

# KBPC5000 - KBPC5010

**PRV : 50 - 1000 Volts**

**Io : 50 Amperes**

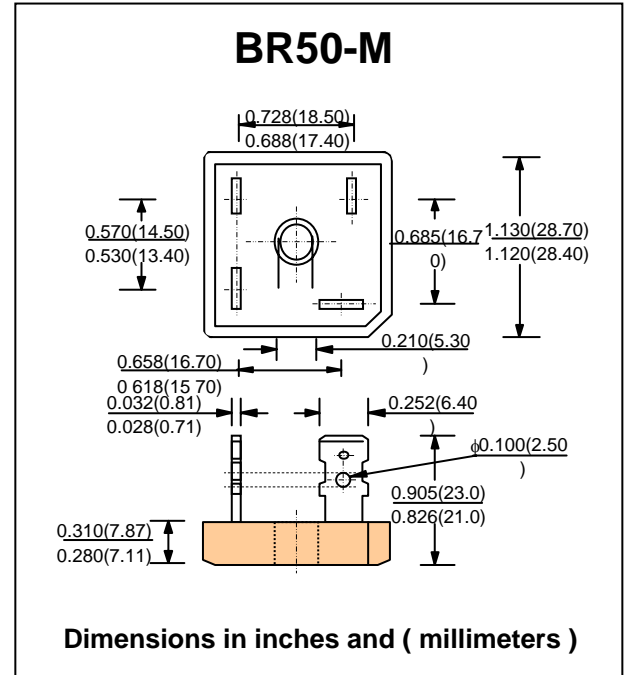
## FEATURES :

- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* High efficiency
- \* Low reverse current
- \* Low forward voltage drop
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : Metal Case
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : plated .25" (6.35 mm). Faston
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
- \* Weight : 17.1 grams

# SILICON BRIDGE RECTIFIERS



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

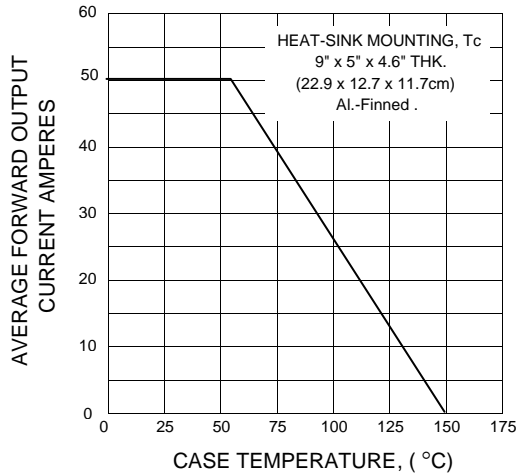
Rating at 25 °C ambient temperature unless otherwise specific.  
 Single phase, half wave, 60 Hz, resistive or inductive load  
 For capacitive load, derate current by 20%

| RATING  | SYMBOL          | KBPC 5000     | KBPC 5001 | KBPC 5002 | KBPC 5004 | KBPC 5006 | KBPC 5008 | KBPC 5010 | UNIT             |
|---|-----------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|
| Maximum Recurrent 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 Current $T_c = 55^\circ C$  | $I_{F(AV)}$     | 50            |           |           |           |           |           |           | A                |
| Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)        | $I_{FSM}$       | 400           |           |           |           |           |           |           | A                |
| Current Squared Time at $t < 8.3$ ms.   | $I^2 t$         | 660           |           |           |           |           |           |           | A <sup>2</sup> S |
| Maximum Forward Voltage per Diode at $I_F = 25A$  | $V_F$           | 1.1           |           |           |           |           |           |           | V                |
| Maximum DC Reverse Current $T_a = 25^\circ C$<br>at Rated DC Blocking Voltage $T_a = 100^\circ C$ | $I_R$           | 10            |           |           |           |           |           |           | $\mu A$          |
|   | $I_{R(H)}$      | 500           |           |           |           |           |           |           | $\mu A$          |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JC}$ | 2.0           |           |           |           |           |           |           | $^\circ C/W$     |
| Operating Junction Temperature Range  | $T_J$           | - 40 to + 150 |           |           |           |           |           |           | $^\circ C$       |
| Storage Temperature Range   | $T_{STG}$       | - 40 to + 150 |           |           |           |           |           |           | $^\circ C$       |

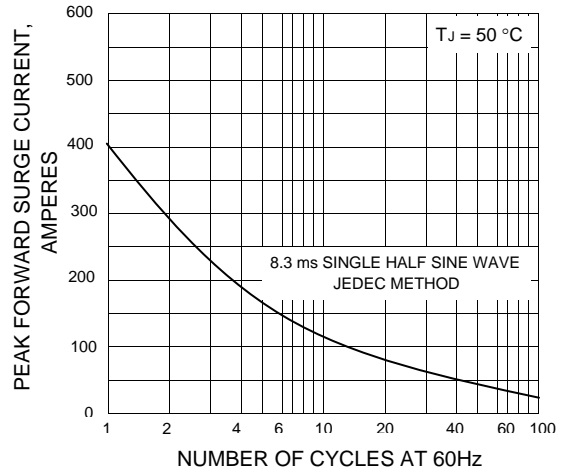
**Note :**  
 ( 1 ) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

## RATING AND CHARACTERISTIC CURVES (KBPC50005 - KBPC5010)

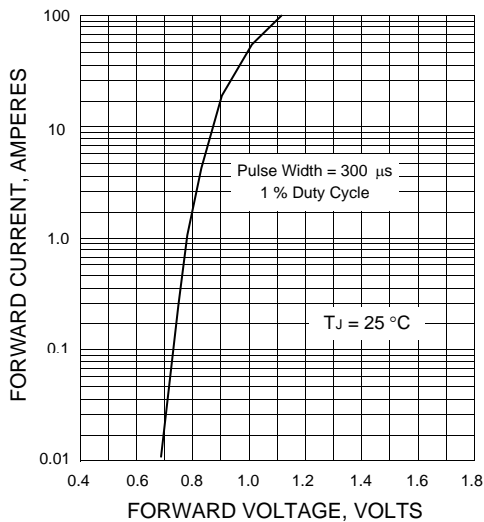
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE**

