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KBP005M/3N246 - KBP10M/3N252

Features

- Surge overload rating: 50 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- UL certified, UL #E111753.



Bridge Rectifiers

Absolute Maximum Ratings*

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

| Symbol | Parameter | Value | | | | | | | Units |
|-------------|--|-------------|-----|-----|-----|-----|-----|------|------------------|
| | | 005M | 01M | 02M | 04M | 06M | 08M | 10M | |
| | | 246 | 247 | 248 | 249 | 250 | 251 | 252 | |
| 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, @ $T_A = 50^\circ\text{C}$ | 1.5 | | | | | | | A |
| I_{FSM} | Non-repetitive Peak Forward Surge Current | 50 | | | | | | | A |
| T_{stg} | Storage Temperature Range | -55 to +165 | | | | | | | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -55 to +165 | | | | | | | $^\circ\text{C}$ |

*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 | 3.5 | | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient,* per leg | 40 | | $^\circ\text{C}/\text{W}$ |

*Device mounted on PCB with 0.47 x 0.47" (12 x 12 mm).

Electrical Characteristics

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

| Symbol | Parameter | Device | | Units |
|--------|--|--------|-----|----------------------|
| V_F | Forward Voltage, per bridge @ 1.0 A @ 3.14 A | 1.0 | 1.3 | V |
| I_R | Reverse Current, total bridge @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | 5.0 | 500 | μA |
| | I^2t rating for fusing $t < 8.35$ ms | 10 | | A^2s |
| C_T | Total Capacitance, per leg $V_R = 4.0$ V, $f = 1.0$ MHz | 15 | | pF |

Typical Characteristics

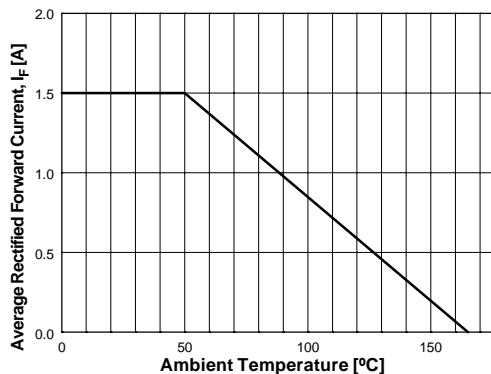


Figure 1. Forward Current Derating Curve

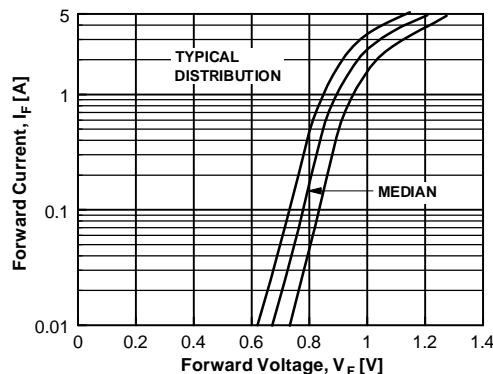


Figure 2. Forward Voltage Characteristics

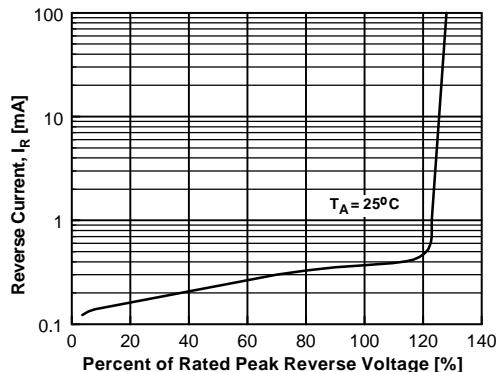


Figure 3. Reverse Current vs Reverse Voltage

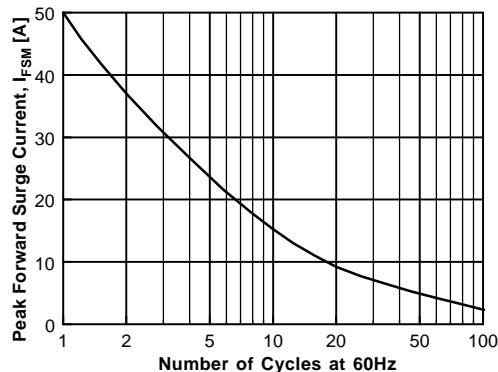


Figure 4. Non-Repetitive Surge Current

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|--------------------------|------------------------|---|
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