



**THE DATASHEET OF  
KBP306GTB**



## KBP3005G THRU KBP310G SINGLE PHASE 3.0AMP GLASS PASSIVATED BRIDGE RECTIFIER

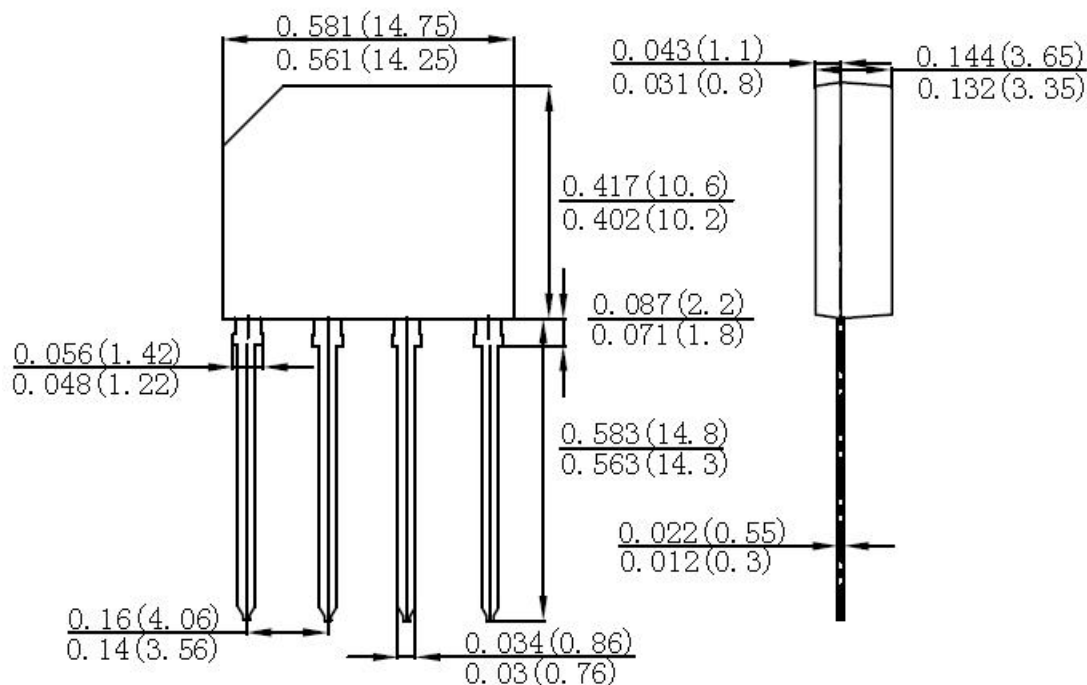
### Features:

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0

### Mechanical Data:

- Case: KBP, molded plastic
- Terminals: plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting position: Any
- Lead Free: For RoHS / Lead Free Version

### Mechanical Dimensions: In mm/Inches



**KBP**

### MARKING, MOLDING RESIN

Marking for Type Number, 1<sup>st</sup> row SSG YYWWL, 2<sup>nd</sup> row Type Number

Where YY is the manufacture year

WW is the manufacture week code

L is the wafer's Lot Number

**Maximum Ratings and Electrical Characteristics** Rating at 25°C ambient temperature unless otherwise specified. Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

**Maximum Ratings:**

| Type number  | Symbol                             | KBP 3005G | KBP 301G | KBP 302G | KBP 304G | KBP 306G | KBP 308G | KBP 310G | Unit |
|--|------------------------------------|-----------|----------|----------|----------|----------|----------|----------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage           | $V_{RRM}$<br>$V_{RWM}$<br>$V_{DC}$ | 50        | 100      | 200      | 400      | 600      | 800      | 1000     | V    |
| RMS Reverse Voltage  | $V_{RMS}$                          | 35        | 70       | 140      | 280      | 420      | 560      | 700      | V    |
| Average Rectified Output Current (Note 1)<br>@ $T_A=50^\circ\text{C}$                            | $I_o$                              | 3.0       |          |          |          |          |          |          | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$                          | 80        |          |          |          |          |          |          | A    |

**Electrical Characteristics:**

| Type number   | Symbol | KBP 3005G  | KBP 301G | KBP 302G | KBP 304G | KBP 306G | KBP 308G | KBP 310G | Unit          |
|---|--------|------------|----------|----------|----------|----------|----------|----------|---------------|
| Forward Voltage per element @ $I_F=3.0\text{A}$   | $V_F$  | 1.1        |          |          |          |          |          |          | V             |
| Peak Reverse Current @ $T_A=25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | $I_R$  | 5.0<br>500 |          |          |          |          |          |          | $\mu\text{A}$ |

**Thermal-Mechanical Specifications:**

| Type number                                    | Symbol          | KBP 3005G   | KBP 301G | KBP 302G | KBP 304G | KBP 306G | KBP 308G | KBP 310G | Unit |
|--|-----------------|-------------|----------|----------|----------|----------|----------|----------|------|
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 30          |          |          |          |          |          |          | °C/W |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta JL}$ | 11          |          |          |          |          |          |          |      |
| Operating and Storage Temperature Range        | $T_J, T_{STG}$  | -55 to +150 |          |          |          |          |          |          | °C   |
| Case Style                                     |                 | KBP         |          |          |          |          |          |          |      |

Note:1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.

