

## Product Summary

| V <sub>RRM</sub> (V) | I <sub>F</sub> (A) | V <sub>F</sub> Max (V) | I <sub>R</sub> Max (μA) |
|----------------------|--------------------|------------------------|-------------------------|
| 1000                 | 4                  | 1.3                    | 5                       |

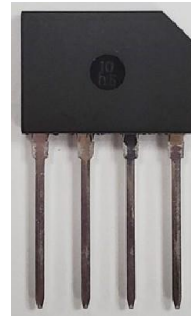
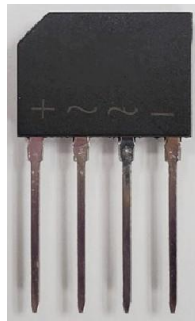
## Mechanical Data

- Package: KBP
- Package Material: Plastic Material, UL Flammability Classification 94V-0
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208
- Polarity Indicator: As Marked on the Body
- Weight: 1.52 grams (Approximate)
- Mounting Position: Any

## Features

- Glass Passivated Die Construction
- Rating to 1000V PRV
- Ideal for Printed Circuit Board
- Reliable Low Cost Construction Utilizing Molded Plastic Technique
- **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](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

KBP

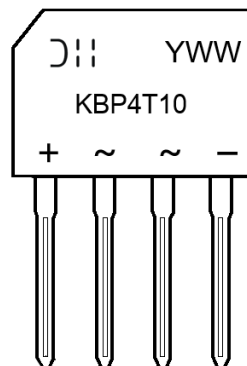


## Ordering Information (Note 4)

| Part Number | Package | Packing |         |
|-------------|---------|---------|---------|
|             |         | Qty.    | Carrier |
| KBP4T10     | KBP     | 35pcs   | Tube    |

- Notes:
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 compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



KBP4T10 = Product Type Marking Code  
 311 = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 2 = 2022)  
 WW = Week Code (01 to 53)

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

| Characteristic   | Symbol             | Value                                     | Unit             |
|--|--------------------|---|------------------|
| Maximum Repetitive Peak Reverse Voltage                | V <sub>RRM</sub>   | 1000                                      | V                |
| Maximum DC Blocking Voltage                            | V <sub>DC</sub>    | 1000                                      | V                |
| Average Rectified Output Current                       | I <sub>F(AV)</sub> | With Heatsink, T <sub>C</sub> = +125°C    | 4                |
|  |                    | Without Heatsink, T <sub>C</sub> = +125°C | 1.9              |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave | I <sub>FSM</sub>   | 100                                       | A                |
| I <sup>2</sup> t Rating for Fusing (t = 8.3ms)         | I <sup>2</sup> t   | 41.5                                      | A <sup>2</sup> s |
| Storage Temperature Range                              | T <sub>STG</sub>   | -55 to +150                               | °C               |
| Operating Temperature Range                            | T <sub>J</sub>     | -55 to +150                               | °C               |

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

| Characteristic                              | Test Condition  | Symbol          | Typ | Max        | Unit |
|---|---|-----------------|-----|------------|------|
| Forward Voltage                             | I <sub>F</sub> = 4A      T <sub>J</sub> = +25°C                             | V <sub>F</sub>  | —   | 1.3        | V    |
| Leakage Current                             | V <sub>R</sub> Rated      T <sub>J</sub> = +25°C<br>T <sub>J</sub> = +125°C | I <sub>R</sub>  | —   | 5.0<br>500 | μA   |
| Reverse Recovery Time                       | I <sub>F</sub> = 0.5A, I <sub>rr</sub> = 0.25A, I <sub>R</sub> = 1.0A       | t <sub>rr</sub> | —   | 500        | ns   |
| Typical Total Junction Capacitance (Note 5) |   | C <sub>T</sub>  | 40  | —          | pF   |

**Thermal Characteristics**

| Characteristic                      | Symbol           | Typ | Unit |
|-------------------------------------|------------------|-----|------|
| Typical Thermal Resistance (Note 6) | R <sub>θJC</sub> | 3   | °C/W |
|                                     | R <sub>θJL</sub> | 4   |      |
|                                     | R <sub>θJA</sub> | 20  |      |

Notes: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
6. Unit mounted on fin-type heatsink (45mm x 30mm x 23mm).

