

## Product Summary

| $V_{RRM}$ (V)      | $I_F$ (A) | $V_F$ Max (V)<br>@ $I_F = 15A$ | $I_R$ Max ( $\mu A$ ) |
|--------------------|-----------|--------------------------------|-----------------------|
| 600<br>800<br>1000 | 30        | 1.05                           | 10                    |

## Mechanical Data

- Package: KBJ
- Package Material: Molded Plastic, "Green" Molding Compound.  
UL Flammability Classification Rating 94V-0
- Terminals: Finish – Matte Tin Plated Leads, Solderable per  
MIL-STD-202, Method 208 
- Weight: 4.6 grams (Approximate)
- Mounting Position: Any

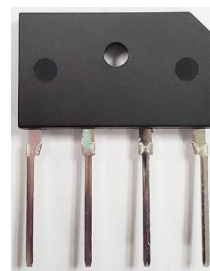
## Features

- Glass Passivated Die Construction
- Ideal for Printed Circuit Board
- Reliable Low-Cost Construction Utilizing Molded Plastic Technique
- UL Recognized File # E94661
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative.  
<https://www.diodes.com/quality/product-definitions/>

## Applications

- TV power
- Game power
- PC power

KBJ

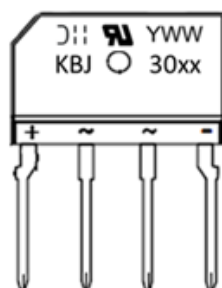


## Ordering Information (Note 4)

| Orderable Part Number | Package | Packing |         |
|-----------------------|---------|---------|---------|
|                       |         | Qty.    | Carrier |
| KBJ3006               | KBJ     | 20pcs   | Tube    |
| KBJ3008               | KBJ     | 20pcs   | Tube    |
| KBJ3010               | KBJ     | 20pcs   | Tube    |

- Notes:
- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  - 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.
  - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



KBJ30xx = Product Type Marking Code

30xx = Manufacturer's Code Marking

YWW = Date Code Marking

Y = Last Digit of Year (ex: 5 = 2025)

WW = Week Code (01 to 53)

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic                                         |                  |                                                   | Symbol             | KBJ3006     | KBJ3008 | KBJ3010 | Unit             |
|--------------------------------------------------------|------------------|---------------------------------------------------|--------------------|-------------|---------|---------|------------------|
| Maximum Repetitive Peak Reverse Voltage                |                  |                                                   | V <sub>RRM</sub>   | 600         | 800     | 1000    | V                |
| Average Rectified Output Current                       | With Heatsink    | T <sub>C</sub> = +120°C                           | I <sub>F(AV)</sub> | 30          |         |         | A                |
|                                                        | Without Heatsink | T <sub>C</sub> = +125°C                           |                    | 3.2         |         |         |                  |
| Peak Forward Surge Current 8.3ms Single Half Sine Wave |                  | T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>FSM</sub>   | 350<br>300  |         |         | A                |
| I <sup>2</sup> t Rating for Fusing (t = 8.3ms)         |                  |                                                   | I <sup>2</sup> t   | 508         |         |         | A <sup>2</sup> s |
| Operating Temperature Range                            |                  |                                                   | T <sub>J</sub>     | -55 to +150 |         |         | °C               |
| Storage Temperature Range                              |                  |                                                   | T <sub>STG</sub>   | -55 to +150 |         |         | °C               |

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic                        | Test Condition          |                                                   | Symbol         | Value       | Unit |
|---------------------------------------|-------------------------|---------------------------------------------------|----------------|-------------|------|
| Maximum Forward Voltage               | I <sub>F</sub> = 15.0A  | T <sub>J</sub> = +25°C                            | V <sub>F</sub> | 1.05        | V    |
| Maximum Leakage Current               | V <sub>R</sub> at Rated | T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>R</sub> | 10.0<br>500 | μA   |
| Typical Junction Capacitance (Note 5) |                         |                                                   | C <sub>T</sub> | 119         | pF   |

**Thermal Characteristics**

| Characteristic                                | Symbol           | Value | Unit |
|-----------------------------------------------|------------------|-------|------|
| Typical Thermal Resistance (Without Heatsink) | R <sub>θJC</sub> | 6.6   | °C/W |
|                                               | R <sub>θJL</sub> | 7.8   |      |
|                                               | R <sub>θJA</sub> | 30.3  |      |
| Typical Thermal Resistance (Note 6)           | R <sub>θJC</sub> | 0.6   | °C/W |
|                                               | R <sub>θJL</sub> | 1.6   |      |
|                                               | R <sub>θJA</sub> | 2.5   |      |

Notes: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
6. Thermal resistance junction to case and lead. Unit mounted on cooler -13°C rated current.

