

## 6.0 A Single-Phase Silicon Bridge Rectifier

Rectifier Reverse Voltage 50 to 1000V

### Features

- This series is UL listed under the Recognized Component Index, file number E142814
- High temperature metallurgically bonded internal rectifiers
- Typical  $I_R$  less than  $.1\mu A$
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- High temperature soldering guaranteed 265°C/10 seconds at 5 lbs (2.3kg) tension

### Mechanical Data

Case: Void-free plastic package

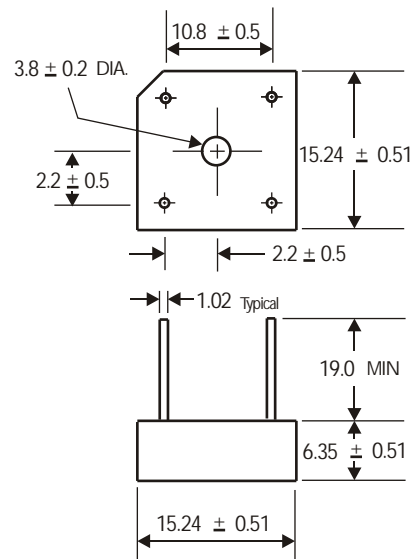
Terminals: Plated leads solderable per MIL-STD-202, Method 208

Mounting: Thru hole for #6 screw

Mounting position: Any

Weight: 3.8 grams (approx)

Marking:KBPC6005-KBPC610



Dimensions in millimeters(1mm =0.0394")

### Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
For Capacitive load derate current by 20%.

| Parameter   | Symbol           | KBPC 6005    | KBPC 601 | KBPC 602 | KBPC 604 | KBPC 606 | KBPC 608 | KBPC 610 | unit               |
|---|------------------|--------------|----------|----------|----------|----------|----------|----------|--------------------|
| Maximum repetitive peak reverse voltage   | VRRM             | 50           | 100      | 200      | 400      | 600      | 800      | 1000     | V                  |
| Maximum RMS bridge input voltage  | VRMS             | 35           | 70       | 140      | 280      | 420      | 560      | 700      | V                  |
| Maximum DC blocking voltage   | VDC              | 50           | 100      | 200      | 400      | 600      | 800      | 1000     | V                  |
| Maximum average forward rectified output current<br>T <sub>c</sub> = 75 °C (1)        | IF(AV)           | 6.0          |          |          |          |          |          |          | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | IFSM             | 125          |          |          |          |          |          |          | A                  |
| Rating for fusing ( t<8.3ms)  | I <sup>2</sup> t | 10           |          |          |          |          |          |          | A <sup>2</sup> sec |
| Typical thermal resistance per element (2)  | ReJA             | 9.4          |          |          |          |          |          |          | °C / W             |
| Typical junction capacitance per element(3)   | Cj               | 55           |          |          |          |          |          |          | pF                 |
| Operating junction and storage temperature range                                      | TJ, TSTG         | -55 to + 150 |          |          |          |          |          |          | °C                 |

### Electrical Characteristics

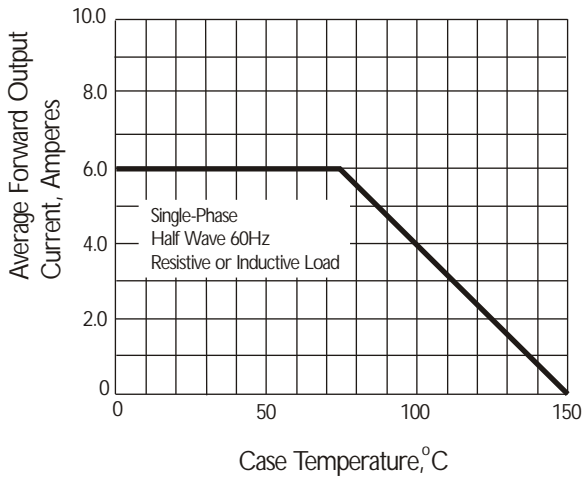
Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
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|---|----------------|------------|----------|----------|----------|----------|----------|----------|------|
| Maximum instantaneous forward voltage drop per leg at 3.0A                                | V <sub>F</sub> | 1.1        |          |          |          |          |          |          | V    |
| Maximum DC reverse current at rated TA =25°C<br>DC blocking voltage per element TA =100 C | I <sub>R</sub> | 10<br>1000 |          |          |          |          |          |          | μA   |

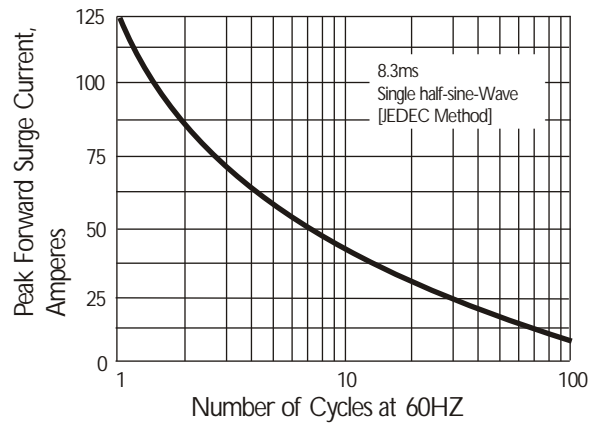
- Notes:** (1)Mounted on metal chassis.  
(2)Non-repetitive, for t>1ms and < 8.3ms.  
(3)Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

**Rating and Characteristic Curves** (  $T_A=25^{\circ}\text{C}$  Unless otherwise noted )

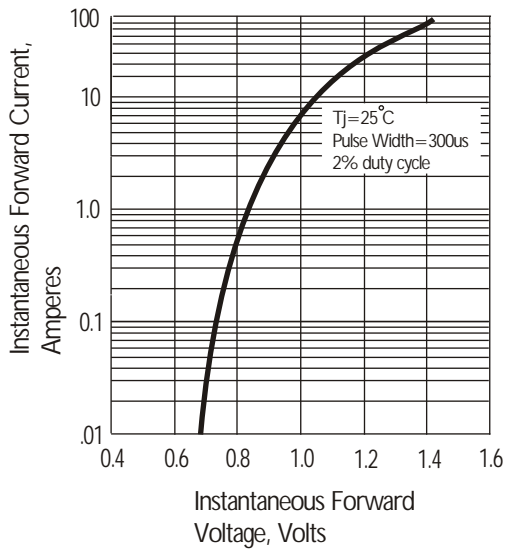
**Fig. 1 Derating Curve for Output Rectified Current**



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



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics**

