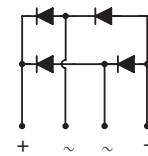
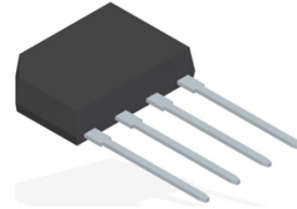


## GLASS PASSIVATED BRIDGE RECTIFIERS

REVERSE VOLTAGE - 50 to 1000 Volts

FORWARD CURRENT - 3.0 Amperes

### KBP



## FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- The plastic material has UL flammability classification 94V#0

## MECHANICAL DATA

- Polarity : As marked on body
- Weight : 0.05 ounces, 1.52 grams
- Mounting position : Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS   | SYMBOL  | KBP<br>3005G | KBP<br>301G | KBP<br>302G | KBP<br>304G    | KBP<br>306G | KBP<br>308G | KBP<br>310G | UNIT                 |
|---|---|--------------|-------------|-------------|----------------|-------------|-------------|-------------|----------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$   | 50           | 100         | 200         | 400            | 600         | 800         | 1000        | V                    |
| Maximum RMS Voltage   | $V_{RMS}$   | 35           | 70          | 140         | 280            | 420         | 560         | 700         | V                    |
| Maximum DC Blocking Voltage   | $V_{DC}$  | 50           | 100         | 200         | 400            | 600         | 800         | 1000        | V                    |
| Maximum Average Forward Rectified Current @ $T_C=105^\circ\text{C}$<br>(With heatsink)<br>(Without heatsink)  | $I_{(AV)}$  |              |             |             | 3.0<br>1.9     |             |             |             | A                    |
| Peak Forward Surge Current<br>8.3ms single half sine-wave @ $T_j = 25^\circ\text{C}$                          | $I_{FSM}$   |              |             |             | 75             |             |             |             | A                    |
| Peak Forward Surge Current<br>1.0ms single half sine-wave @ $T_j = 25^\circ\text{C}$                          | $I_{FSM}$   |              |             |             | 150            |             |             |             | A                    |
| Maximum Forward Voltage at 3.0A DC  | $V_F$   |              |             |             | 1.1            |             |             |             | V                    |
| Maximum DC Reverse Current at rated Blocking Voltage<br>@ $T_j=25^\circ\text{C}$<br>@ $T_j=125^\circ\text{C}$ | $I_R$   |              |             |             | 5.0<br>500     |             |             |             | $\mu\text{A}$        |
| $I^2t$ Rating for fusing ( $3\text{ms} \leq t \leq 8.3\text{ms}$ )  | $I^2t$  |              |             |             | 26.5           |             |             |             | $\text{A}^2\text{S}$ |
| Typical Junction Capacitance per element (Note 1)   | $C_j$   |              |             |             | 50             |             |             |             | pF                   |
| Typical thermal resistance<br>(Unit mounted on 30mmx30mmx1mm Copper plate heatsink.)                          | $R_{\theta JC}$<br>$R_{\theta JL}$<br>$R_{\theta JA}$ |              |             |             | 10<br>12<br>30 |             |             |             | $^\circ\text{C/W}$   |
| Typical thermal resistance (without heatsink)   | $R_{\theta JC}$<br>$R_{\theta JL}$<br>$R_{\theta JA}$ |              |             |             | 12<br>18<br>40 |             |             |             | $^\circ\text{C/W}$   |
| Operation Temperature Range   | $T_j$   |              |             |             | -55 to +150    |             |             |             | $^\circ\text{C}$     |
| Storage Temperature Range   | $T_{STG}$   |              |             |             | -55 to +150    |             |             |             | $^\circ\text{C}$     |

