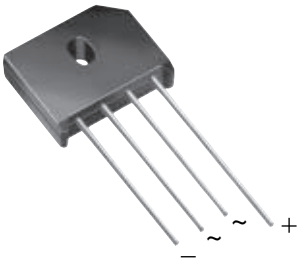
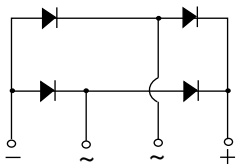
KBU6A, KBU6B, KBU6D, KBU6G, KBU6J, KBU6K, KBU6M

Vishay General Semiconductor

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_{RMS}
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

LINKS TO ADDITIONAL RESOURCES

3D Models

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS	
Package	KBU
$I_{F(AV)}$	6 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	200 A
I_R	5 µA
V_F at I_F = 6 A	1.0 V
T_J max.	150 °C
Circuit configurations	In-line

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)

MAXIMUM RATINGS (T_A = 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 rectified output current at	T_C = 100 °C (1)(3)	$I_{F(AV)}$	6.0							A
	T_A = 40 °C (2)		6.0							
Peak forward surge current single sine-wave superimposed on rated load		I_{FSM}	250							A
Operating junction and storage temperature range		T_J, T_{STG}	-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_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	UNIT
Maximum instantaneous forward drop per diode	I_F = 6.0 A	V_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C	I_R	5.0							µA
	T_A = 125 °C		1.0							mA

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

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	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 °C unless otherwise noted)

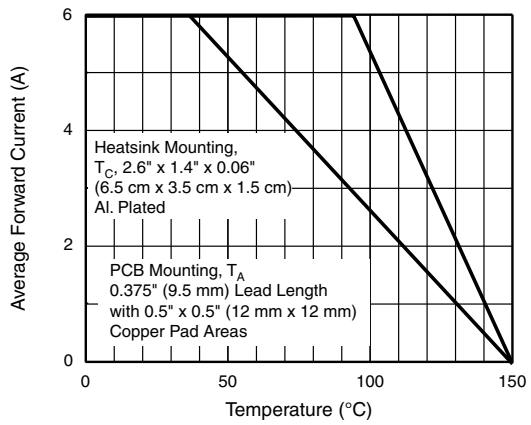


Fig. 1 - Derating Curve Output Rectified Current

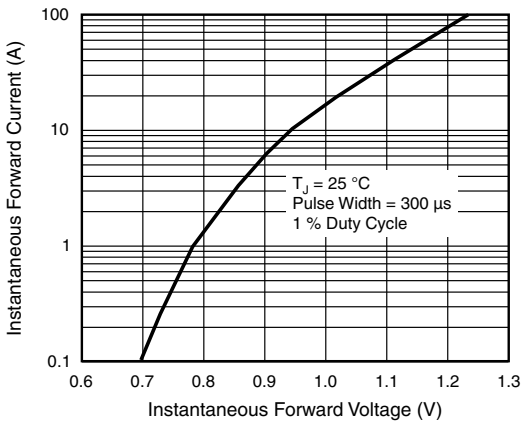


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

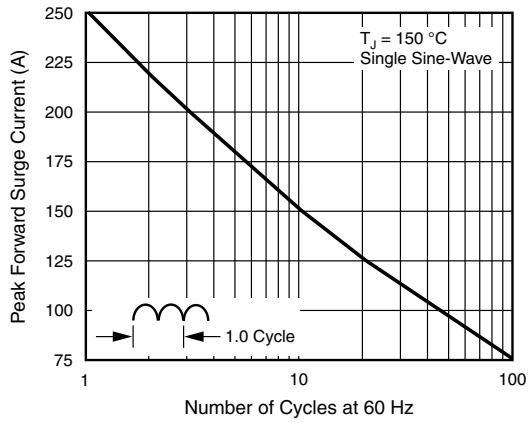


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

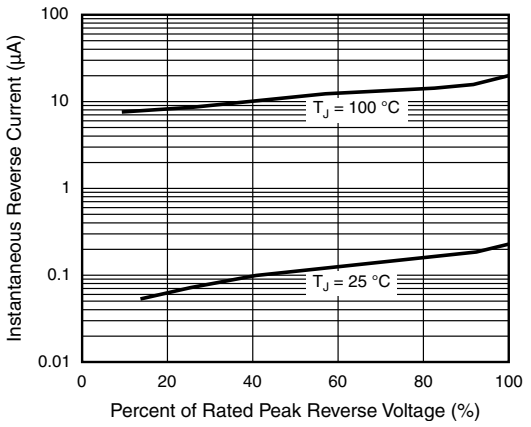


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

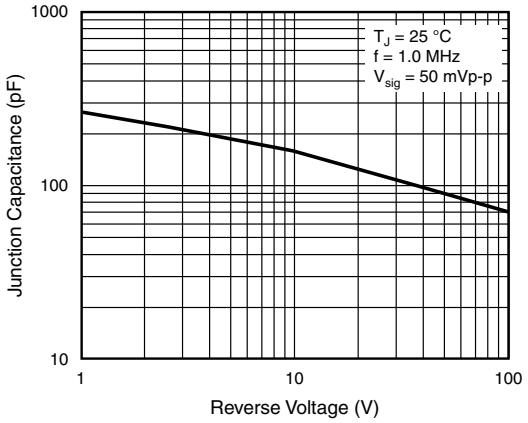
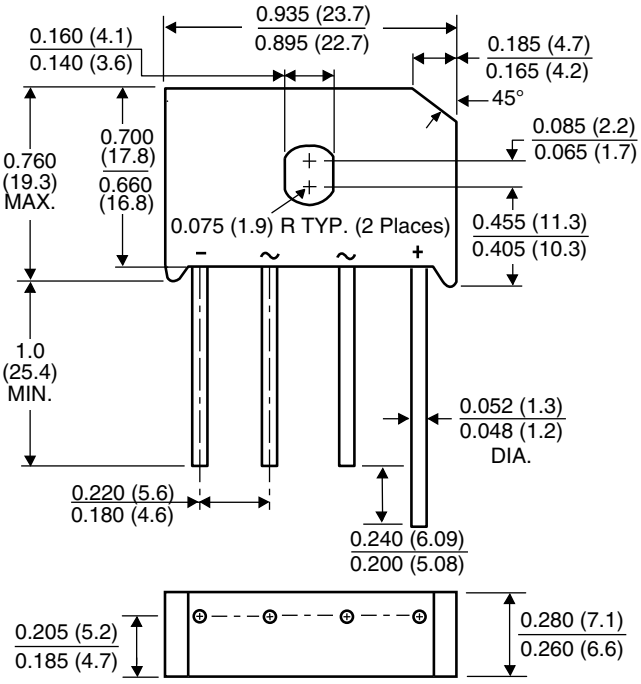


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style KBU



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