

KBJ6005G - KBJ610G

6.0A GLASS PASSIVATED BRIDGE RECTIFIER

Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V_{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-020D
- Terminals: Finish Tin. Plated Leads, Solderable per MIL-STD-202, Method 208 (3)
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Ordering Information: See Page 3
- Marking: Type Number
- Weight: 4.6 grams (approximate)

Maximum Ratings $@T_A = 25^{\circ}C$ unless otherwise specified

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

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|---|--|--------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| Characteristic | Symbol | KBJ 6005G | KBJ 601G | KBJ 602G | KBJ 604G | KBJ 606G | KBJ 608G | KBJ 610G | Unit |
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} 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 @ $T_C = 110^{\circ}C$ | Ιo | | - | - | 6.0 | - | | | А |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | | | | 170 | | | | А |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------------|------|
| Typical Thermal Resistance (Note 2) | $R_{	ext{	heta}JC}$ | 1.5 | °C/W |
| Operating and Storage Temperature Range | TJ, TSTG | -65 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | | Symbol | Value | Unit |
|---|--------------------------|------------------|------------|------------------|
| Forward Voltage per element | @ I _F = 3.0A | V _{FM} | 1.0 | V |
| Peak Reverse Current | @ $T_{C} = 25^{\circ}C$ | D14 | 5.0 | μA |
| at Rated DC Blocking Voltage I ² t Rating for Fusing (t < 8.3ms) (Note 3) | @ T _C = 125°C | l ² t | 500 120 | A ² s |
| Typical Total Capacitance per Element (Note 1) | | CT | 80 | pF |

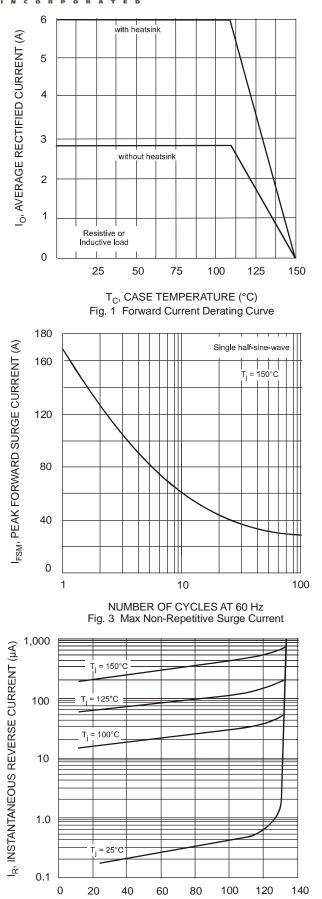
Notes: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

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. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.





PERCENT OF RATED PEAK REVERSE VOLTAGE (%) Fig. 5 Typical Reverse Characteristics



10 ${\rm I}_{\rm F},$ INSTANTANEOUS FORWARD CURRENT (A) T_j = 150°C $T_i = 25^{\circ}C$ 1.0 0.1 Pulse width = 300µs 0.01 0 0.4 0.8 1.2 1.6 1.8 V_E, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics 1,000 f = 1MHz = 25°C T. C_T, TOTAL CAPACITANCE (pF) 100 10 0.1 10 100 1.0

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V_R, REVERSE VOLTAGE (V) Fig. 4 Typical Total Capacitance, Per Element

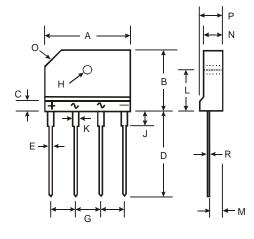


Ordering Information (Note 5)

| Part Number | Case | Packaging |
|-------------|------|-----------|
| 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, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Package Outline Dimensions



| KBJ | | | | | |
|----------------------|-----------|-------|--|--|--|
| Dim | Min | Max | | | |
| Α | 24.80 | 25.20 | | | |
| В | 14.70 | 15.30 | | | |
| С | 3.90 | 4.10 | | | |
| D | 17.20 | 17.80 | | | |
| E | 0.90 | 1.10 | | | |
| G | 7.30 | 7.70 | | | |
| н | 3.10Ø | 3.40Ø | | | |
| J | 3.30 | 3.70 | | | |
| K | 1.50 | 1.90 | | | |
| L | 9.30 | 9.70 | | | |
| М | 2.50 | 2.90 | | | |
| Ν | 3.40 | 3.80 | | | |
| 0 | 3.0 x 45° | | | | |
| Р | 4.40 | 4.80 | | | |
| R | 0.60 | 0.80 | | | |
| All Dimensions in mm | | | | | |



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