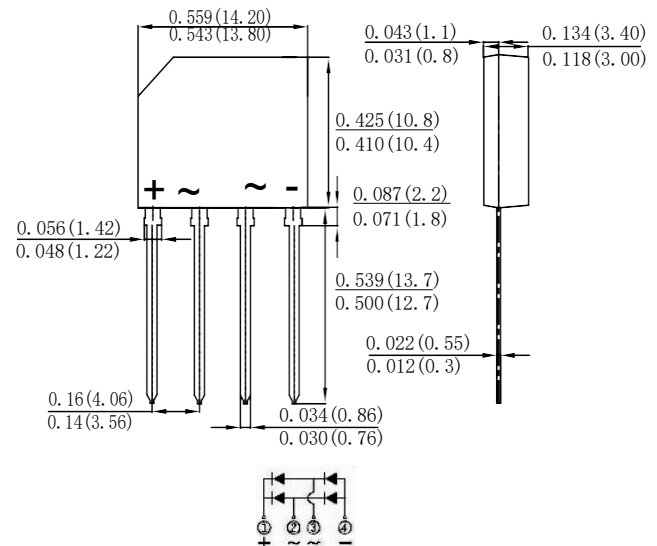


## SINGLE BRIDGE RECTIFIERS

### Features

- ◆ Glass Passivated Chip Junction
- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260° C/10 seconds

### KBP



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

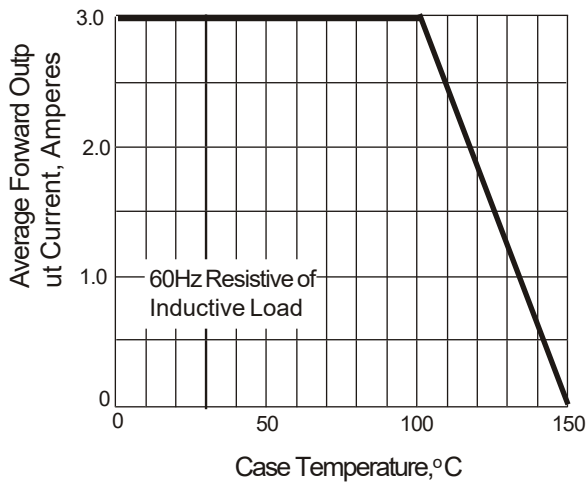
| Parameter                                                                                              | SYMBOLS                                               | KBP3005        | KBP301 | KBP302 | KBP304 | KBP307 | KBP308 | KBP310 | UNITS                |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------|--------|--------|--------|--------|--------|--------|----------------------|
| Marking Code                                                                                           |                                                       |                |        |        |        |        |        |        |                      |
| 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 output rectified current at $T_c=100^\circ\text{C}$                            | $I_{(AV)}$                                            | 3.0            |        |        |        |        |        |        | A                    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)       | $I_{FSM}$                                             | 60             |        |        |        |        |        |        | A                    |
| Maximum instantaneous forward voltage drop per bridge element at 3.0A                                  | $V_F$                                                 | 1.1            |        |        |        |        |        |        | V                    |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$ | $I_R$                                                 | 10             |        |        |        |        |        |        | $\mu\text{A}$        |
|                                                                                                        |                                                       | 1              |        |        |        |        |        |        | mA                   |
| $I^2t$ Rating for fusing ( $3\text{ms} \leq t \leq 8.3\text{ms}$ )                                     | $I^2t$                                                | 14.91          |        |        |        |        |        |        | $\text{A}^2\text{S}$ |
| Typical Junction Capacitance per element (Note 1)                                                      | $C_J$                                                 | 40             |        |        |        |        |        |        | pF                   |
| Typical Thermal Resistance (Note 2)                                                                    | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 55<br>10<br>18 |        |        |        |        |        |        | $^\circ\text{C/W}$   |
| Operating junction 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.

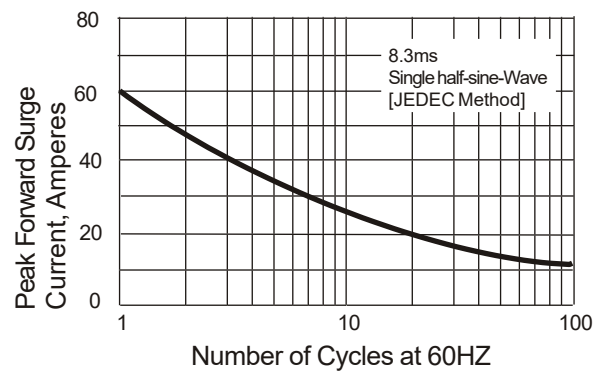
(2) Thermal Resistance Junction to Case, Lead and Ambient.

## Ratings And Characteristic Curves

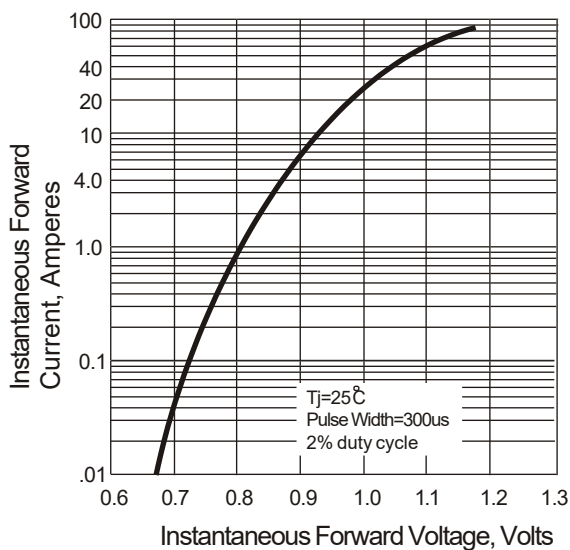
**Fig. 1 Derating Curve for Output Rectified Current**



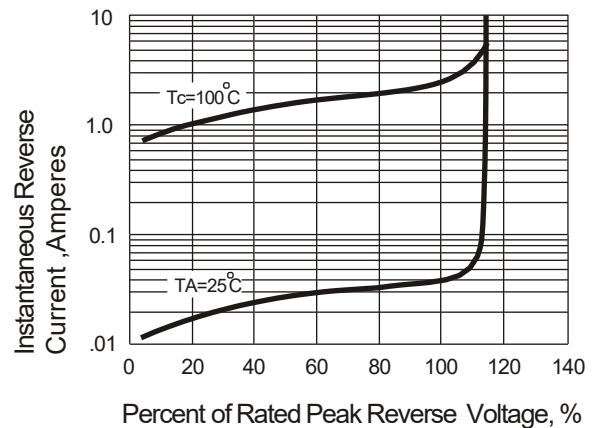
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



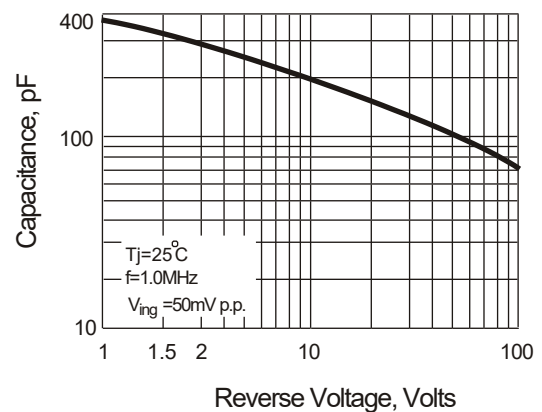
**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics**



**Fig. 5 Typical Junction Capacitance**



The curve above is for reference only.