

# KBJ606G-KBJ610G(LS)

## GLASS PASSIVATED BRIDGE RECTIFIERS

**REVERSE VOLTAGE – 600 to 1000 Volts**  
**FORWARD CURRENT – 6.0 Amperes**

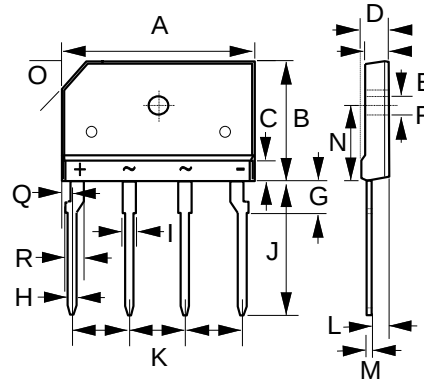
### FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- UL recognized file # E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

### MECHANICAL DATA

- Package: KBJ
- Package Material: Plastic material, UL flammability classification 94V-0
- Polarity indicator: Symbol molded on body
- Weight: 4.6 grams (Approximate)

### KBJ



| KBJ                         |           |       |
|-----------------------------|-----------|-------|
| DIM                         | MIN       | MAX   |
| A                           | 24.80     | 25.20 |
| B                           | 14.70     | 15.30 |
| C                           | 3.90      | 4.10  |
| D                           | 4.40      | 4.80  |
| E                           | 3.40      | 3.80  |
| F                           | 3.10Ø     | 3.40Ø |
| G                           | 3.30      | 3.70  |
| H                           | 0.90      | 1.10  |
| I                           | 1.50      | 1.90  |
| J                           | 17.20     | 17.80 |
| K                           | 7.30      | 7.70  |
| L                           | 2.50      | 2.90  |
| M                           | 0.60      | 0.80  |
| N                           | 9.30      | 9.70  |
| O                           | 3.0 x 45° |       |
| Q                           | 1.05      | 1.45  |
| R                           | 1.70      | 2.10  |
| All dimension in millimeter |           |       |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

| PARAMETER                                                                                                                                         | SYMBOL         | KBJ606G     | KBJ608G | KBJ610G | UNIT             |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|---------|---------|------------------|
| Maximum repetitive peak reverse voltage                                                                                                           | $V_{RRM}$      | 600         | 800     | 1000    | V                |
| Maximum DC blocking voltage                                                                                                                       | $V_{DC}$       | 600         | 800     | 1000    | V                |
| Average rectified output current per device<br>@ $T_C = 110^\circ\text{C}$                                                                        | $I_{(AV)}$     | 6.0<br>2.8  |         |         | A                |
| Peak forward surge current 8.3ms single half<br>sine-wave superimposed on rated load<br>@ $T_J = 25^\circ\text{C}$<br>@ $T_J = 125^\circ\text{C}$ | $I_{FSM}$      | 170<br>135  |         |         | A                |
| Peak forward surge current 1ms single half<br>sine-wave superimposed on rated load<br>@ $T_J = 25^\circ\text{C}$<br>@ $T_J = 125^\circ\text{C}$   | $I_{FSM}$      | 340<br>270  |         |         | A                |
| $I^2t$ rating for fusing ( $t = 8.3\text{ms}$ )                                                                                                   | $I^2t$         | 120         |         |         | A <sup>2</sup> S |
| Operation and storage temperature range                                                                                                           | $T_J, T_{STG}$ | -55 to +150 |         |         | °C               |

### STATIC ELECTRICAL CHARACTERISTICS

| PARAMETER                             | TEST CONDITION                                                          | SYMBOL | MAX      | UNIT |
|---------------------------------------|-------------------------------------------------------------------------|--------|----------|------|
| Forward voltage                       | $I_F = 3.0\text{A}$<br>$T_J = 25^\circ\text{C}$                         | $V_F$  | 1.0      | V    |
| Leakage current                       | $V_R$ at rated<br>$T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ | $I_R$  | 5<br>500 | µA   |
| Typical junction capacitance (Note 4) |                                                                         | $C_T$  | 45       | pF   |

### THERMAL CHARACTERISTICS

| PARAMETER                           | SYMBOL     | TYP. | UNIT |
|-------------------------------------|------------|------|------|
| Typical thermal resistance (Note 5) | $R_{thjc}$ | 3.0  | °C/W |

#### Note:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compound
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC
5. Thermal resistance junction to case in accordance with JESD-51. Unit mounted on 75mm \* 75mm \* 1.6mm Cu plate heatsink.