Note: (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

FIG.1- FORWARD CURRENT DERATING CURVE

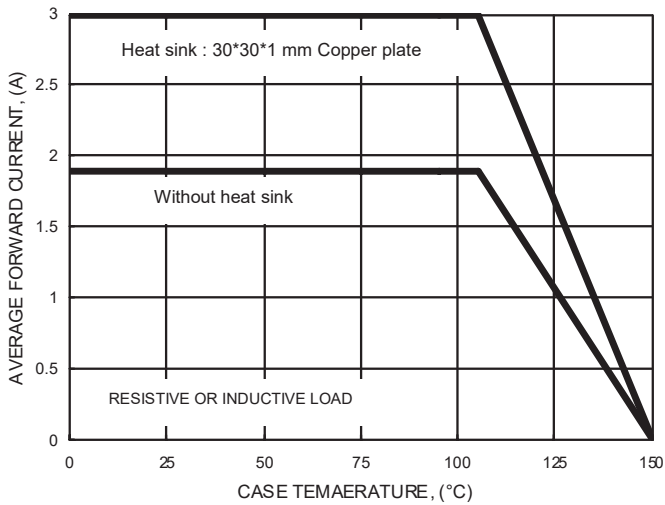


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

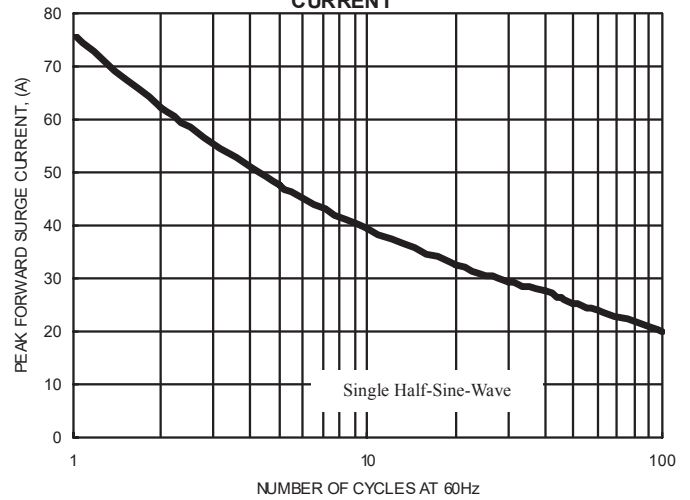


FIG.3- TYPICAL JUNCTION CAPACITANCE

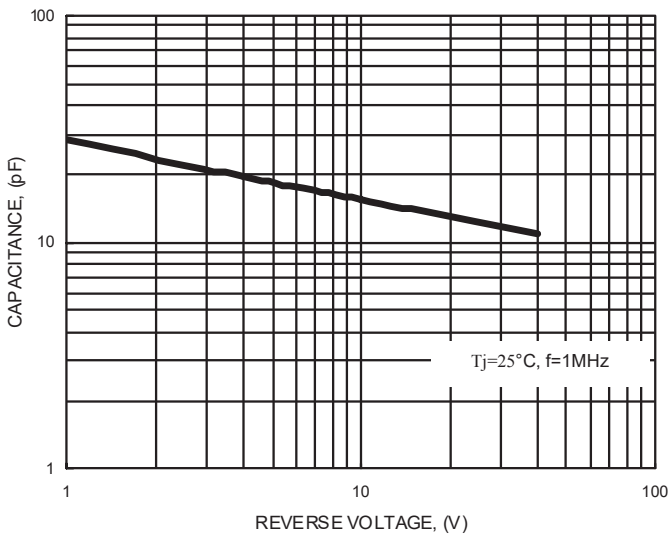


FIG.4- TYPICAL FORWARD CHARACTERISTICS

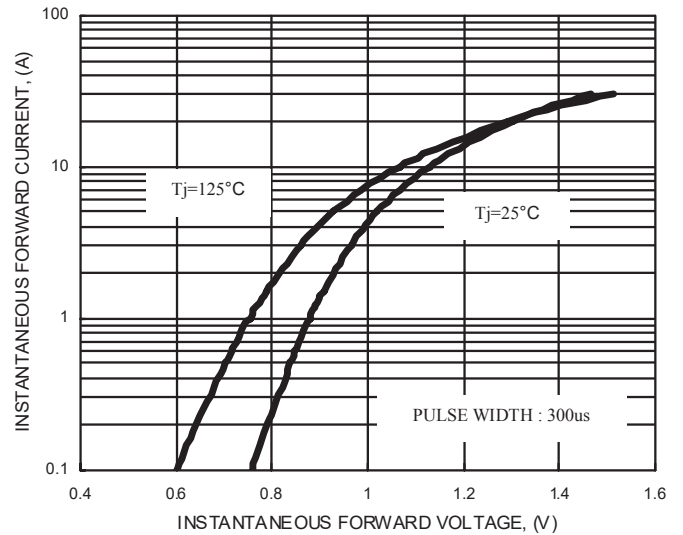
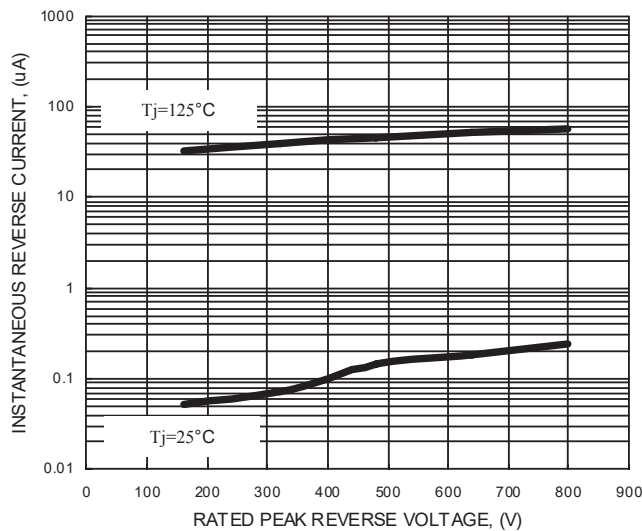
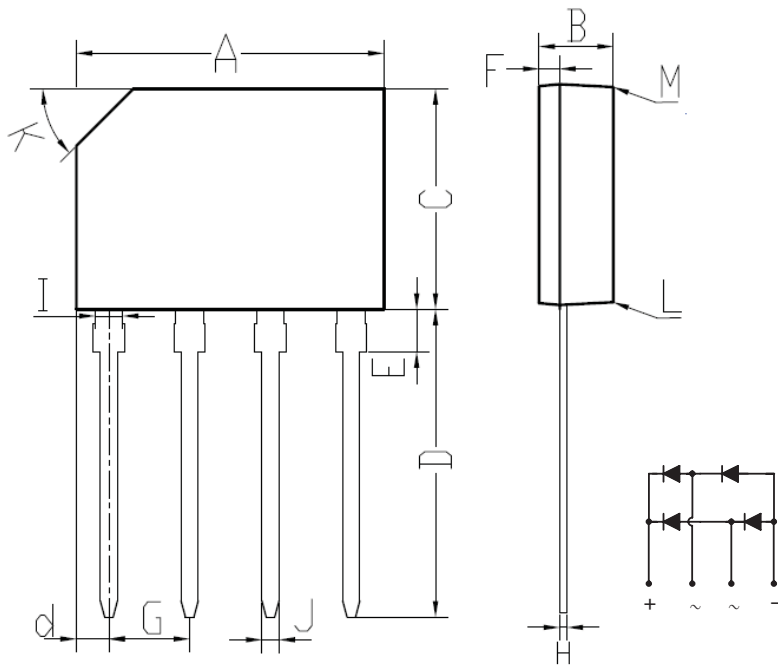


FIG.5- TYPICAL REVERSE CHARACTERISTICS



## KBP Package Outline Dimensions



| KBP                          |                 |       |
|------------------------------|-----------------|-------|
| DIM.                         | MIN.            | MAX.  |
| A                            | 14.25           | 14.75 |
| B                            | 3.35            | 3.65  |
| C                            | 10.20           | 10.60 |
| D                            | 14.25           | 14.73 |
| d                            | 1.40            | 1.70  |
| E                            | 1.80            | 2.20  |
| F                            | 0.80            | 1.10  |
| G                            | 3.56            | 4.06  |
| H                            | 0.35            | 0.55  |
| I                            | 1.22            | 1.42  |
| J                            | 0.76            | 0.86  |
| K                            | 2.7 x 45° (Typ) |       |
| L                            | #               | 3°    |
| M                            | #               | 2°    |
| All Dimensions in millimeter |                 |       |