




**THE DATASHEET OF
KBJ606G**



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 
- 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°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance 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 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°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 |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Typical Thermal Resistance (Note 2) | R _{θJC} | 1.5 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -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°C at Rated DC Blocking Voltage @ T _C = 125°C | I _{RM} | 5.0 500 | μA |
| I ² t Rating for Fusing (t < 8.3ms) (Note 3) | I ² t | 120 | A ² s |
| Typical Total Capacitance per Element (Note 1) | C _T | 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.

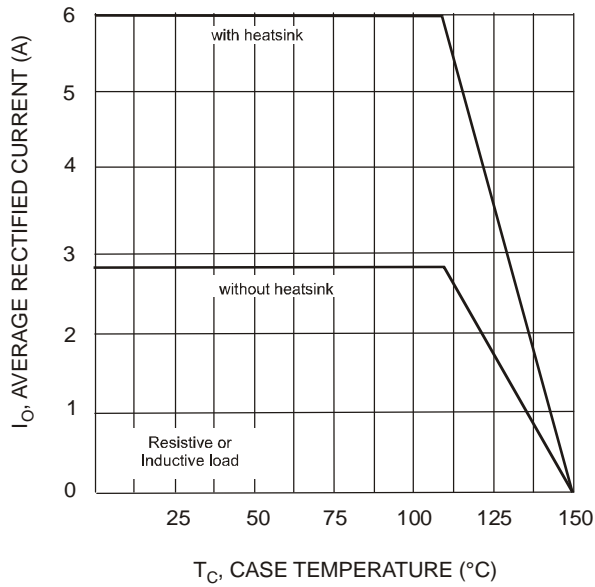


