



KBJ4AU thru KBJ4MU

Glass Passivated Single-Phase Bridge Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 4.0 Amperes

Features

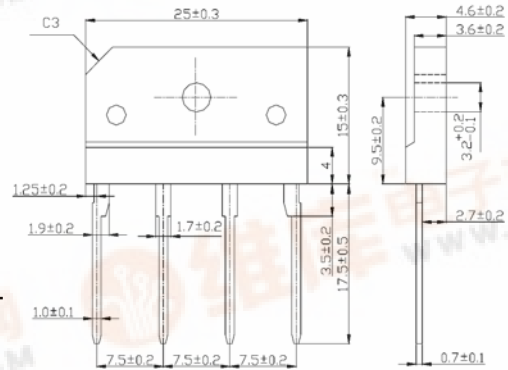
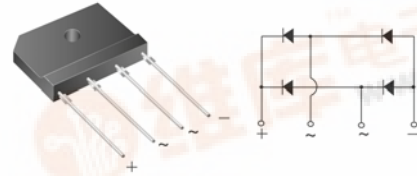
- ◆ Ideal for printed circuit boards
- ◆ High surge current capability
- ◆ High case dielectric strength of 2000 V_{RMS}
- ◆ Glass passivated chip junction
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0

Mechanical Data

- ◆ Case: KBJ(3S)
Epoxy meets UL-94V-0 Flammability rating
- ◆ Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- ◆ High temperature soldering guaranteed:
260°C/10 seconds, 0.375 (9.5mm) lead length,
5lbs.(2.3kg) tension
- ◆ Polarity: As marked on body
- ◆ Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.
- ◆ Recommended Torque: 5.7 cm-kg (5 inches-lbs)

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Monitor, TV, Printer, Switching Mode Power Supply, Adapter, Audio equipment, and Home Appliances applications



Package outline dimensions in millimeters

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	KBJ4AU	KBJ4BU	KBJ4DU	KBJ4GU	KBJ4JU	KBJ4KU	KBJ4MU	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified output current at $T_C=100^\circ\text{C}$ $T_A=25^\circ\text{C}$	$I_{F(AV)}$	4.0 ⁽¹⁾ 2.3 ⁽²⁾							Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	120							Amps
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	60							A ² sec
Maximum instantaneous forward voltage drop per leg at 2.0A	V_F	1.0							Volt
Maximum DC reverse current at rated DC blocking voltage per leg $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5 250							μA
Typical thermal resistance per leg	$R_{\theta JA}$ $R_{\theta JC}$	26 ⁽²⁾ 5 ⁽¹⁾							$^\circ\text{C/W}$
Dielectric strength (Terminals to case, AC 1 minute)	V_{ISO}	2000							Volts
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes: 1. Unit case mounted on 6.3x6.3x0.15cm thick Al plate heatsink.

2. Units mounted on P.C.B. with 0.5 x 0.5" (13 x 13 mm) copper pads and 0.375" (9.5 mm) lead length

3. Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

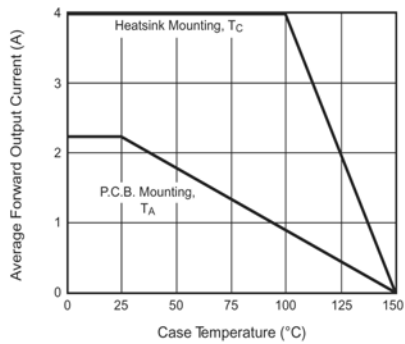


Figure 1. Derating Curve Output Rectified Current

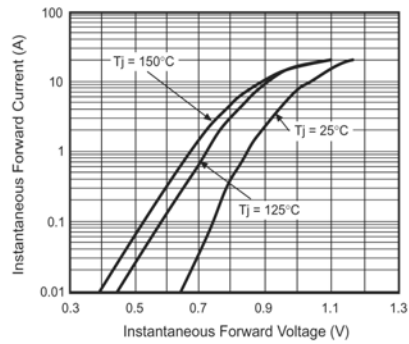


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

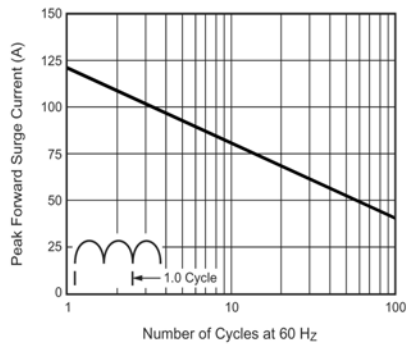


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

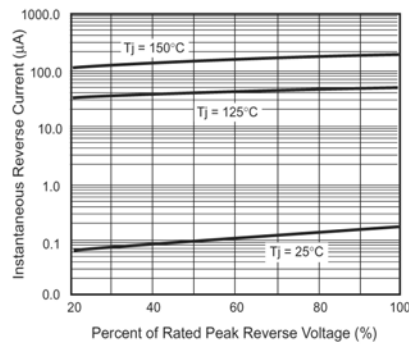


Figure 4. Typical Reverse Characteristics Per Leg

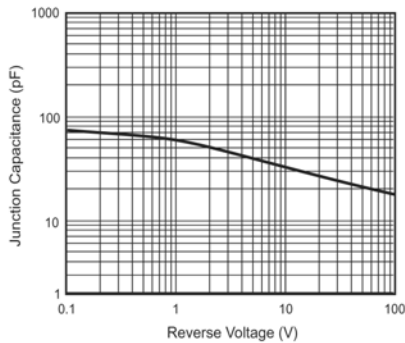


Figure 5. Typical Junction Capacitance Per Leg

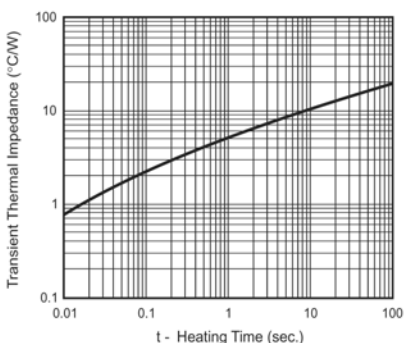


Figure 6. Typical Transient Thermal Impedance Per Leg