

Bridge Rectifiers

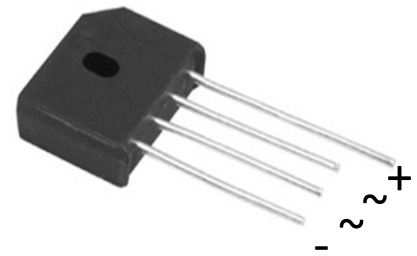
Features

- UL recognition file #E230084
- High surge current capability
- Ideal for printed circuit boards
- Solder dip 275 °C max. 7 s, per JESD 22-B106



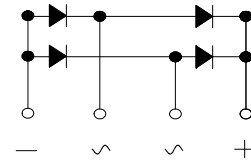
Applications

- General purpose use in AC/DC bridge full wave rectification for power supply, home appliances, office equipment, industrial automation applications.



Mechanical Data

- **Package:** KBU
Molding compound meets UL 94 V-0 flammability rating, RoHS- compliant
- **Terminals :** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body



Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	KBU 6005	KBU 601	KBU 602	KBU 604	KBU 606	KBU 608	KBU 610	Unit
Device marking code		KBU6005	KBU601	KBU602	KBU604	KBU606	KBU608	KBU610	
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Average Rectified Output Current @60Hz sine Wave, R-load,	With heatsink $T_c=105^\circ\text{C}$	6							A
	Without heatsink $T_a=25^\circ\text{C}$	2.5							A
Surge(Non-repetitive)Forward Current @60Hz Half- sine Wave, 1 cycle, $T_a=25^\circ\text{C}$	I_{FSM}	135							A
Current Squared Time @1ms≤t<8.3ms $T_j=25^\circ\text{C}$, Rating of per diode	I^2t	75							A ² S
Storage Temperature	T_{stg}	-55 ~+150							°C
Junction Temperature	T_j	-55 ~+150							°C

Electrical Characteristics (T _A =25°C unless otherwise noted)										
Parameter	Symbol	Test Conditions	KBU 6005	KBU 601	KBU 602	KBU 604	KBU 606	KBU 608	KBU 610	Unit
Maximum instantaneous forward voltage drop per diode	V _{FM}	IFM=3A	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM}	V _{RM} =V _{RRM}	10							μA

Thermal Characteristics (T _A =25°C unless otherwise noted)										
Parameter	Symbol	KBU 6005	KBU 601	KBU 602	KBU 604	KBU 606	KBU 608	KBU 610	Unit	
Thermal Resistance	Between junction and ambient, Without heatsink	R _{θJ-A}	26							°C/W
	Between junction and case, Without heatsink	R _{θJ-C}	5							°C/W

Notes :

1. Thermal resistance from junction to ambient with units mounted in free air ,no heat sink,P.C.B. at 0.375" (9.5mm) lead length with 0.5×0.5"(12×12mm) copper pads.
2. Thermal resistance from junction to case with units mounted on an aluminum plate heat sink.

