# KBJ6005G - KBJ610G

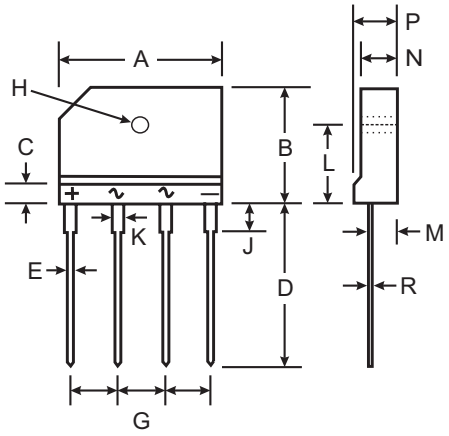
## 6.0A GLASS PASSIVATED BRIDGE RECTIFIER

## Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500$V_{RMS}$
- Low Reverse Leakage Current
- Surge Overload Rating to 170A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish, RoHS Compliant (Note 4)**

## Mechanical Data

- Case: KBJ
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Plated Leads, Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: 4.6 grams (approximate)




| KBJ | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 24.80 | 25.20 |
| **B** | 14.70 | 15.30 |
| **C** | 4.00 Nominal | |
| **D** | 17.20 | 17.80 |
| **E** | 0.90 | 1.10 |
| **G** | 7.30 | 7.70 |
| **H** | 3.10 ∅ | 3.40 ∅ |
| **J** | 3.30 | 3.70 |
| **K** | 1.50 | 1.90 |
| **L** | 9.30 | 9.70 |
| **M** | 2.50 | 2.90 |
| **N** | 3.40 | 3.80 |
| **P** | 4.40 | 4.80 |
| **R** | 0.60 | 0.80 |
| **All Dimensions in mm** | | |

## Maximum Ratings and Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | KBJ 6005G | KBJ 601G | KBJ 602G | KBJ 604G | KBJ 606G | KBJ 608G | KBJ 610G | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(rMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current @ $T_C$ = 110°C | $I_O$ | 6.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms single half-sine-wave superimposed on rated load | $I_{FSM}$ | 170 | | | | | | | A |
| Forward Voltage per element @ $I_F$ = 3.0A | $V_{FM}$ | 1.0 | | | | | | | V |
| Peak Reverse Current @ $T_C$ = 25°C<br>at Rated DC Blocking Voltage @ $T_C$ = 125°C | $I_{RM}$ | 5.0<br>500 | | | | | | | μA |
| $I^2t$ Rating for Fusing (t < 8.3ms) (Note 3) | $I^2t$ | 120 | | | | | | | $A^2s$ |
| Typical Total Capacitance per Element (Note 1) | $C_T$ | 80 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JC}$ | 1.5 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +150 | | | | | | | °C |

Notes:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
2. Thermal resistance from junction to case per element. Unit mounted on 75 x 75 x 1.6mm aluminum plate heat sink.
3. Non-repetitive, for t > 1ms and < 8.3ms.
4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*


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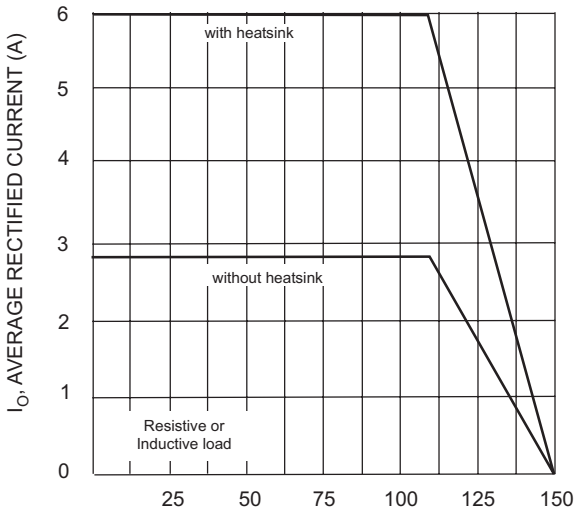



