



## Single-Phase Bridge Rectifier



Case Style KBU

### FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- High surge current capability
- Plastic-passivated junction
- High case dielectric strength of 1500 V<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### LINKS TO ADDITIONAL RESOURCES



### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, SMPS, adapter, audio equipment, and home appliances applications.

### MECHANICAL DATA

Case: KBU

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

Terminals: silver plated leads, solderable per J-STD-002 and JESD22-B102

Polarity: as marked on body

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

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

PRIMARY CHARACTERISTICS	
Package	KBU
I <sub>F(AV)</sub>	6 A
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I <sub>FSM</sub>	200 A
I <sub>R</sub>	5 μA
V <sub>F</sub> at I <sub>F</sub> = 6 A	1.0 V
T <sub>J</sub> max.	150 °C
Circuit configurations	In-line

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current at	I <sub>F(AV)</sub>	6.0							A
		6.0							
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	250							A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-50 to +150							°C

### Notes

- (1) Recommended mounted position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw
- (2) Thermal resistance from junction to ambient with units in free air, PCB mounted on 0.5" x 0.5" (12 mm x 12 mm) copper pads, 0.375" (9.5 mm) lead length
- (3) Thermal resistance from junction to case with units mounted on a 2.6" x 1.4" x 0.06" thick (6.5 cm x 3.5 cm x 0.15 cm) aluminum plate

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNIT
Maximum instantaneous forward drop per diode	I <sub>F</sub> = 6.0 A	V <sub>F</sub>					1.0			V
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C	I <sub>R</sub>					5.0			μA
	T <sub>A</sub> = 125 °C						1.0			mA



<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNIT	
Typical thermal resistance	$R_{\theta JA}$ <sup>(1)</sup>					8.6				°C/W
	$R_{\theta JC}$ <sup>(2)</sup>					3.1				

**Notes**

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<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
KBU6J-E4/51	8.0	51	250	Anti-static PVC tray

**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

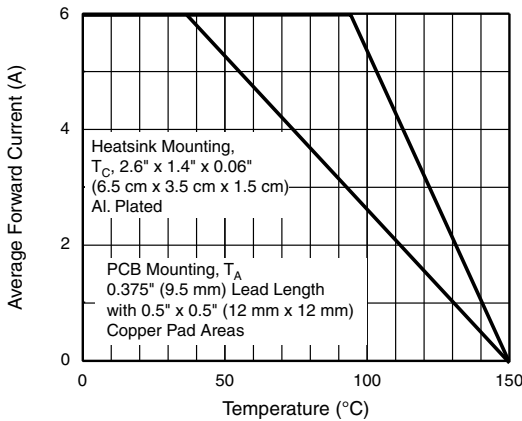


Fig. 1 - Derating Curve Output Rectified Current

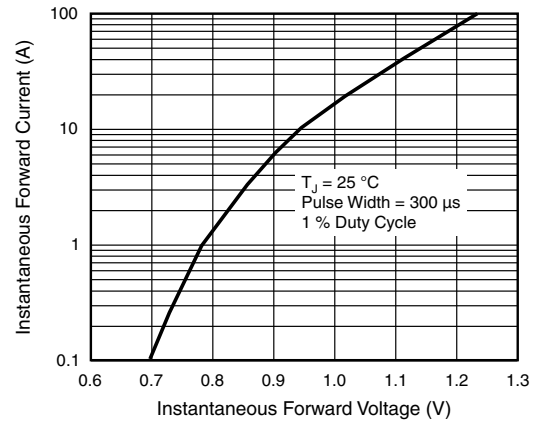


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

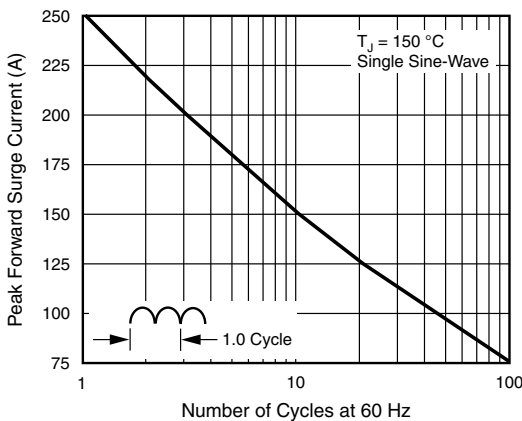


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

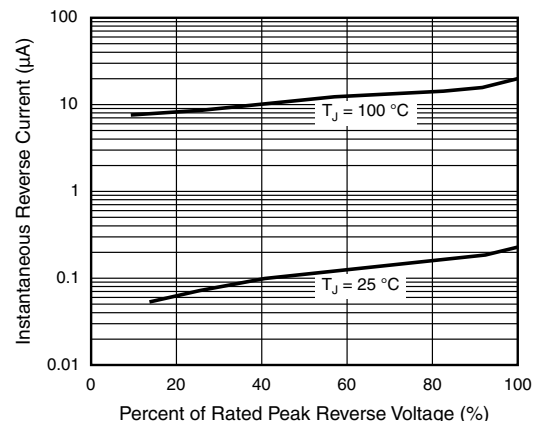


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

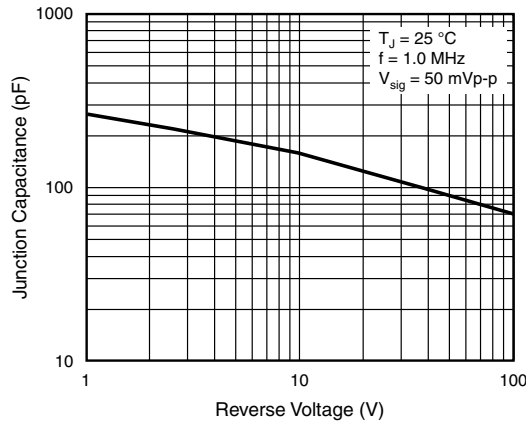


Fig. 5 - Typical Junction Capacitance Per Diode

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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