Fig. 1 Forward Current Derating Curve

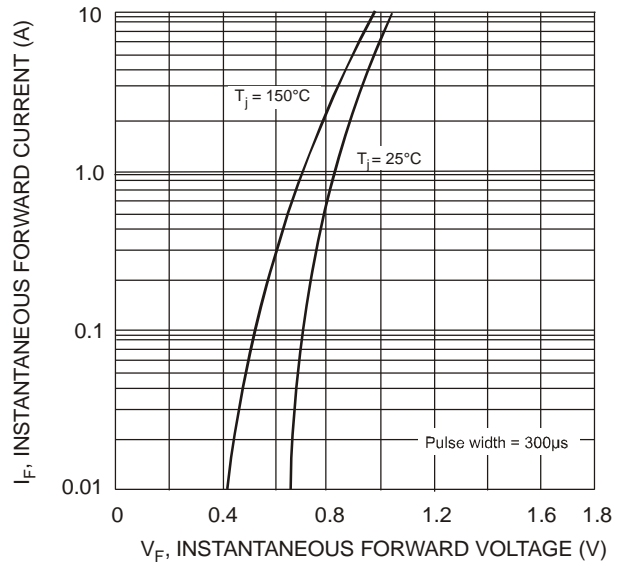


Fig. 2 Typical Forward Characteristics

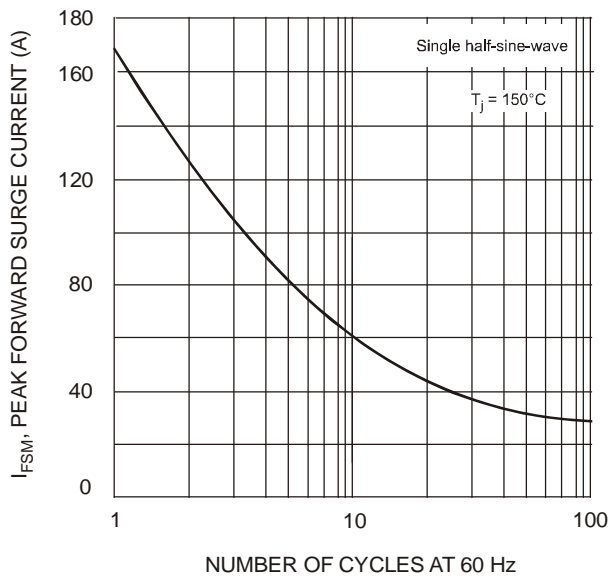


Fig. 3 Max Non-Repetitive Surge Current

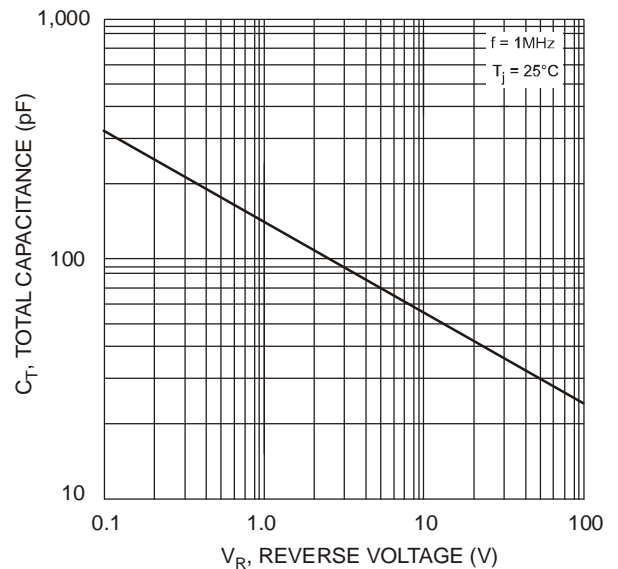


Fig. 4 Typical Total Capacitance, Per Element

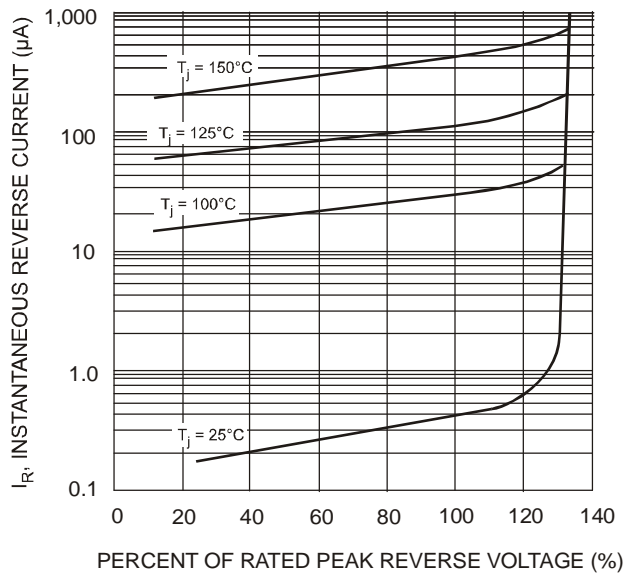


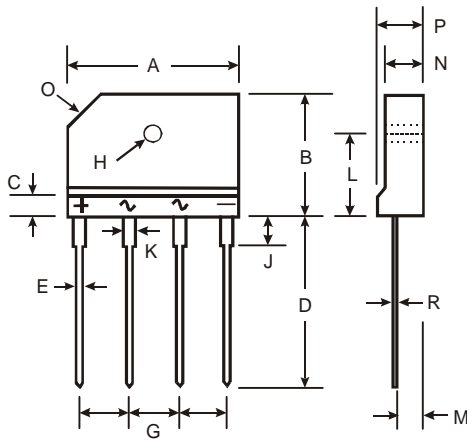
Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 5)

| 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 |
| A | 24.80 | 25.20 |
| B | 14.70 | 15.30 |
| C | 3.90 | 4.10 |
| D | 17.20 | 17.80 |
| E | 0.90 | 1.10 |
| G | 7.30 | 7.70 |
| H | 3.10 \varnothing | 3.40 \varnothing |
| 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 |
| O | 3.0 x 45° | |
| P | 4.40 | 4.80 |
| R | 0.60 | 0.80 |
| All Dimensions in mm | | |

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