Vishay General Semiconductor

Single-Phase Bridge Rectifier



PRIMARY CHARACTERISTICS								
I _{F(AV)} 4 A								
V _{RRM}	50 V to 1000 V							
I _{FSM}	200 A							
I _R	5 μΑ							
V _F	1.1 V							
T _J max.	150 °C							

FEATURES

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

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.

MECHANICAL DATA

Case: KBL

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	KBL005	KBL01	KBL02	KBL04	KBL06	KBL08	KBL10	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 current at $T_A = 50 \ ^\circ C$	I _{F(AV)}	4.0						А	
Peak forward surge current single sine-wave superimposed on rated load	I _{FSM}	200					А		
Operating junction and storage temperature range	T _J , T _{STG}	- 50 to + 150					°C		

ELECTRICAL CHARACTERISTICS ($T_A = 25 \degree C$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	KBL005	KBL01	KBL02	KBL04	KBL06	KBL08	KBL10	UNIT
Maximum instantaneous forward drop per diode	4.0 A	V _F	1.1						V	
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C T _A = 125 °C	I _R	5.0 1.0						μA mA	

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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	KBL005	KBL01	KBL02	KBL04	KBL06	KBL08	KBL10	UNIT
Typical thermal resistance	$R_{ heta JA} \ R_{ heta JL}$	19 ⁽¹⁾ 2.4 ⁽²⁾					°C/W		

Notes:

- (1) Thermal resistance from junction to ambient with units mounted on 3.0 x 3.0 x 0.11" thick (7.5 x 7.5 x 0.3 cm) aluminum plate
- (2) Thermal resistance from junction to lead with units mounted on P.C.B. at 0.375" (9.5 mm) lead length and 0.5 x 0.5" (12 x 12 mm) copper pads

ORDERING INFORMATION (Example)								
PREFERRED P/N	EFERRED P/N UNIT WEIGHT (g) PREFERRED PACKAGE CODE BASE QUANTITY DELIVERY MODE							
KBL06-E4/51	6.0	51	300	Anti-static PVC tray				

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

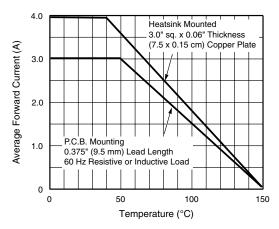
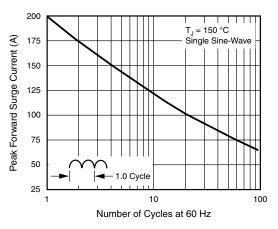
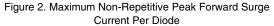


Figure 1. Derating Curve Output Rectified Current





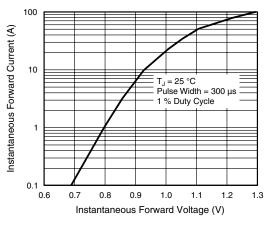


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

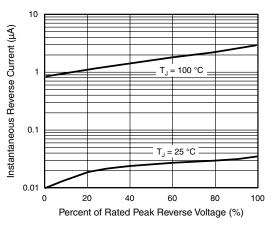


Figure 4. Typical Reverse Leakage Characteristics Per Diode

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KBL005 thru KBL10

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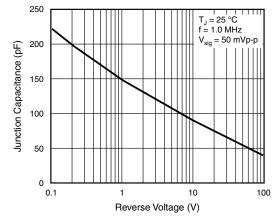
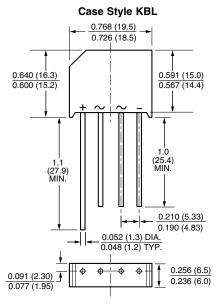


Figure 5. Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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