

**10 A Single-Phase Silicon Bridge Rectifier**  
 Rectifier Reverse Voltage 50 to 1000V

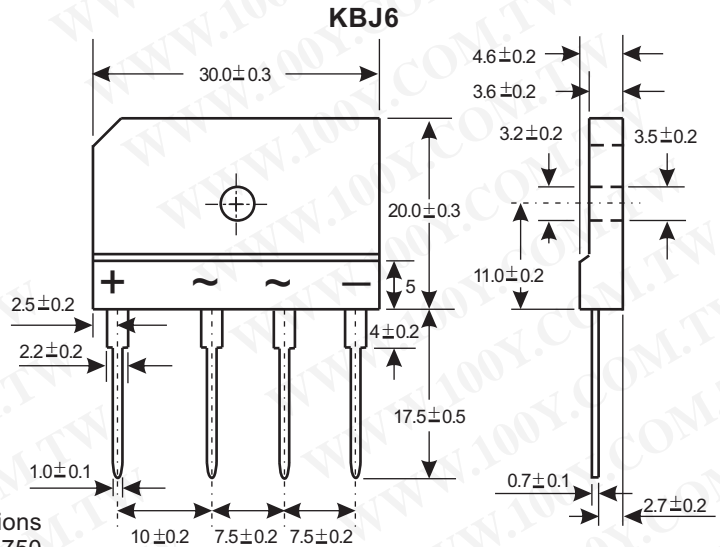


**Features**

- This series is UL listed under the Recognized Component Index, file number E142814
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High case dielectric strength of 1500V<sub>RMS</sub> Ideal for printed circuit boards
- High surge current capability

**Mechanical Data**

Case : Molded plastic body over passivated junctions  
 Terminals : Plated leads solderable per MIL-STD-750, Method 2026  
 Polarity : Polarity symbols molded on body  
 Mounting Position : Any(3)  
 Mounting Torque : 5 in-lbs max.  
 Weight : 0.26 ounce, 7.0 grams (approx)



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           | KBJ 10005 | KBJ 1001 | KBJ 1002 | KBJ 1004     | KBJ 1006 | KBJ 1008 | KBJ 1010 | 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 (with heatsink note 1) rectified current at Tc=110°C (without heatsink) | IF(AV)           |           |          |          | 10.0         |          |          |          | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)           | IFSM             |           |          |          | 170          |          |          |          | A                  |
| Rating for fusing ( t<8.3ms)  | I <sup>2</sup> t |           |          |          | 120          |          |          |          | A <sup>2</sup> sec |
| Typical thermal resistance per element (note 1)   | RthJC            |           |          |          | 1.4          |          |          |          | °C / W             |
| Operating junction and storage temperature range  | TJ, TSTG         |           |          |          | -55 to + 150 |          |          |          | °C                 |

**Electrical Characteristics**

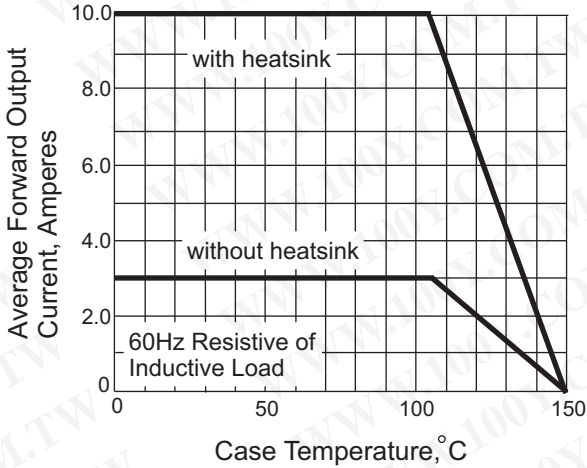
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|--|--------|-----------|----------|----------|----------|----------|----------|----------|------|
| Maximum instantaneous forward voltage drop per leg at 5.0 A                            | VF     |           |          |          | 1.05     |          |          |          | V    |
| Maximum DC reverse current at rated TA =25°C DC blocking voltage per element TA =125°C | IR     |           |          |          | 10.0     |          |          |          | μA   |
|  |        |           |          |          | 500      |          |          |          |      |

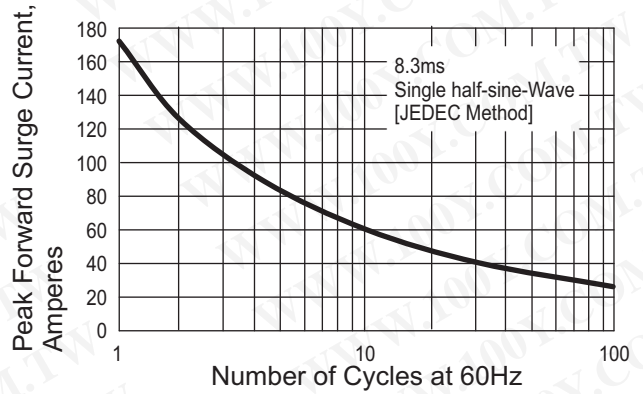
**Notes:** (1) Device mounted on 150mm x 150mm x 1.6mm copper plate heatsink.

# Rating and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ Unless otherwise noted ) KBJ10005 thru KBJ1010

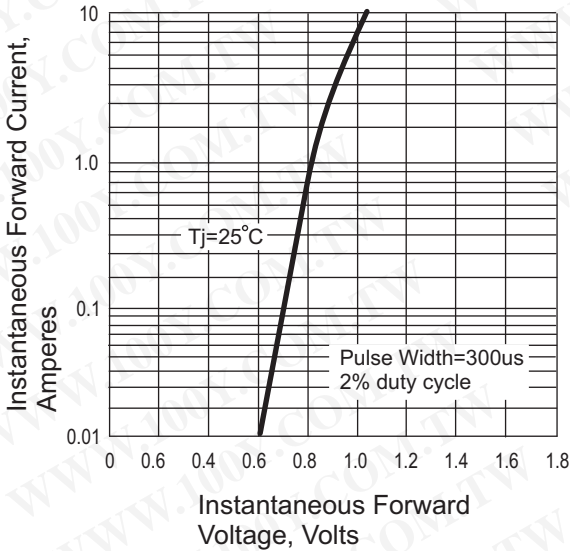
**Fig. 1 Derating Curve for Output Rectified Current**



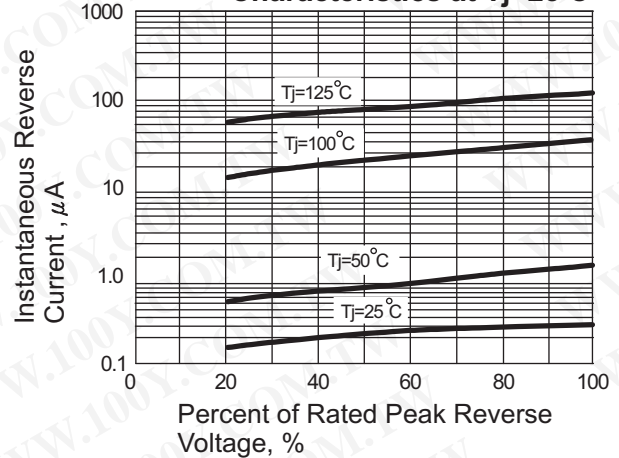
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics at  $T_j=25^{\circ}\text{C}$**



**Fig. 5 Typical Junction Capacitance**