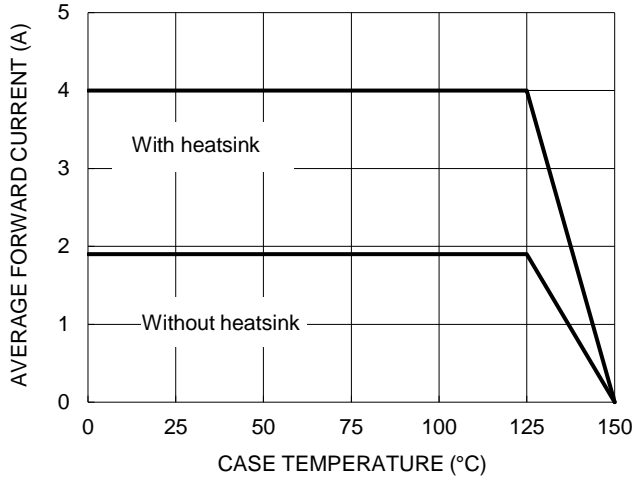


Figure 1. Forward Current Derating Curve

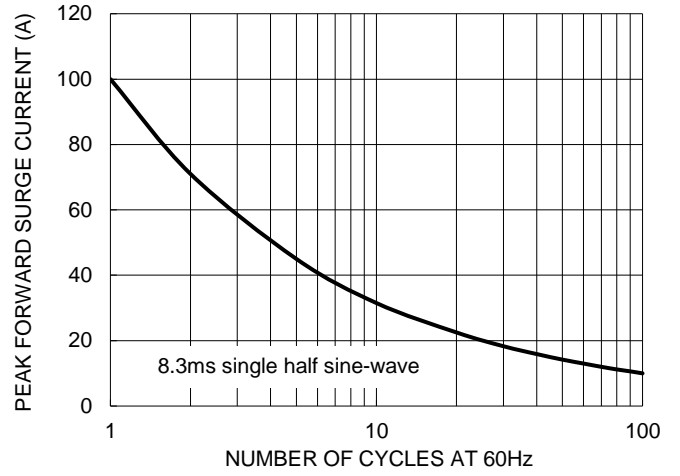


Figure 2. Maximum Non-Repetitive Surge Current

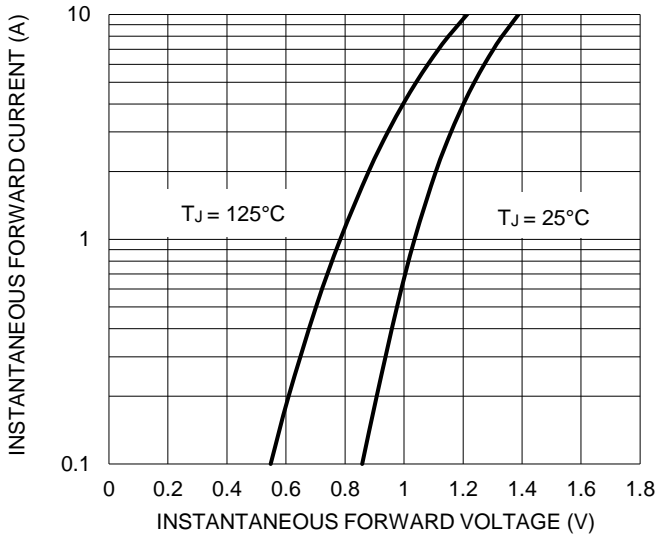


Figure 3. Typical Forward Characteristics

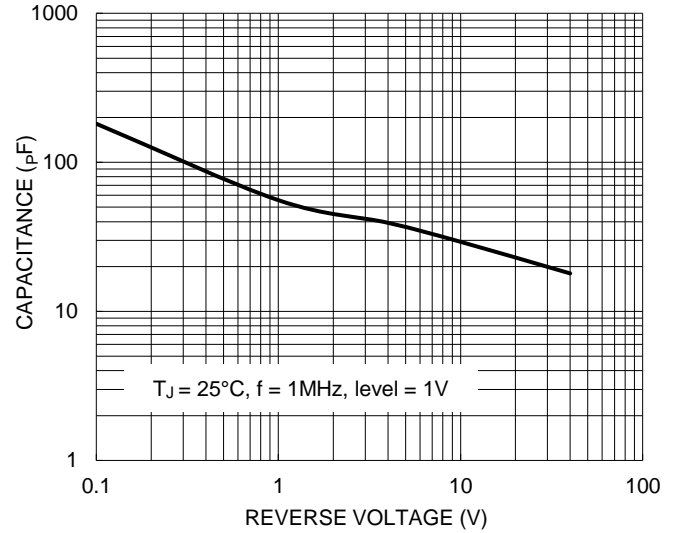


Figure 4. Typical Junction Capacitance

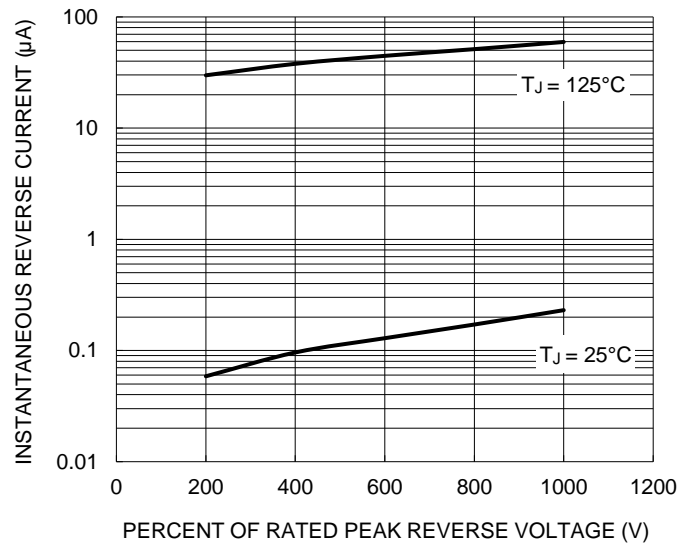
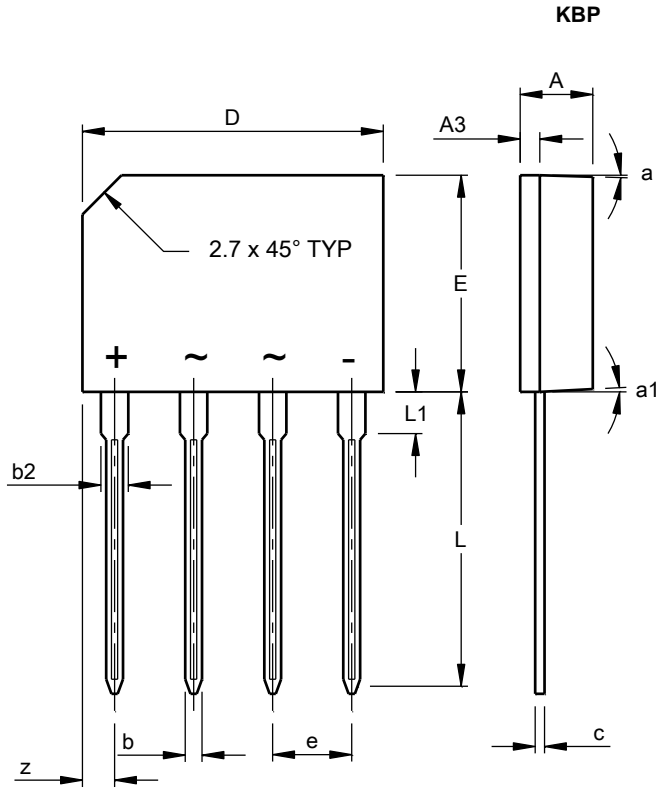


Figure 5. Typical Reverse Characteristics

**Package Outline Dimensions**

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



| KBP                  |       |       |      |
|----------------------|-------|-------|------|
| Dim                  | Min   | Max   | Typ. |
| A                    | 3.35  | 3.65  | -    |
| A3                   | 0.80  | 1.10  | -    |
| b                    | 0.76  | 0.86  | -    |
| b2                   | 1.22  | 1.42  | -    |
| c                    | 0.35  | 0.55  | -    |
| D                    | 14.25 | 14.75 | -    |
| E                    | 10.20 | 10.60 | -    |
| e                    | 3.56  | 4.06  | -    |
| L                    | 14.25 | 14.73 | -    |
| L1                   | 1.80  | 2.20  | -    |
| z                    | 1.40  | 1.70  | -    |
| a                    | -     | -     | 3°   |
| a1                   | -     | -     | 2°   |
| All Dimensions in mm |       |       |      |