



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

KBPC10005  
THRU  
KBPC1010

**TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER**

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 10 Amperes

**FEATURES**

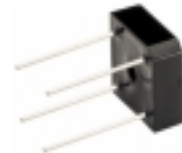
- \* Surge overload rating: 200 Amperes peak
- \* Low forward voltage drop

**MECHANICAL DATA**

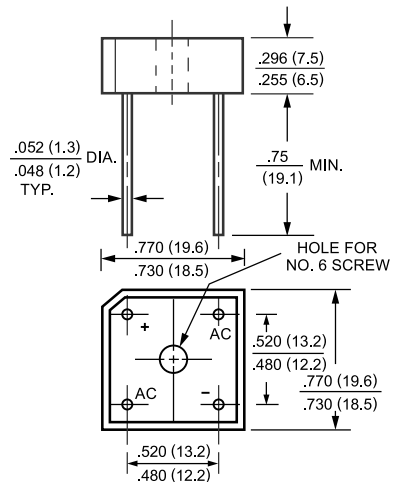
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 6.9 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



KBPC-8/10



Dimensions in inches and (millimeters)

|   | SYMBOL           | KBPC 10005              | KBPC 1001 | KBPC 1002 | KBPC 1004 | KBPC 1006 | KBPC 1008 | KBPC 1010 | UNITS              |       |
|---|------------------|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|-------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub> | 50                      | 100       | 200       | 400       | 600       | 800       | 1000      | Volts              |       |
| Maximum RMS Voltage   | V <sub>RMS</sub> | 35                      | 70        | 140       | 280       | 420       | 560       | 700       | Volts              |       |
| Maximum DC Blocking Voltage   | V <sub>bc</sub>  | 50                      | 100       | 200       | 400       | 600       | 800       | 1000      | Volts              |       |
| Maximum Average Forward Rectified Output Current at T <sub>c</sub> = 50°C                         | I <sub>O</sub>   | 10                      |           |           |           |           |           |           | Amps               |       |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub> | 200                     |           |           |           |           |           |           | Amps               |       |
| Maximum Forward Voltage Drop per element at 5.0A DC   | V <sub>F</sub>   | 1.1                     |           |           |           |           |           |           | Volts              |       |
| Maximum DC Reverse Current at Rated   | I <sub>R</sub>   | @T <sub>A</sub> = 25°C  |           |           |           |           |           |           | 10                 | uAmps |
| DC Blocking Voltage per element   |                  | @T <sub>C</sub> = 100°C |           |           |           |           |           |           | 500                |       |
| I <sup>2</sup> t Rating for Fusing (t<8.3ms)  | I <sup>2</sup> t | 166                     |           |           |           |           |           |           | A <sup>2</sup> Sec |       |
| Typical Junction Capacitance ( Note1)   | C <sub>J</sub>   | 200                     |           |           |           |           |           |           | pF                 |       |
| Typical Thermal Resistance (Note 2)   | R <sub>θJA</sub> | 21                      |           |           |           |           |           |           | °C/W               |       |
| Operating Temperature Range   | T <sub>J</sub>   | -55 to + 125            |           |           |           |           |           |           | °C                 |       |
| Storage Temperature Range   | T <sub>STG</sub> | -55 to + 150            |           |           |           |           |           |           | °C                 |       |

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts

2. Thermal Resistance from Junction to Ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13x13mm) copper pads.

# RATING AND CHARACTERISTIC CURVES (KBPC10005 THRU KBPC1010)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

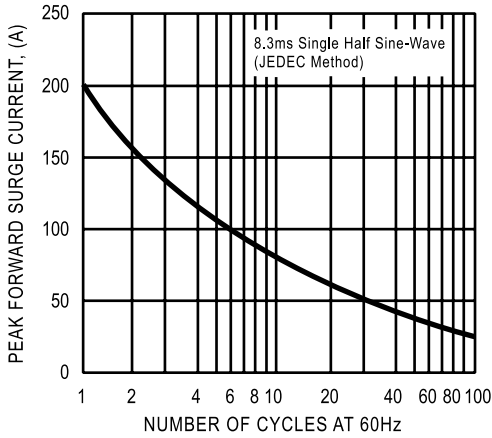


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

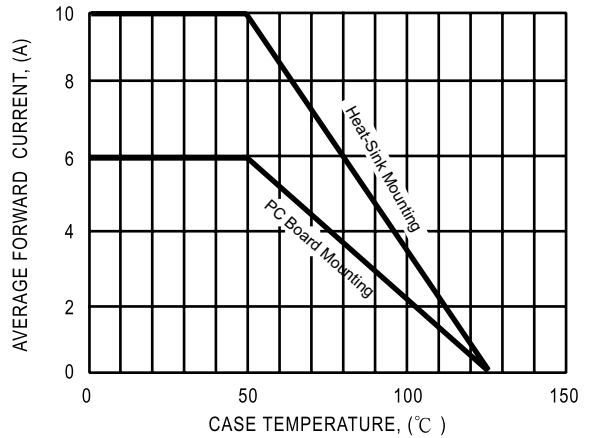


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

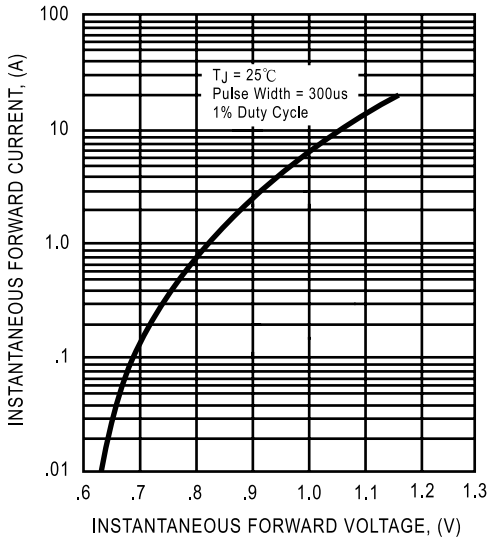


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