Fig. 1 Forward Current Derating Curve

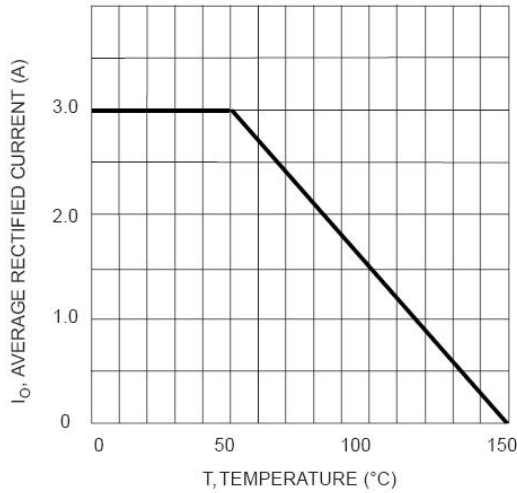


Fig. 2 Typical Fwd Characteristics

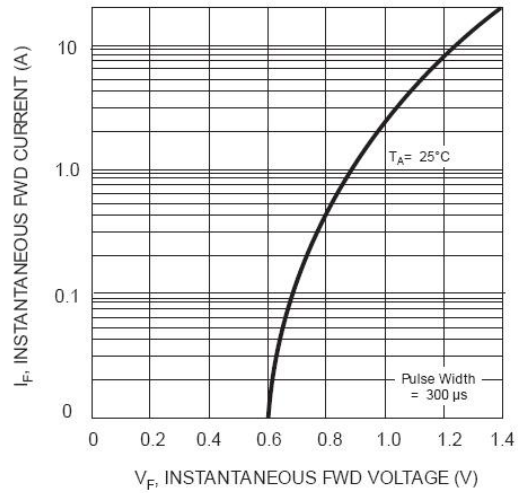


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

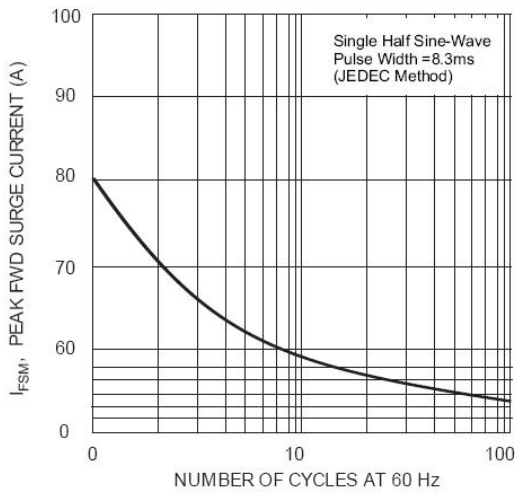


Fig. 4 Typical Junction Capacitance

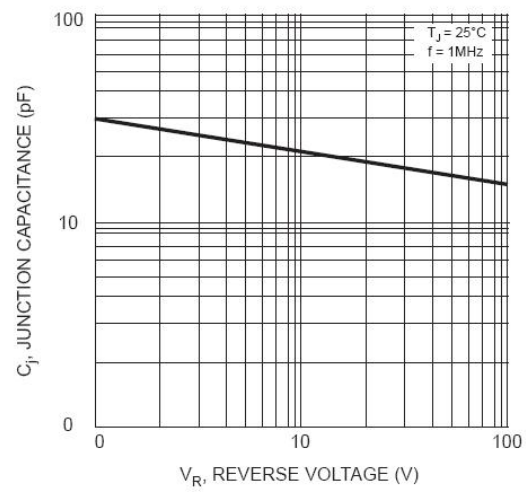
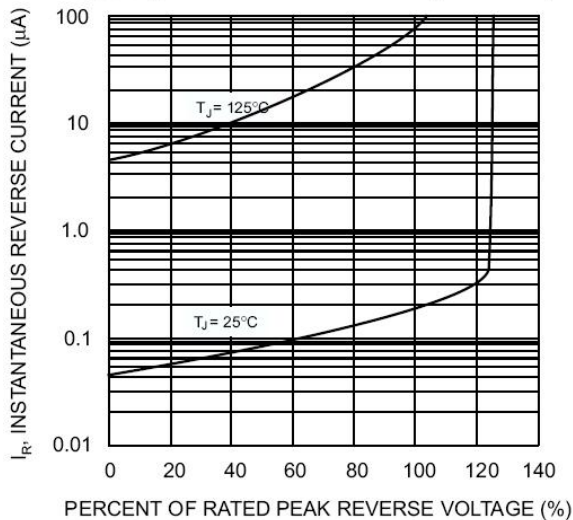


Fig. 5 Typical Reverse Characteristics (per element)




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