

15 A Single-Phase Silicon Bridge Rectifier

Rectifier Reverse Voltage 50 to 1000V

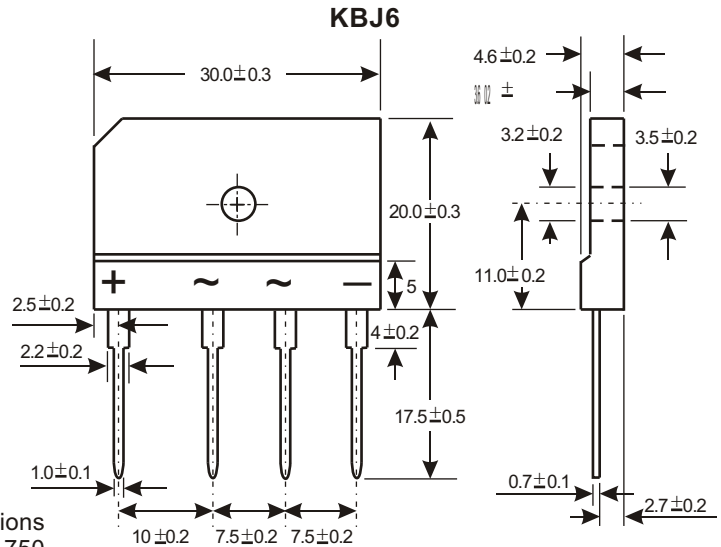


Features

- 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 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 15005 | KBJ 1501 | KBJ 1502 | KBJ 1504 | KBJ 1506 | KBJ 1508 | KBJ 1510 | 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) | 15.0 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 ² t | 240 | | | | | | | A ² 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 15005 | KBJ 1501 | KBJ 1502 | KBJ 1504 | KBJ 1506 | KBJ 1508 | KBJ 1510 | 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) KBJ15005 thru KBJ1510

Fig. 1 Derating Curve for Output Rectified Current

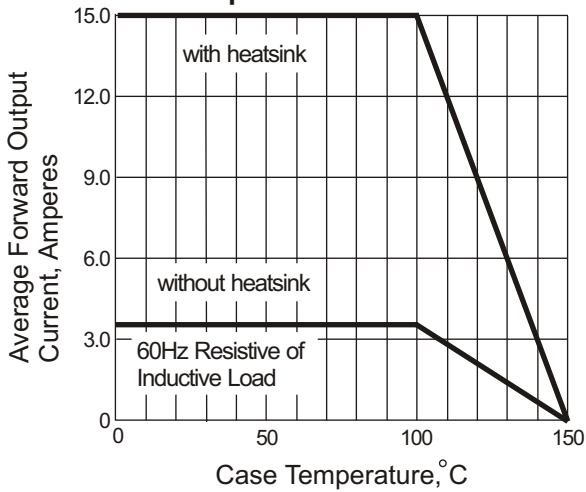


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

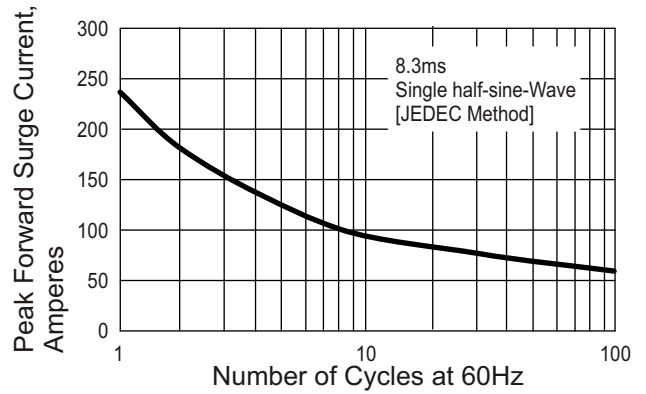


Fig. 3 Typical Instantaneous Forward Characteristics

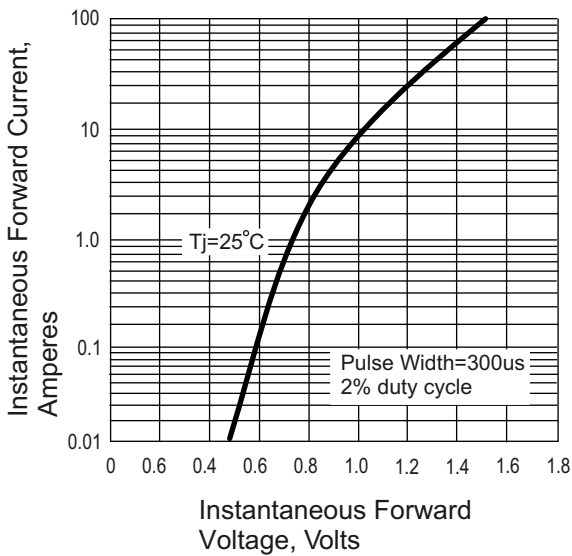


Fig. 4 Typical Reverse Characteristics at $T_J=25^{\circ}\text{C}$

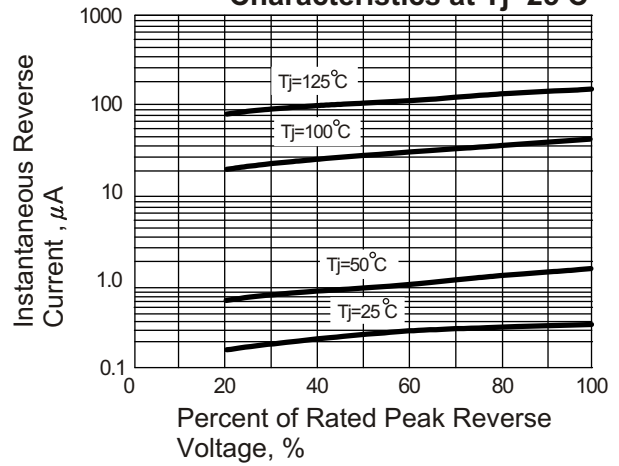


Fig. 5 Typical Junction Capacitance

