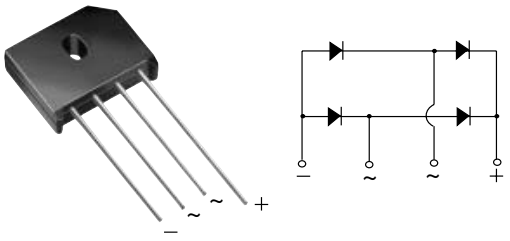
Single-Phase Bridge Rectifier



Case Style KBU

FEATURES

- UL recognition file number E54214
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances applications.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	8 A
V_{RRM}	50 V to 1000 V
I_{FSM}	300 A
I_R	10 µA
V_F	1.0 V
T_J max.	150 °C

MECHANICAL DATA

Case: KBU

Epoxy meets UL 94V-0 flammability rating

Terminals: Silver plated leads, solderable per J-STD-002 and JESD22-B102
E4 suffix for consumer grade

Polarity: As marked on body

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.

Recommended Torque: 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	KBU8A	KBU8B	KBU8D	KBU8G	KBU8J	KBU8K	KBU8M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current at T_C = 100 °C (1)(3) / T_A = 40 °C (2)	$I_{F(AV)}$	8.0 6.0							A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	300							A
Operating junction and storage temperature range	T_J, T_{STG}	- 50 to + 150							°C

Notes:

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

(2) Units mounted in free air, no heatsink, P.C.B. at 0.375" (9.5 mm) lead length with 0.5 x 0.5" (12 x 12 mm) copper pads

(3) Units mounted on a 3.0 x 3.0" x 0.11" thick (7.5 x 7.5 x 0.3 cm) aluminum plate heatsink

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)										
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**KBU8A**	**KBU8B**	**KBU8D**	**KBU8G**	**KBU8J**	**KBU8K**	**KBU8M**	**UNIT**
Maximum instantaneous forward drop per diode	8.0 A	V_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C T_A = 125 °C	I_R	10 1.0							µA mA

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	**SYMBOL**	**KBU8A**	**KBU8B**	**KBU8D**	**KBU8G**	**KBU8J**	**KBU8K**	**KBU8M**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JC}$	18 (2) 3.0 (3)							°C/W

Notes:

(1) Units mounted in free air, no heatsink, P.C.B. at 0.375" (9.5 mm) lead length with 0.5 x 0.5" (12 x 12 mm) copper pads

(2) Units mounted on a 3.0 x 3.0" x 0.11" thick (7.5 x 7.5 x 0.3 cm) aluminum plate heatsink

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
KBU8J-E4/51	8.0	51	250	Anti-static PVC tray

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

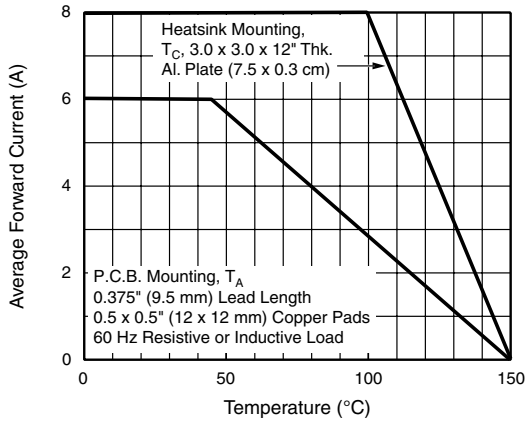


Figure 1. Derating Curve Output Rectified Current

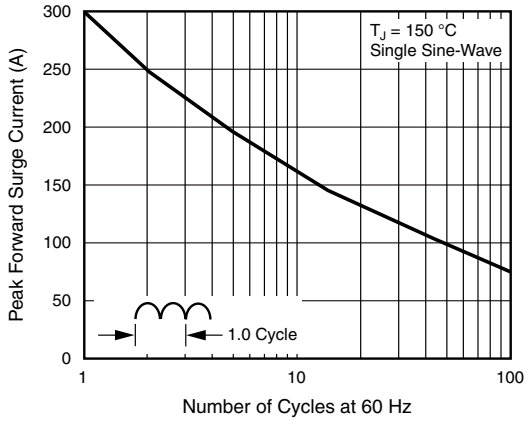


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

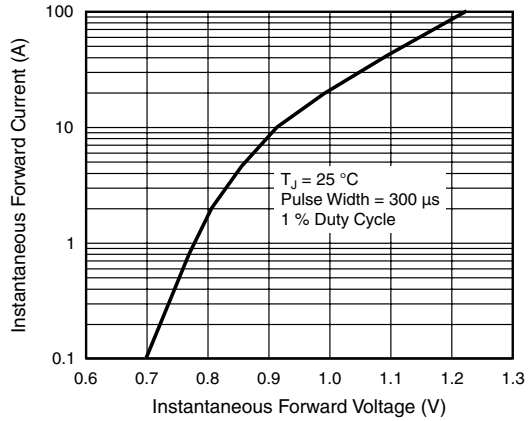


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

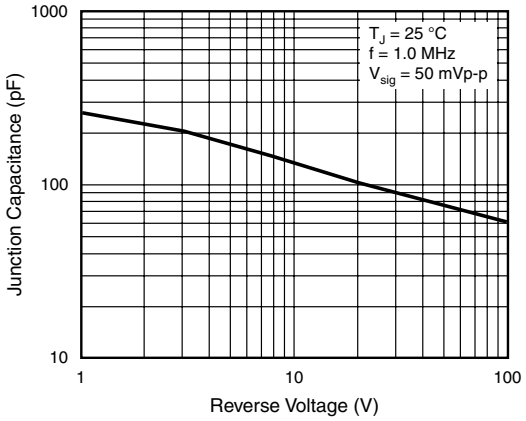


Figure 5. Typical Junction Capacitance Per Diode

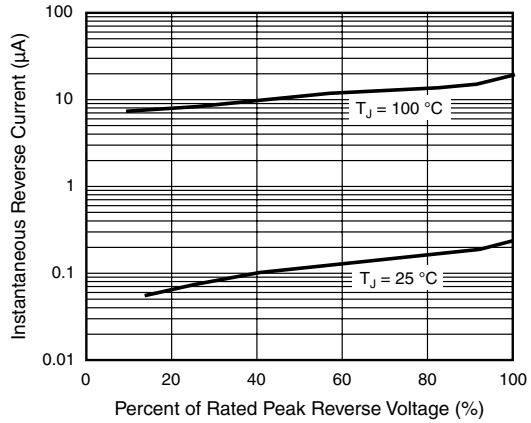
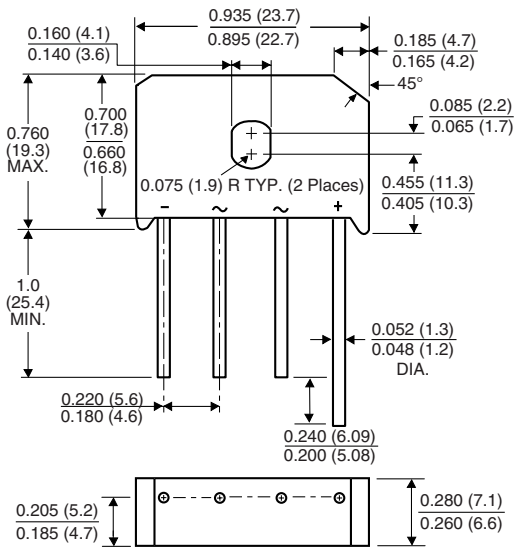


Figure 4. Typical Reverse Leakage Characteristics Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style KBU



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