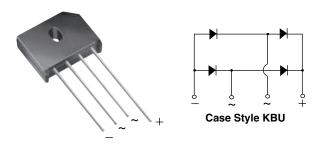


# KBU6A, KBU6B, KBU6D, KBU6G, KBU6J, KBU6K, KBU6M

Vishay General Semiconductor

# **Single-Phase Bridge Rectifier**



#### **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 <a href="https://www.vishav.com/doc?99912">www.vishav.com/doc?99912</a>

### **LINKS TO ADDITIONAL RESOURCES**



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 μΑ						
$V_F$ at $I_F = 6$ A	1.0 V						
T <sub>J</sub> max.	150 °C						
Circuit configurations	In-line						

#### 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)

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER		SYMBOL	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNIT
Maximum repetitive peak reverse voltage		$V_{RRM}$	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	$T_C = 100  ^{\circ}C  ^{(1)(3)}$	,	6.0							A
rectified output current at	$T_A = 40  ^{\circ}C^{(2)}$	I <sub>F(AV)</sub>	6.0							
Peak forward surge current single sine-wave superimposed on rated load		I <sub>FSM</sub>	250							Α
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

<b>ELECTRICAL CHARACTERISTICS</b> (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	T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0						μΑ	
voltage per diode			1.0						mA	

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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	IBOL KBU6A KBU6B KBU6D KBU6G KBU6J KBU6K KBU6M UNIT							UNIT
Typical thormal registance	R <sub>0</sub> JA <sup>(1)</sup>							°C/W	
Typical thermal resistance	3.1							C/VV	

#### **Notes**

- (1) 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
- (2) 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) Al. plate

ORDERING INFORMATION (Example)								
PREFERRED P/N	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<sub>A</sub> = 25 °C unless otherwise noted)

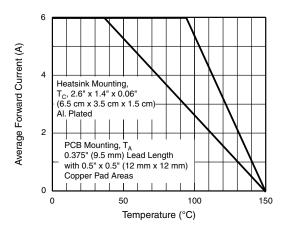


Fig. 1 - Derating Curve Output Rectified Current

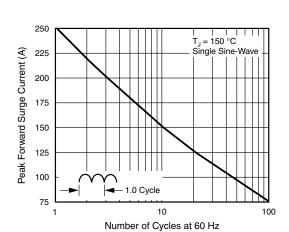


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

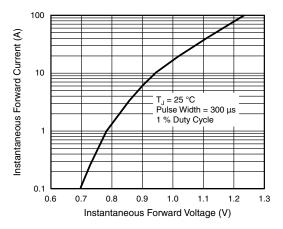


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

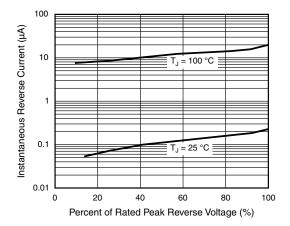


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode



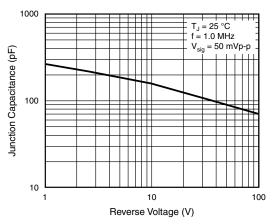
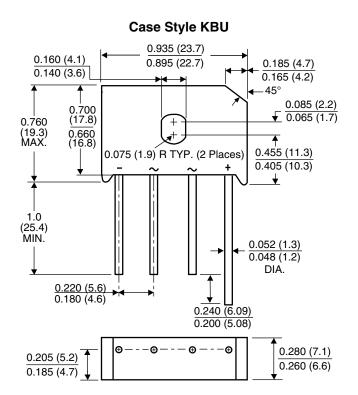


Fig. 5 - Typical Junction Capacitance Per Diode

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





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