

Bridge Rectifiers

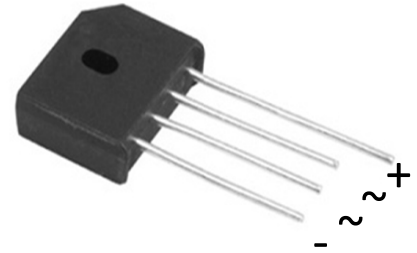
Features

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



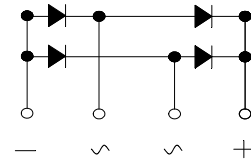
Applications

- 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 4005	KBU 401	KBU 402	KBU 404	KBU 406	KBU 408	KBU 410	Unit
Device marking code		KBU4005	KBU401	KBU402	KBU404	KBU406	KBU408	KBU410	
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 $T_c=110^\circ\text{C}$	4							A
	Without heatsink $T_a=25^\circ\text{C}$	2.2							A
Surge(Non-repetitive)Forward Current @60Hz Half- sine Wave, 1 cycle, $T_a=25^\circ\text{C}$	I_{FSM}	120							A
Current Squared Time @1ms≤t<8.3ms $T_j=25^\circ\text{C}$, Rating of per diode	I^2t	60							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 4005	KBU 401	KBU 402	KBU 404	KBU 406	KBU 408	KBU 410	Unit
Maximum instantaneous forward voltage drop per diode	V _{FM}	IFM=2A				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 4005	KBU 401	KBU 402	KBU 404	KBU 406	KBU 408	KBU 410	Unit	
Thermal Resistance	Between junction and ambient, Without heatsink	R _{θJ-A}				25			°C/W	
	Between junction and case, With heatsink	R _{θJ-C}				7.5			°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

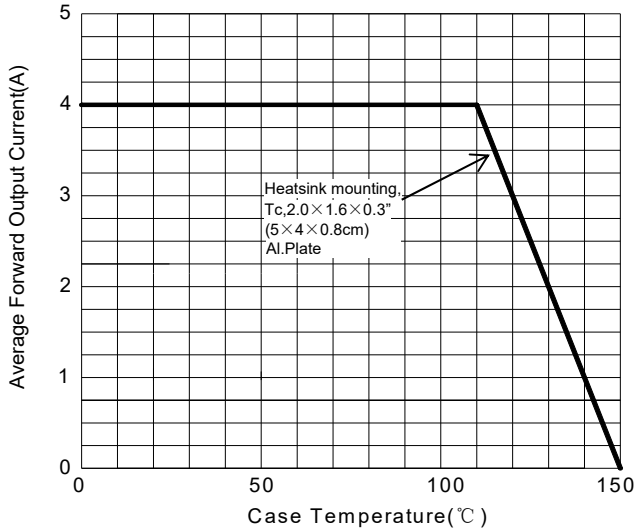


FIG2: Surge Forward Current Capability

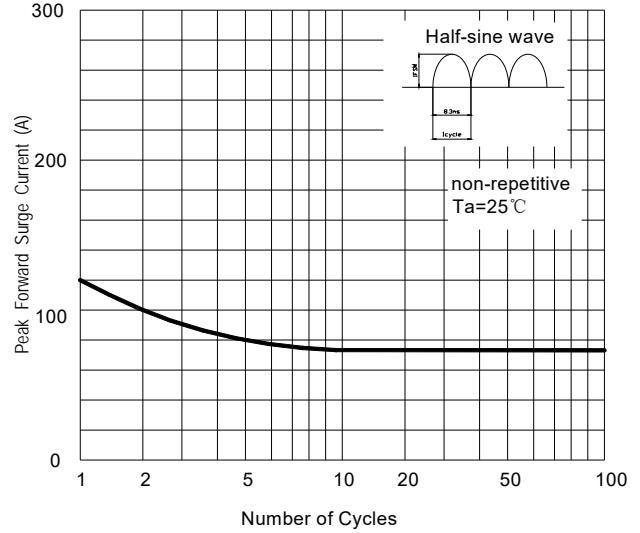


FIG3: Instantaneous Forward Voltage

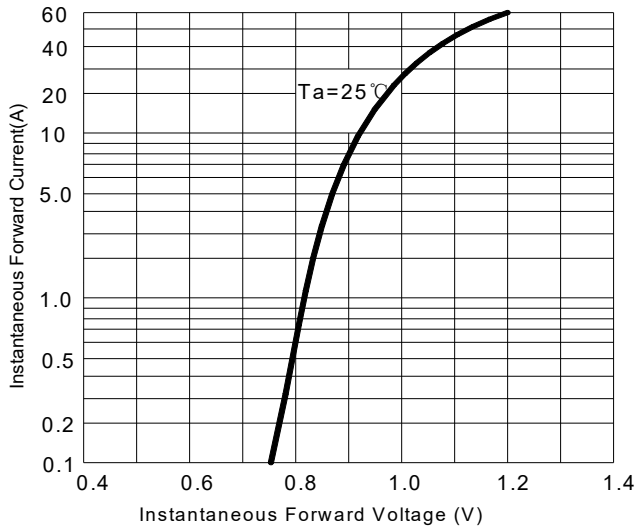
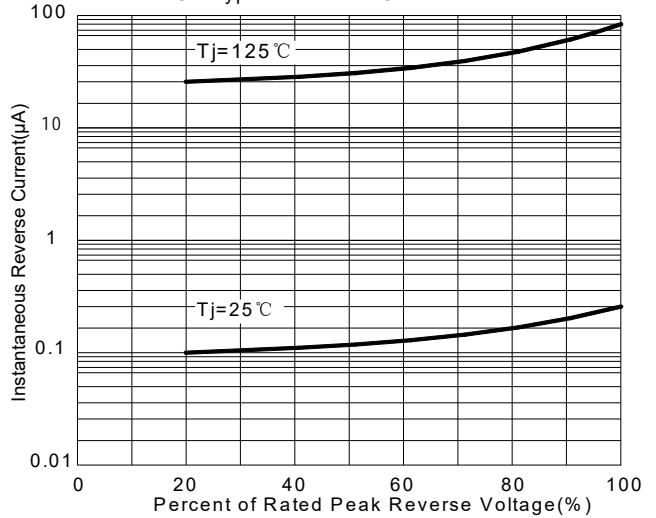
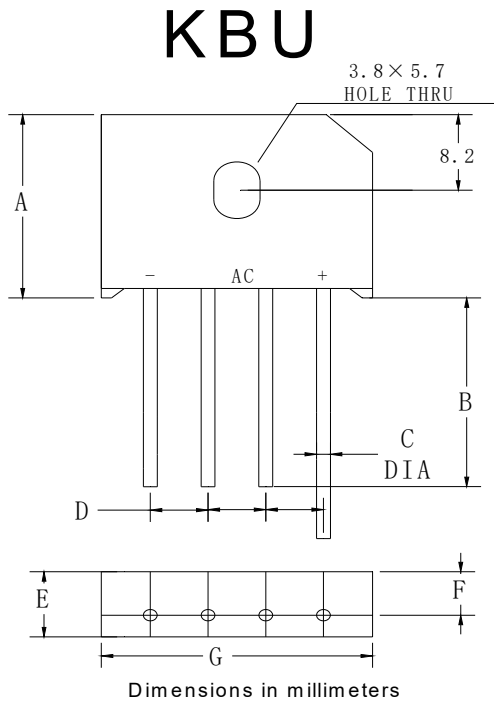


FIG4: Typical Reverse Characteristics



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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