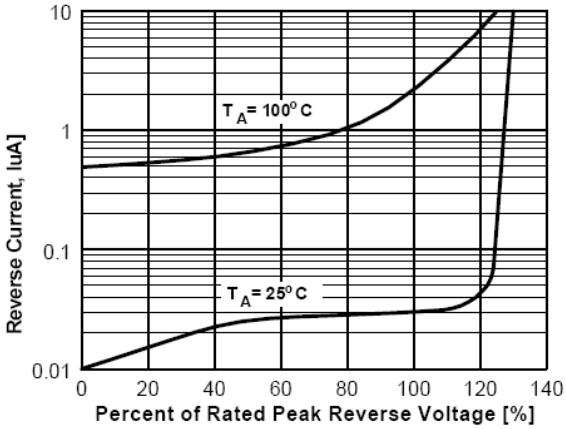


**Figure 4. Reverse Current vs Reverse Voltage**

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