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG1: I_o - T_c Curve

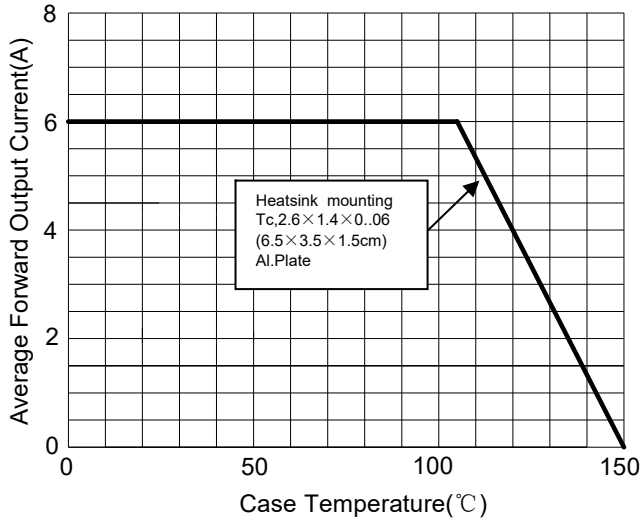


FIG2: Surge Forward Current Capability

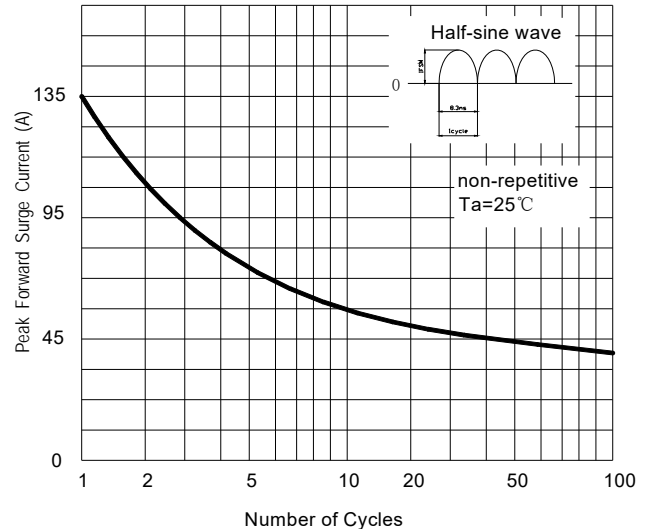


FIG3: Instantaneous Forward Voltage

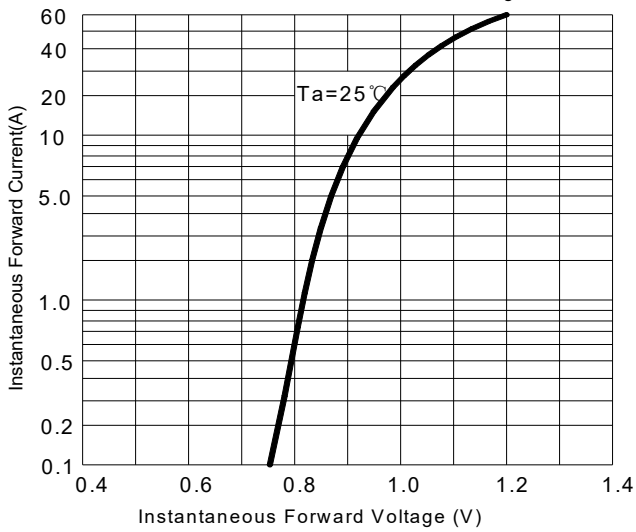
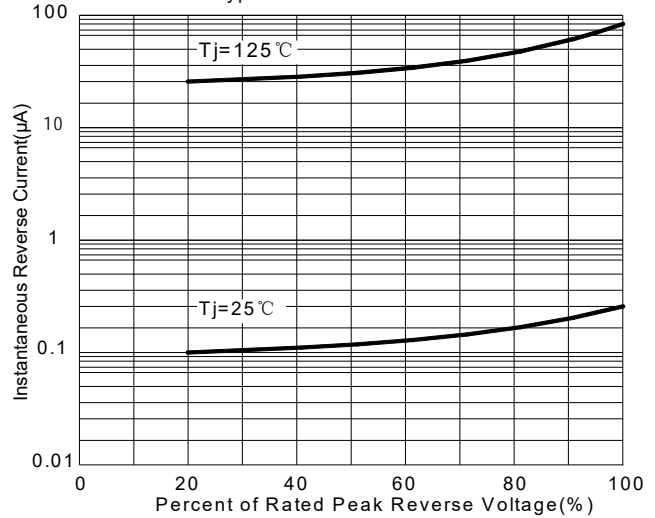
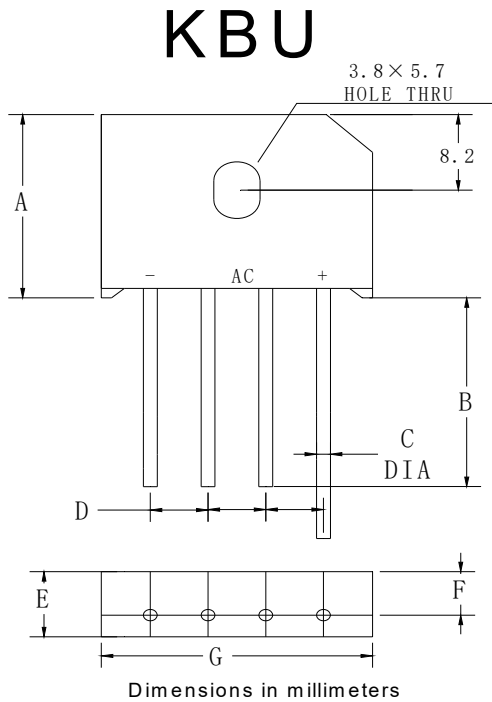


FIG4: Typical Reverse Characteristics



Package Outline Dimensions

in inches (millimeters)



KBU		
Dim	Min	Max
A	18.8	19.8
B	20.0	/
C	1.2	1.3
D	4.6	5.6
E	6.8	7.1
F	4.6	5.0
G	22.7	23.7

Revision History

Document Version	Date of release	Description of changes
Rev.A	2019.08.13	First issue

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