Fig. 1 Forward Current Derating Curve

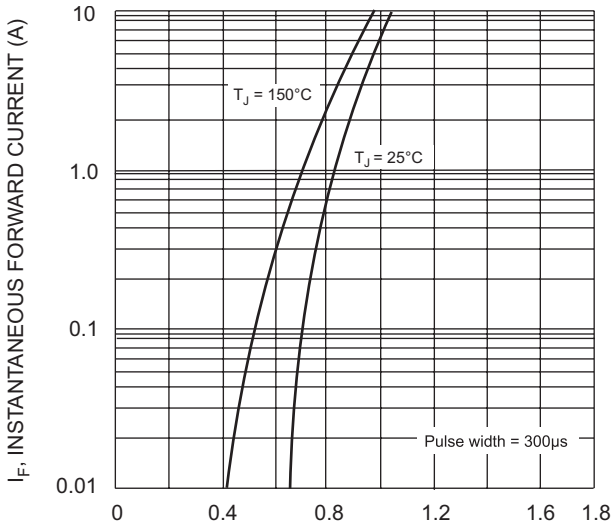



Fig. 2 Typical Forward Characteristics

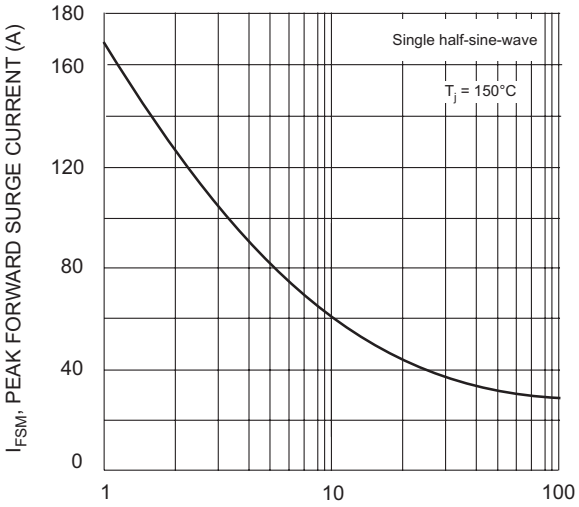



Fig. 3 Max Non-Repetitive Surge Current

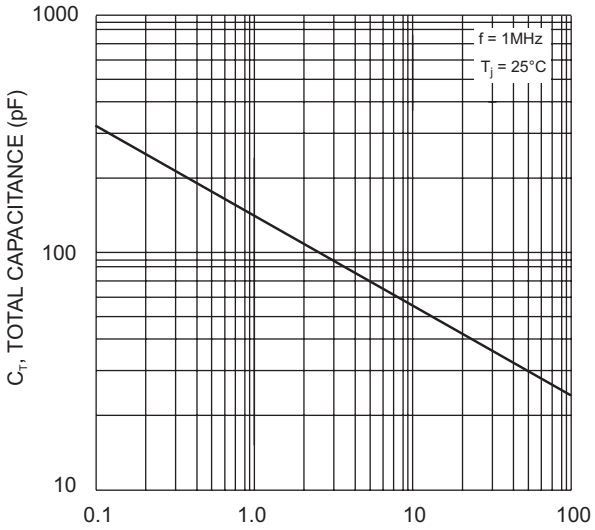



Fig. 4 Typical Total Capacitance, Per Element

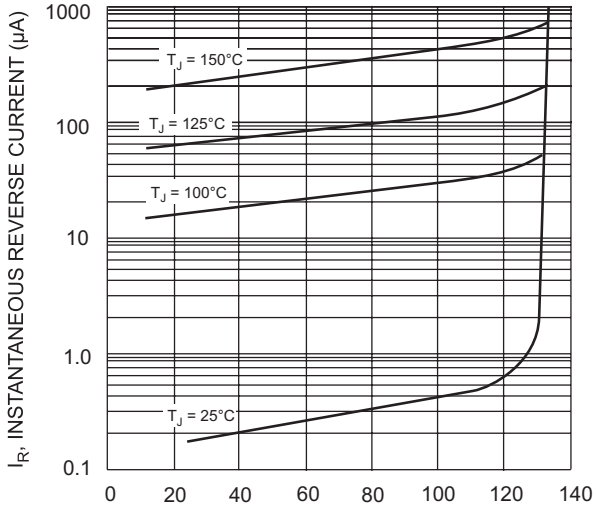



Fig. 5 Typical Reverse Characteristics

## Ordering Information (Note 5)

| Device | Packaging | Shipping |
|---|---|---|
| KBJ6005G | KBJ | 20/Tube |
| KBJ601G | KBJ | 20/Tube |
| KBJ602G | KBJ | 20/Tube |
| KBJ604G | KBJ | 20/Tube |
| KBJ606G | KBJ | 20/Tube |
| KBJ608G | KBJ | 20/Tube |
| KBJ610G | KBJ | 20/Tube |

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.


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