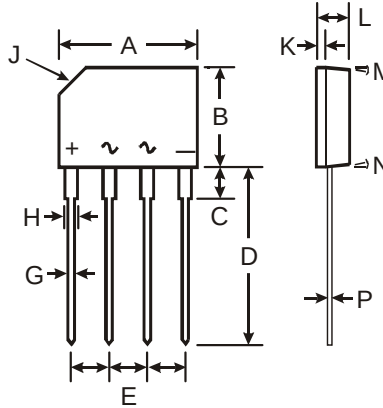


### Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 40A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- Lead Free Finish, RoHS Compliant (Note 2)

### Mechanical Data

- Case: KBP
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Finish – Matte Tin. Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 1.52 grams (approximate)



| KBP                  |                   |       |
|----------------------|-------------------|-------|
| Dim                  | Min               | Max   |
| A                    | 14.25             | 14.75 |
| B                    | 10.20             | 10.60 |
| C                    | 2.29 Typical      |       |
| D                    | 14.25             | 14.73 |
| E                    | 3.56              | 4.06  |
| G                    | 0.76              | 0.86  |
| H                    | 1.17              | 1.42  |
| J                    | 2.8 X 45° Chamfer |       |
| K                    | 0.80              | 1.10  |
| L                    | 3.35              | 3.65  |
| M                    | 3° Nominal        |       |
| N                    | 2° Nominal        |       |
| P                    | 0.30              | 0.64  |
| All Dimensions in mm |                   |       |

### Maximum Ratings and Electrical Characteristics

@T<sub>A</sub> = 25°C unless otherwise specified

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

| Characteristic                                                                                     | Symbol                            | KBP 005G    | KBP 01G | KBP 02G | KBP 04G | KBP 06G | KBP 08G | KBP 10G | Unit |
|----------------------------------------------------------------------------------------------------|-----------------------------------|-------------|---------|---------|---------|---------|---------|---------|------|
| Peak Repetitive Reverse Voltage                                                                    | V <sub>RRM</sub>                  |             |         |         |         |         |         |         |      |
| Working Peak Reverse Voltage                                                                       | V <sub>RWM</sub>                  | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V    |
| DC Blocking Voltage                                                                                | V <sub>R</sub>                    |             |         |         |         |         |         |         |      |
| RMS Reverse Voltage                                                                                | V <sub>R(RMS)</sub>               | 35          | 70      | 140     | 280     | 420     | 560     | 700     | V    |
| Average Rectified Output Current @ T <sub>C</sub> = 105°C                                          | I <sub>O</sub>                    | 1.5         |         |         |         |         |         |         | A    |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>                  | 40          |         |         |         |         |         |         | A    |
| Forward Voltage per element @ I <sub>F</sub> = 1.5A                                                | V <sub>FM</sub>                   | 1.1         |         |         |         |         |         |         | V    |
| Peak Reverse Current @ T <sub>C</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C | I <sub>RM</sub>                   | 5.0<br>500  |         |         |         |         |         |         | μA   |
| Typical Total Capacitance per (Note 1)                                                             | C <sub>T</sub>                    | 20          |         |         |         |         |         |         | pF   |
| Typical Thermal Resistance, Junction to Case                                                       | R <sub>θJC</sub>                  | 18          |         |         |         |         |         |         | °C/W |
| Operating and Storage Temperature Range                                                            | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |         |         |         |         |         |         | °C   |

- Notes:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  2. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.
  3. Unit mounted on 300 x 300 x 1.6mm aluminum plate heat sink.