FIG.1- FORWARD CURRENT DERATING CURVE

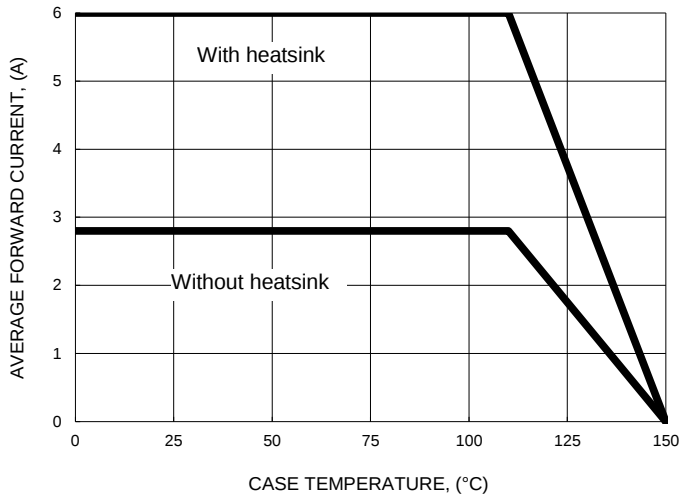


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

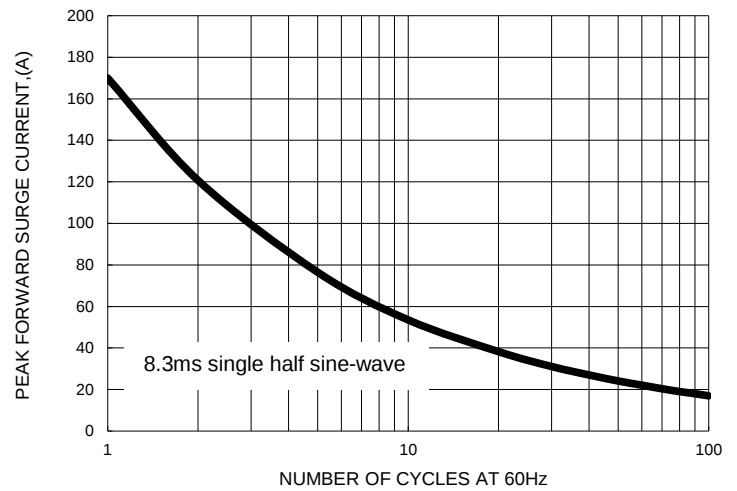


FIG.3- TYPICAL FORWARD CHARACTERISTICS

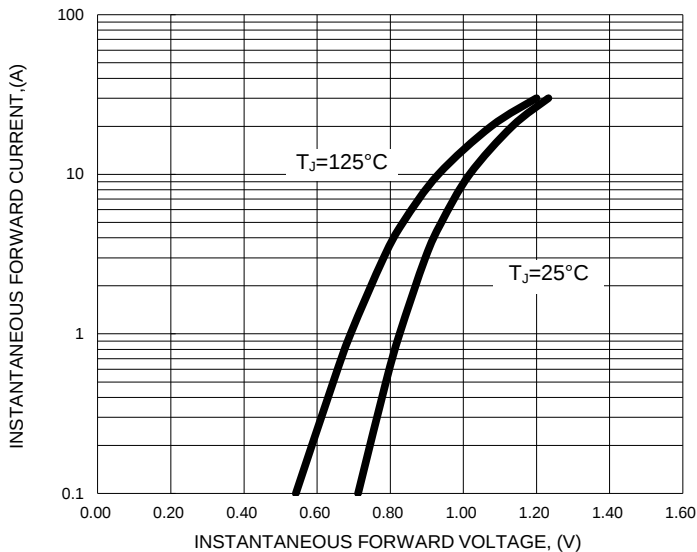


FIG.4- TYPICAL JUNCTION CAPACITANCE

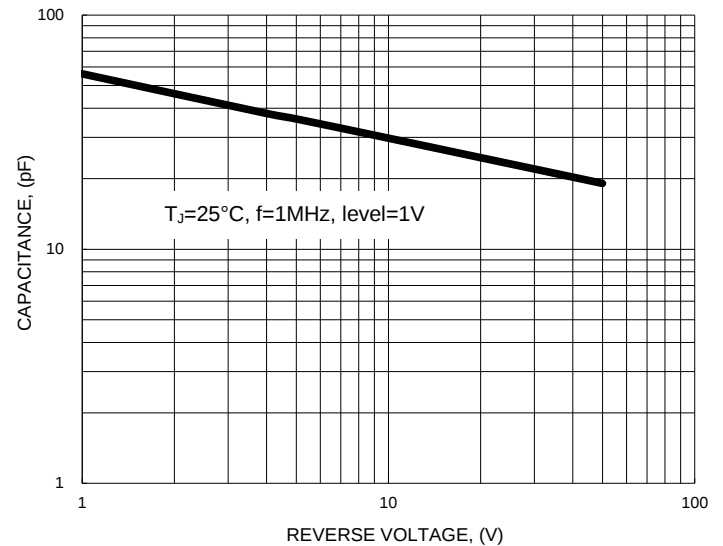
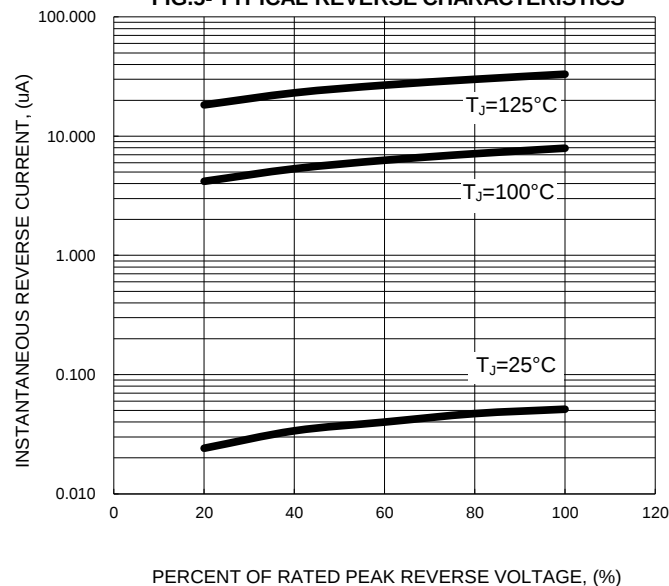


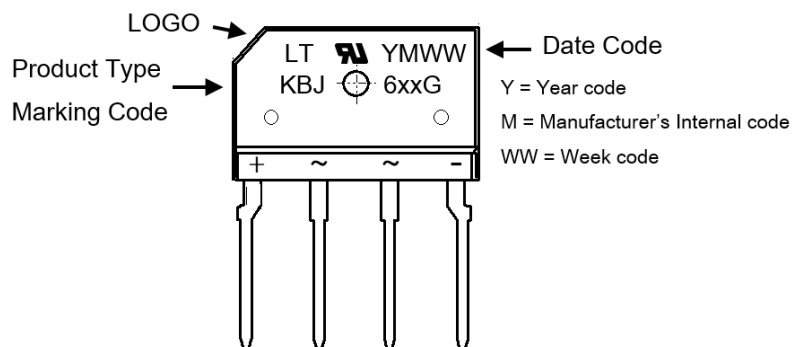
FIG.5- TYPICAL REVERSE CHARACTERISTICS



## Ordering Information:

| Part Number | Package | Packing |         |
|-------------|---------|---------|---------|
|             |         | Qty.    | Carrier |
| KBJ606G_HF  | KBJ     | 20pcs   | Tube    |
| KBJ608G_HF  | KBJ     | 20pcs   | Tube    |
| KBJ610G_HF  | KBJ     | 20pcs   | Tube    |

## Marking Information:



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