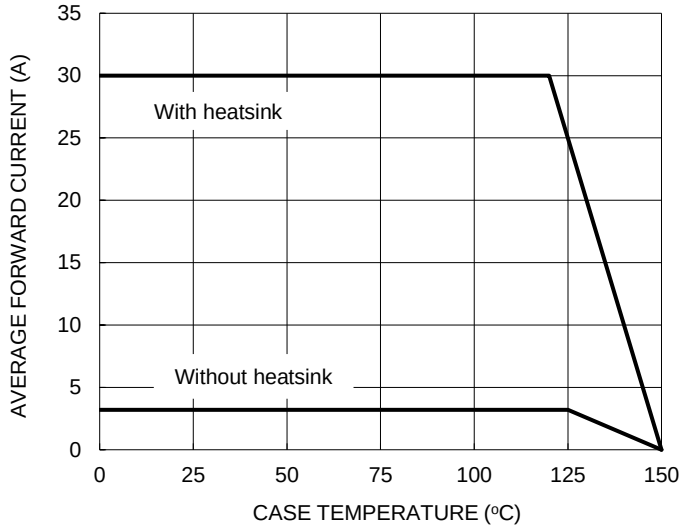


Figure 1. Forward Current Derating Curve

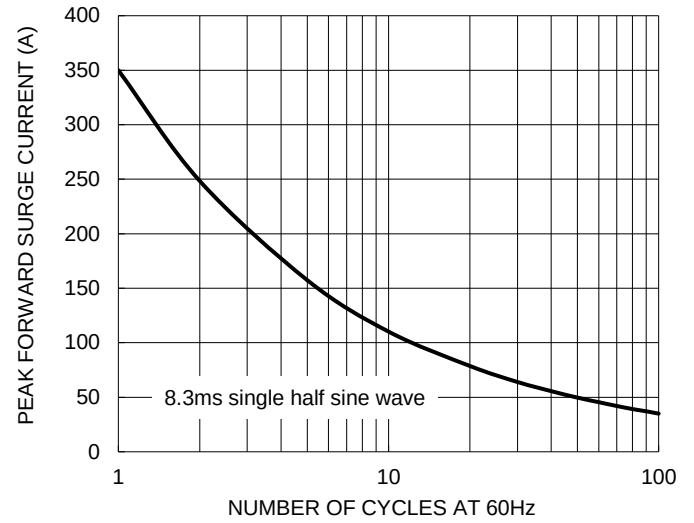


Figure 2. Maximum Non-Repetitive Surge Current

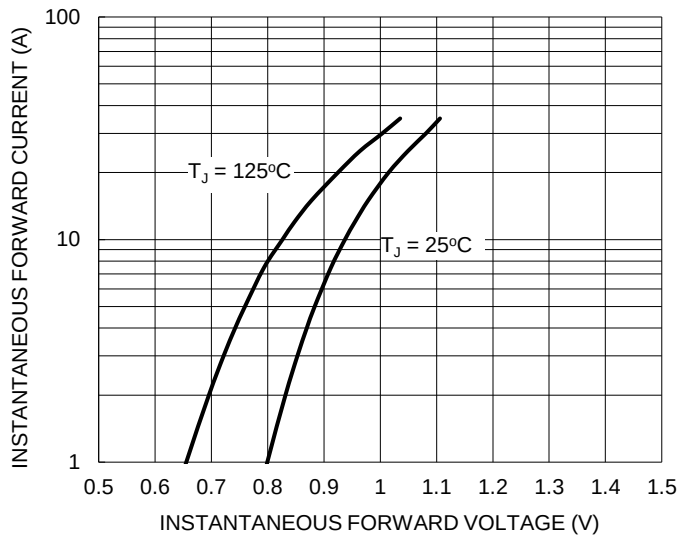


Figure 3. Typical Forward Characteristics

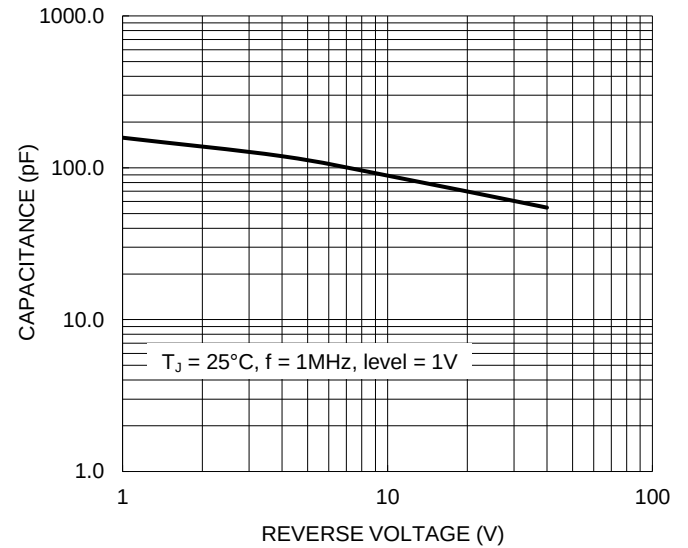


Figure 4. Typical Junction Capacitance

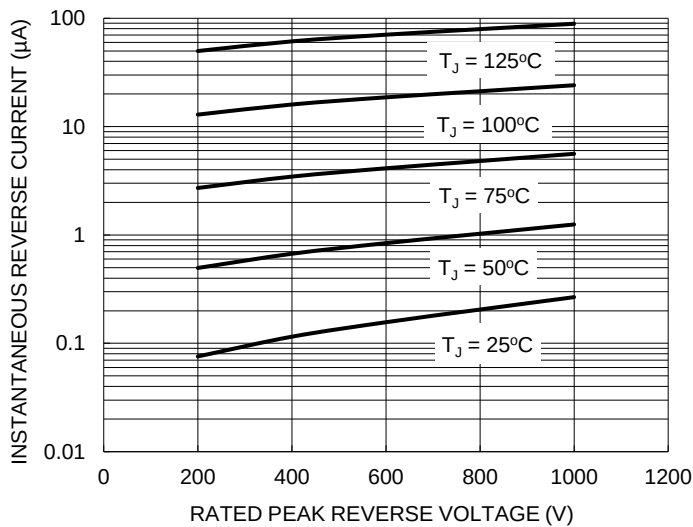


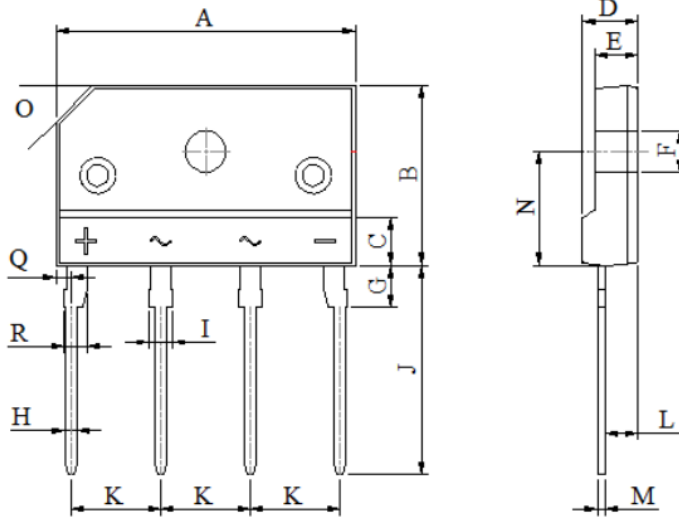
Figure 5. Typical Reverse Characteristics

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**KBJ**

**Unit: mm**



| 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                            | 3.10 $\varnothing$ | 3.40 $\varnothing$ |
| 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                            | 3.0x45°            |                    |
| Q                            | 1.05               | 1.45               |
| R                            | 1.70               | 2.10               |
| All Dimensions in millimeter |                    |                    |

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