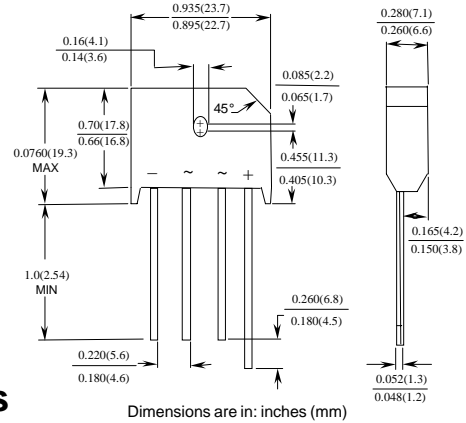


KBU6A - KBU6M



Features

- High surge current capability.
- Reliable construction technique.
- Ideal for printed circuit board.



6.0 Ampere Silicon Bridge Rectifiers

Absolute Maximum Ratings*

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

| Symbol | Parameter | Value | Units |
|-----------------------|---|-------------|------------|
| I_o | Average Rectified Current @ $T_A = 65^\circ\text{C}$ | 6.0 | A |
| $i_{f(\text{surge})}$ | Peak Forward Surge Current | 250 | A |
| P_D | Total Device Dissipation Derate above 25°C | 6.7 54 | W mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient,** per leg | 8.6 | °C/W |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case,** per leg | 4.0 | °C/W |
| 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 be impaired.

** Device mounted on PCB with 0.375" (9.5 mm) lead length and 0.5 x 0.5" (12 x 12 mm) copper pads.

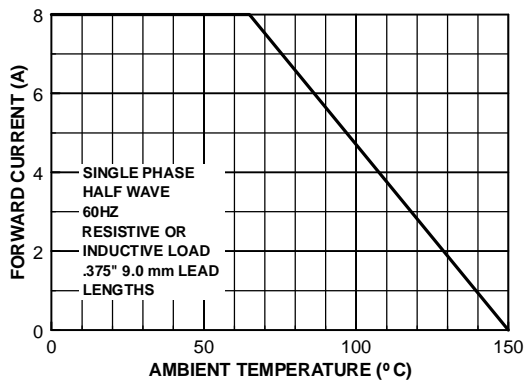
Electrical Characteristics

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

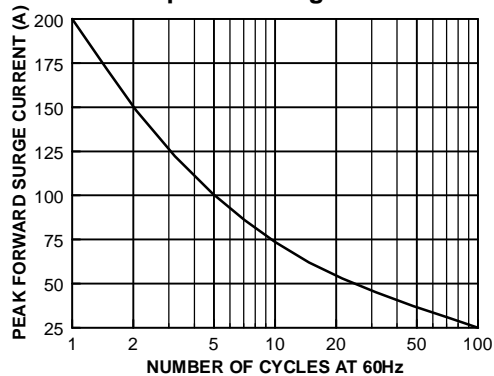
| Parameter | Device | | | | | | | Units |
|---|--------|-----|-----|-----|-----|-----|------|---------------|
| | 6A | 6B | 6D | 6G | 6J | 6K | 6M | |
| Peak Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| DC Reverse Voltage (Rated V_R) | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Reverse Leakage, total bridge @ rated V_R $T_A = 25^\circ\text{C}$ | 5.0 | | | | | | | μA |
| $T_A = 100^\circ\text{C}$ | 500 | | | | | | | μA |
| Maximum Forward Voltage Drop, per bridge @ 6.0 A | 1.0 | | | | | | | V |

Typical Characteristics

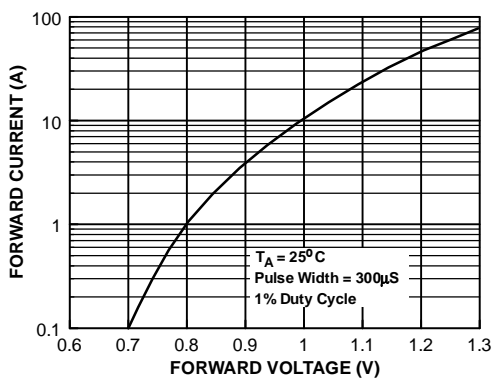
Forward Current Derating Curve



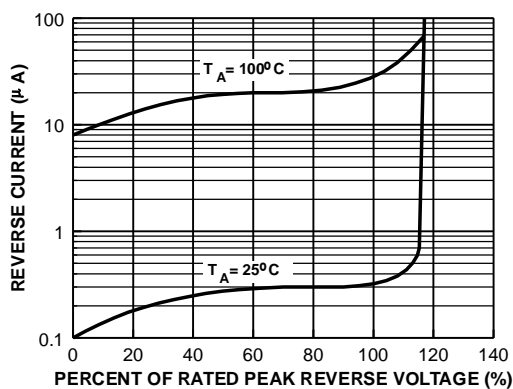
Non-Repetitive Surge Current



Forward Characteristics



Reverse Characteristics



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|----------------------|---------------|
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| E ² CMOS™ | PowerTrench™ |
| FACT™ | QS™ |
| FACT Quiet Series™ | Quiet Series™ |
| FAST® | SuperSOT™-3 |
| FASTr™ | SuperSOT™-6 |
| GTO™ | SuperSOT™-8 |
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|--------------------------|------------------------|---|
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