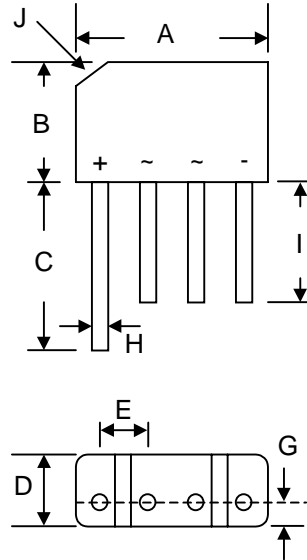


#### Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Ideal for Printed Circuit Boards

#### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 1.7 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version,**



| KBP-2                |                   |       |
|----------------------|-------------------|-------|
| Dim                  | Min               | Max   |
| A                    | 14.22             | 15.24 |
| B                    | 10.60             | 11.68 |
| C                    | 15.2              | —     |
| D                    | 3.40              | 4.20  |
| E                    | 3.60              | 4.10  |
| G                    | 1.27              | —     |
| H                    | 0.70              | 0.90  |
| I                    | 12.7              | —     |
| J                    | 4.2 x 45° Typical |       |
| All Dimensions in mm |                   |       |

#### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

| Characteristic  | Symbol                          | KBP 3005    | KBP 301 | KBP 302 | KBP 304 | KBP 306 | KBP 308 | KBP 310 | Unit             |
|---|---------------------------------|-------------|---------|---------|---------|---------|---------|---------|------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 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<br>(Note 1) @ $T_A = 50^\circ\text{C}$   | $I_O$                           | 3.0         |         |         |         |         |         |         | A                |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | $I_{FSM}$                       | 80          |         |         |         |         |         |         | A                |
| Forward Voltage (per element) @ $I_F = 2.0\text{A}$   | $V_{FM}$                        | 1.1         |         |         |         |         |         |         | V                |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$           | $I_{RM}$                        | 10<br>500   |         |         |         |         |         |         | $\mu\text{A}$    |
| Typical Thermal Resistance (Note 3)   | $R_{\theta JA}$                 | 30          |         |         |         |         |         |         | K/W              |
| Operating and Storage Temperature Range   | $T_j, T_{STG}$                  | -55 to +150 |         |         |         |         |         |         | $^\circ\text{C}$ |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
3. Thermal resistance junction to ambient mounted on PC board with 12mm<sup>2</sup> copper pad.

