

## 10 A Single-Phase Silicon Bridge Rectifier

Rectifier Reverse Voltage 50 to 1000V

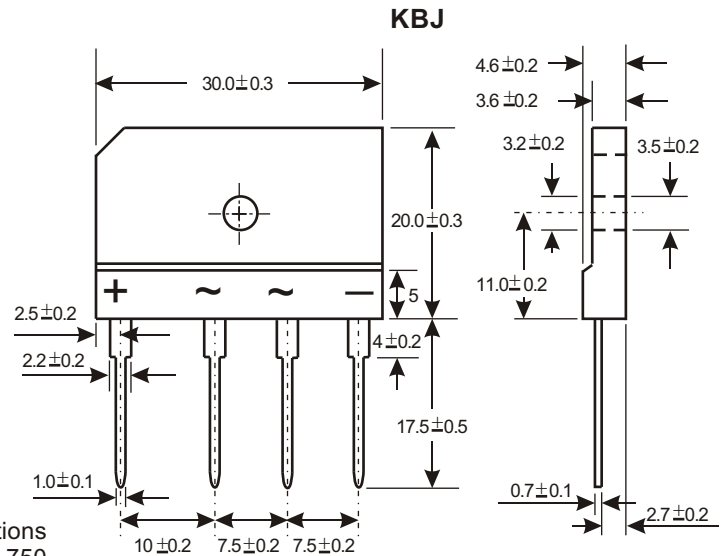


### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High case dielectric strength of 1500VRMS  
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 note1 ) rectified current at Tc=100°C (without heatsink)	IF(AV)	10.0 3.2							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	IFSM	240							A
Rating for fusing ( t<8.3ms)	I <sup>2</sup> t	240							A <sup>2</sup> sec
Typical thermal resistance per element (note 1)	RthJC	0.8							°C / W
Operating junction and storage temperature range	TJ, TSTG	-55 to + 150							°C

### Electrical Characteristics

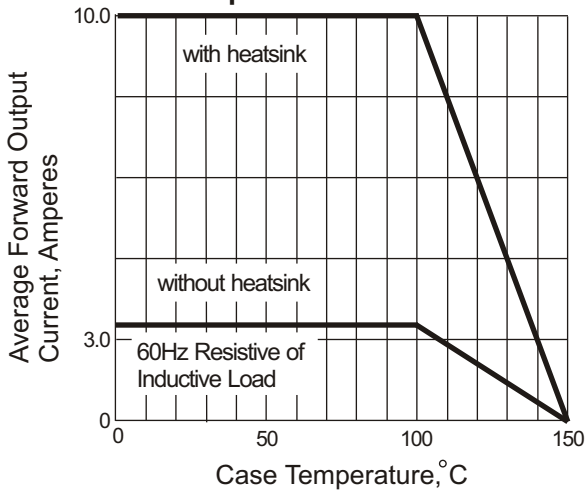
Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
 For Capacitive load derate by 20 %.

Parameter	Symbol	KBJ 10005	KBJ 1001	KBJ 1002	KBJ 1004	KBJ 1006	KBJ 1008	KBJ 1010	Unit
Maximum instantaneous forward voltage drop per leg at 7.5 A	VF	1.05							V
Maximum DC reverse current at rated TA =25°C DC blocking voltage per element TA =125°C	IR	10.0 500							μA

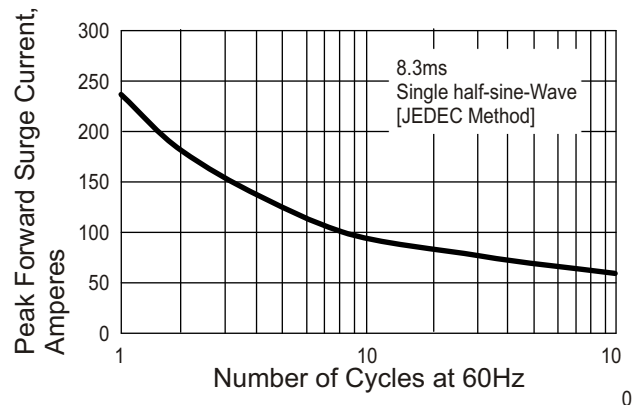
**Notes:** (1) Device mounted on 300mm x 300mm x 1.6mm copper plate heatsink.

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

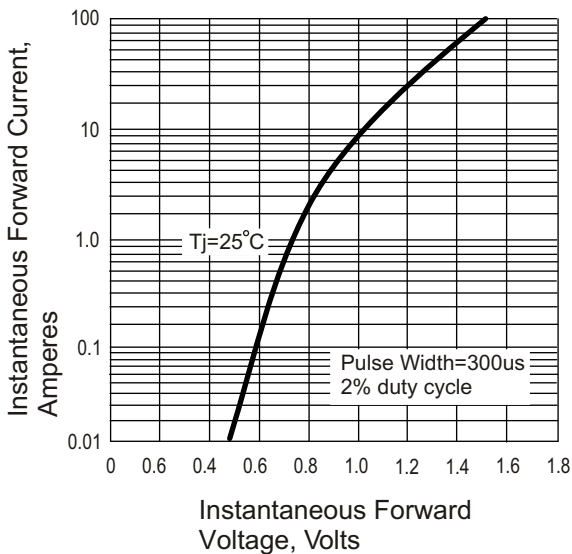
**Fig. 1 Derating Curve for Output Rectified Current**



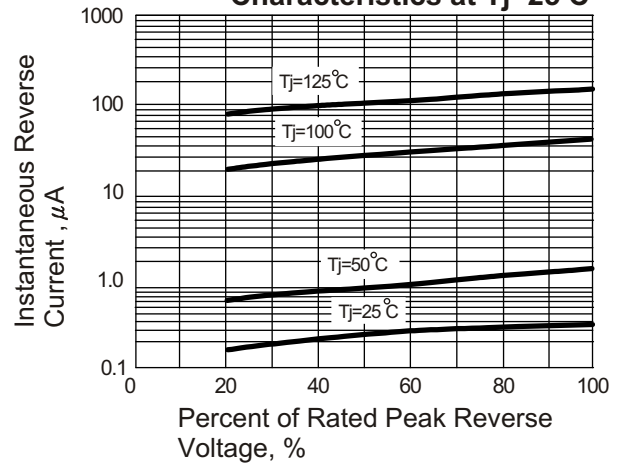
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



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



**Fig. 5 Typical Junction Capacitance**

