SEP ELECTRONIC CORP.

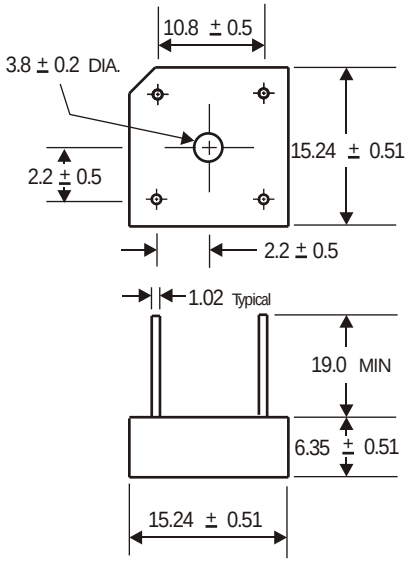
# KBPC6005 thru KBPC610

## 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℃ /10 seconds at 5 lbs (2.3kg) tension




Dimensions in millimeters(1mm =0.0394")

## Mechanical Data

Case: Voil-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)

## 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 Tc = 75℃ (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) | $I^2t$ | 10 | | | | | | | $A^2$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 | | | | | | | ℃ |

## Electrical Characteristics

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

| Parameter | Symbol | KBPC 6005 | KBPC 601 | KBPC 602 | KBPC 604 | KBPC 606 | KBPC 608 | KBPC 610 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per leg at 3.0A | VF | 1.1 | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per element TA =25°C<br>TA =100°C | IR | 10<br>1000 | | | | | | | $\mu$A |

**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 ( TA = 25°C Unless otherwise noted )
## KBPC6005 thru KBPC610

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

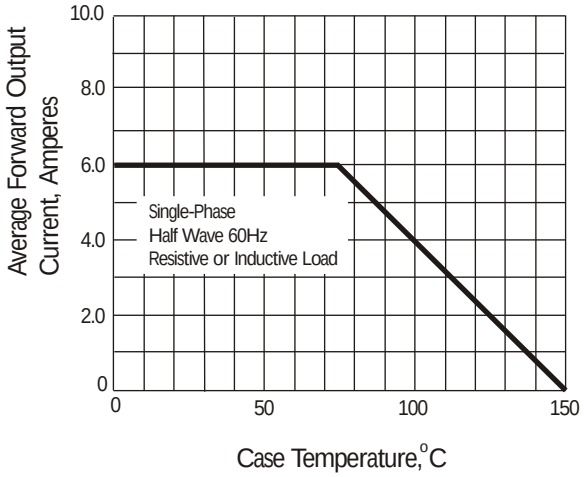



**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**

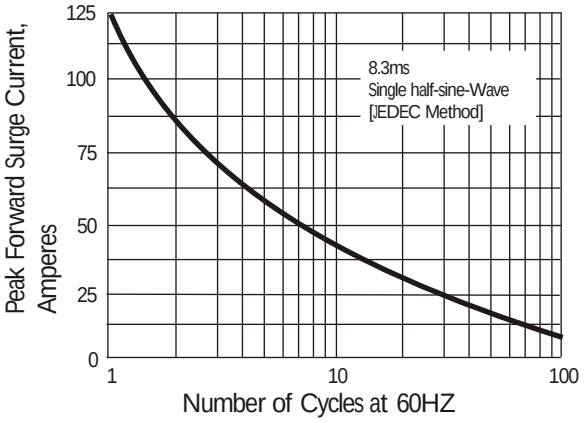



**Fig. 3 Typical Instantaneous Forward Characteristics**

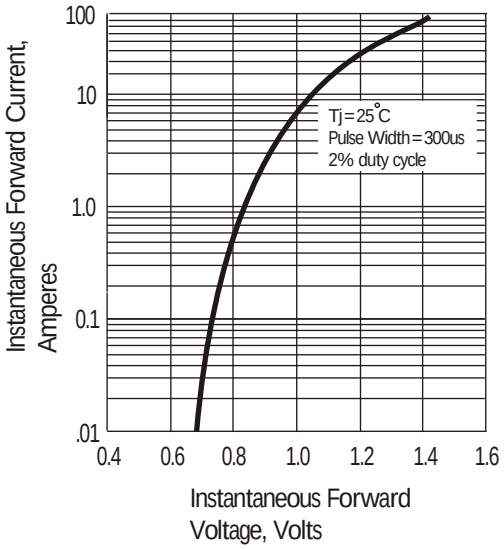



**Fig. 4 Typical Reverse Characteristics**