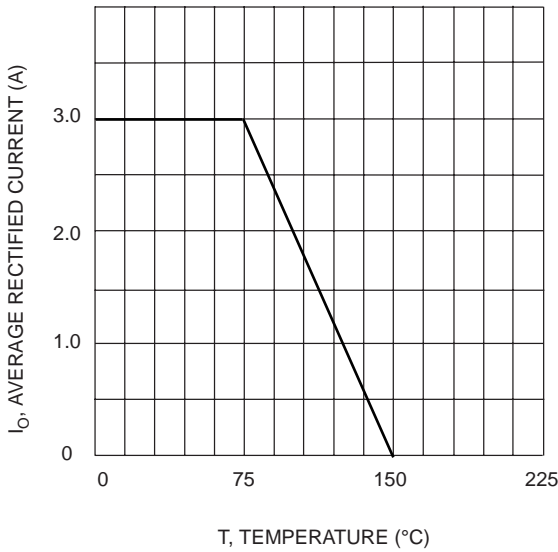


Fig. 1 Forward Current Derating Curve

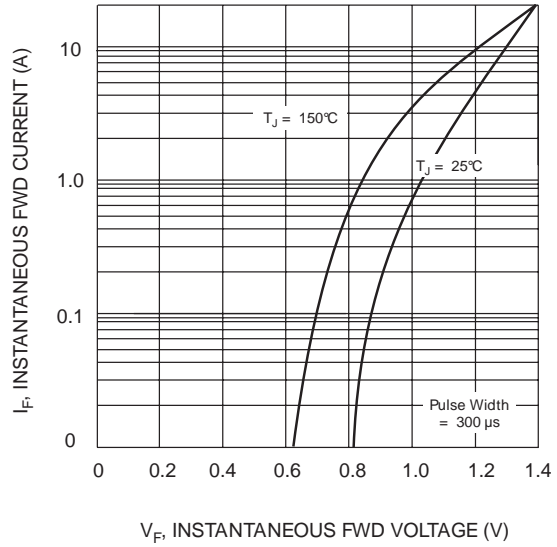


Fig. 2 Typical Fwd Characteristics

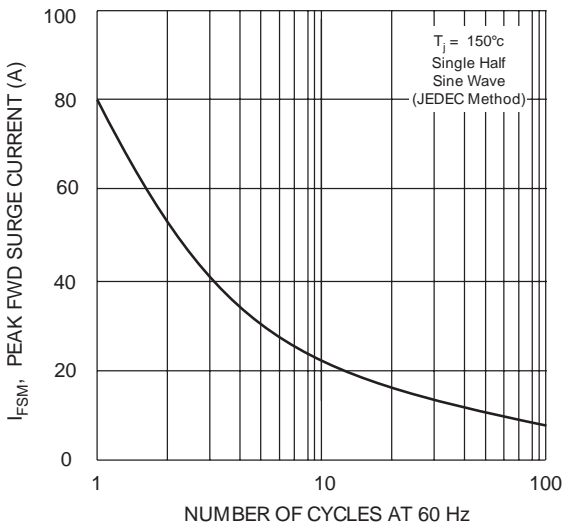


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

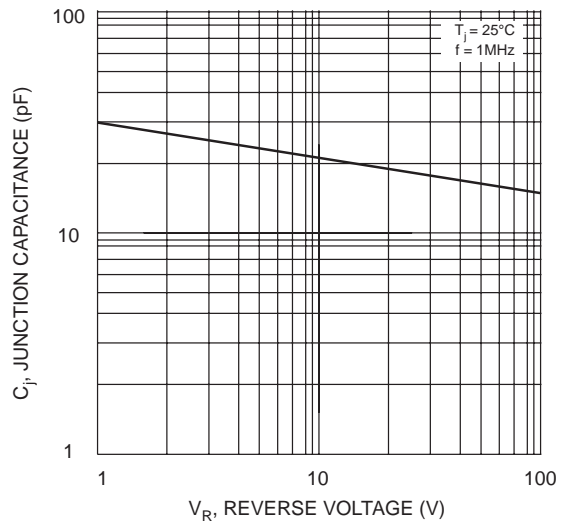


Fig. 4 Typical Junction Capacitance

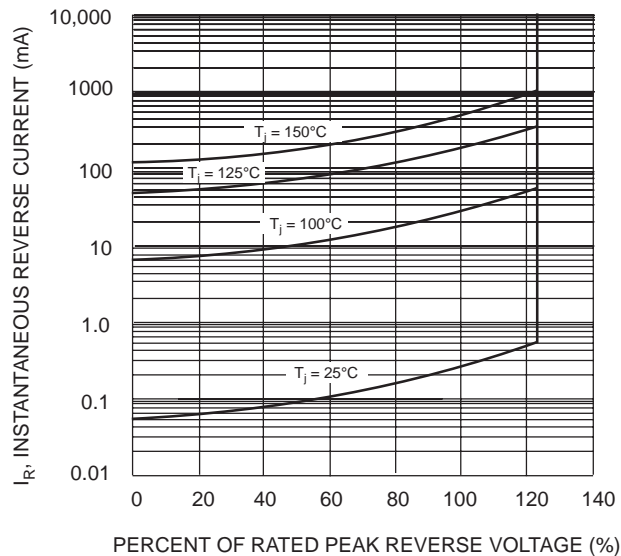


Fig. 5 Typical Reverse Characteristics