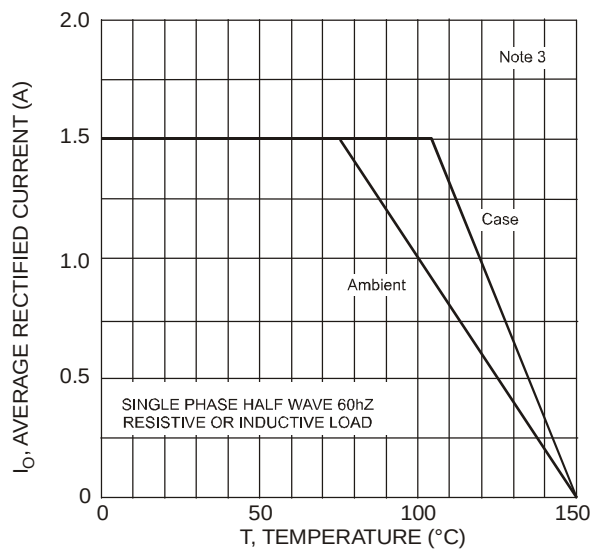


Fig. 1 Forward Current Derating Curve

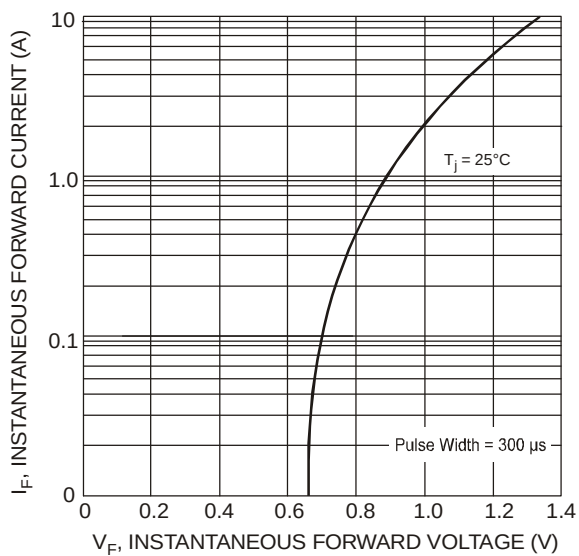


Fig. 2 Typical Forward Characteristics

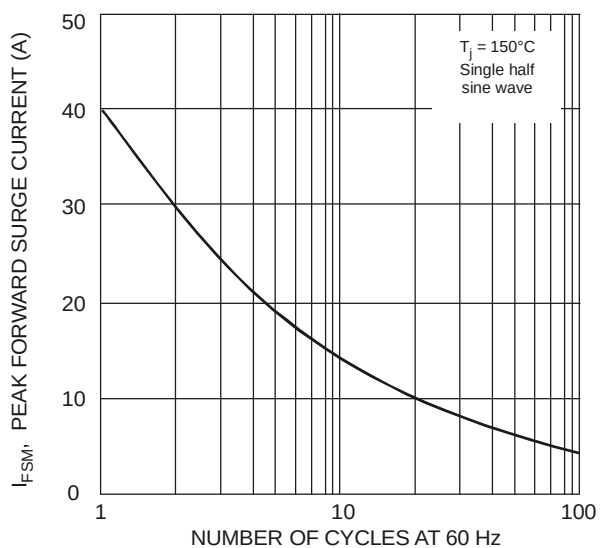


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

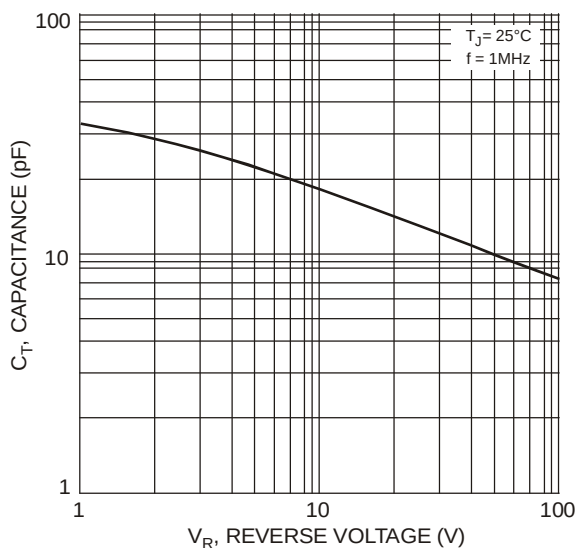


Fig. 4 Typical Total Capacitance

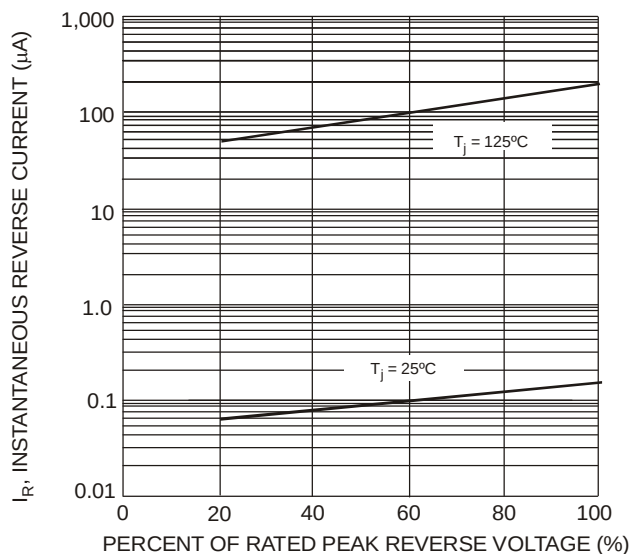


Fig. 5 Typical Reverse Characteristics

**Ordering Information** (Note 4)

| Device  | Packaging | Shipping           |
|---------|-----------|--------------------|
| KBP005G | KBP       | 35 pieces per Tube |
| KBP01G  | KBP       | 35 pieces per Tube |
| KBP02G  | KBP       | 35 pieces per Tube |
| KBP04G  | KBP       | 35 pieces per Tube |
| KBP06G  | KBP       | 35 pieces per Tube |
| KBP08G  | KBP       | 35 pieces per Tube |
| KBP10G  | KBP       | 35 pieces per Tube |

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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