

Bridge Rectifiers

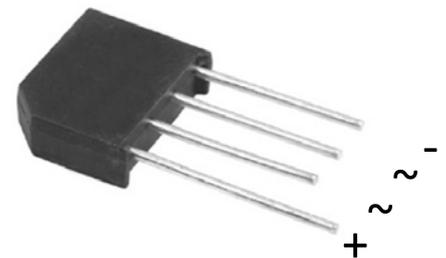
Features

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



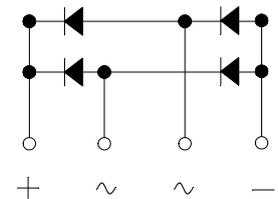
Applications

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



Mechanical Data

- **Package:** KBL
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	KBL 4005	KBL 401	KBL 402	KBL 404	KBL 406	KBL 408	KBL 410	Unit
Device marking code		KBL4005	KBL401	KBL402	KBL404	KBL406	KBL408	KBL410	
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 Ta=40°C	I_O	4							A
Surge(Non-repetitive)Forward Current @60Hz Half- sine Wave, 1 cycle, Ta=25°C	I_{FSM}	120							A
Current Squared Time @1ms≤t<8.3ms Tj=25°C, Rating of per diode	I^2t	59.8							A ² S
Storage Temperature	Tstg	-55 ~+150							°C
Junction Temperature	T _J	-55 ~+150							°C

Electrical Characteristics (TA=25°C unless otherwise noted)										
Parameter	Symbol	Test Conditions	KBL 4005	KBL 401	KBL 402	KBL 404	KBL 406	KBL 408	KBL 410	Unit
Maximum instantaneous forward voltage drop per diode	V_{FM}	IFM=2A				1.05				V
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM}	$V_{RM}=V_{RRM}$				10				μA

Thermal Characteristics (TA=25°C unless otherwise noted)										
Parameter	Symbol	KBL 4005	KBL 401	KBL 402	KBL 404	KBL 406	KBL 408	KBL 410	Unit	
Thermal Resistance	Between junction and ambient,	$R_{\theta J-A}$				21			$^{\circ}C/W$	
	Between junction and lead	$R_{\theta J-L}$				2.4			$^{\circ}C/W$	

Notes:

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

Ratings and Characteristics Curves

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

FIG1: I_o - T_a Curve

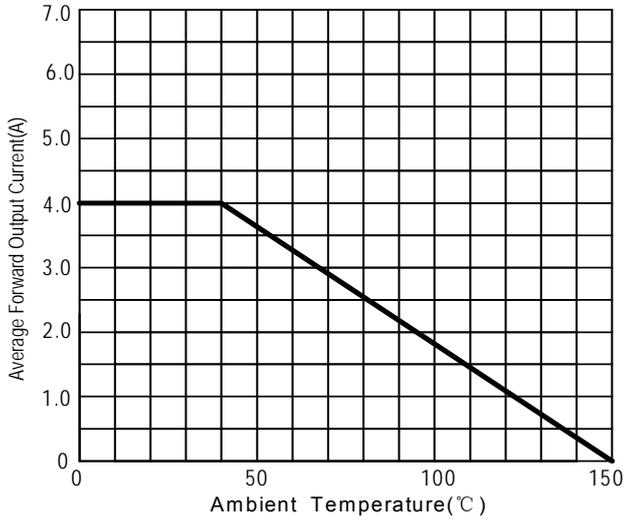


FIG2: Surge Forward Current Capability

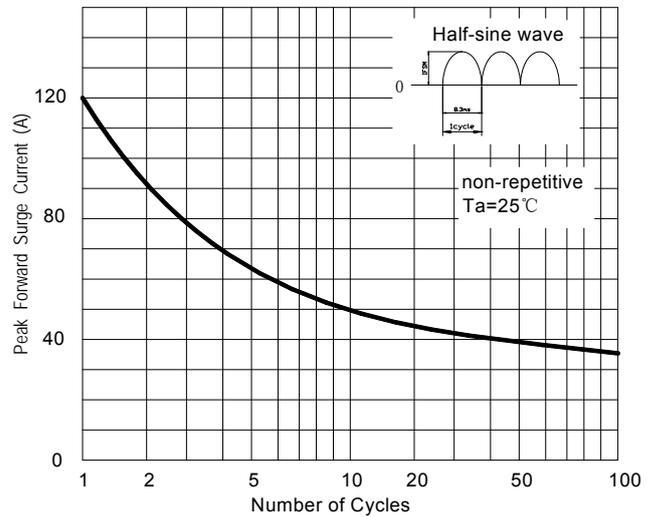


FIG3: Instantaneous Forward Voltage

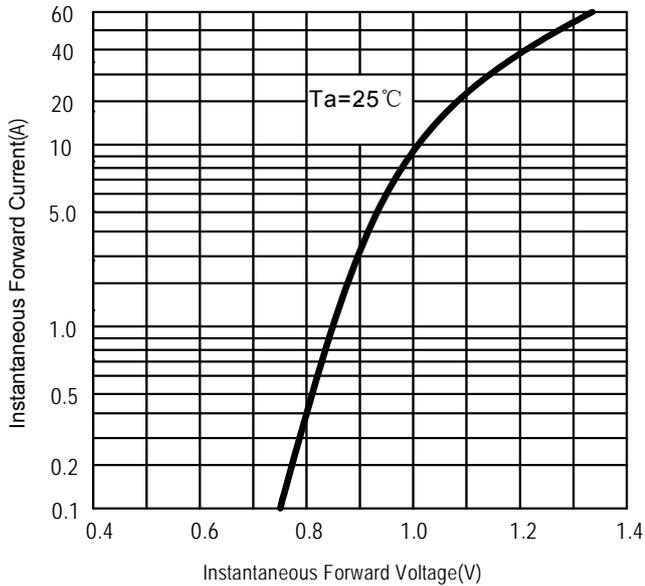
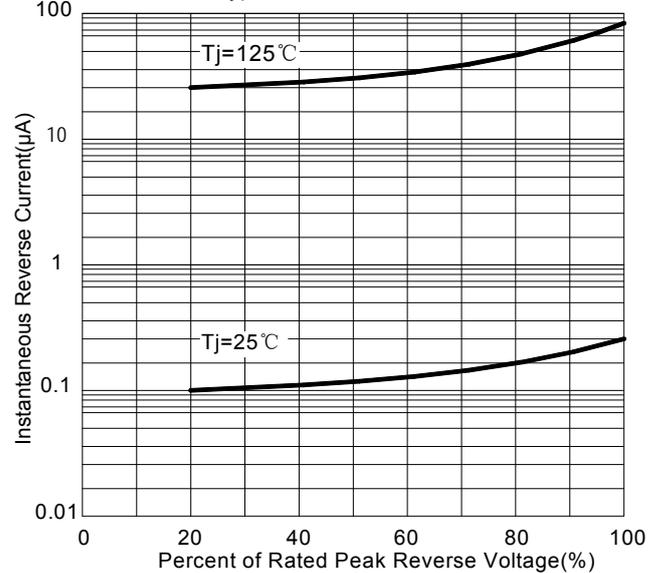
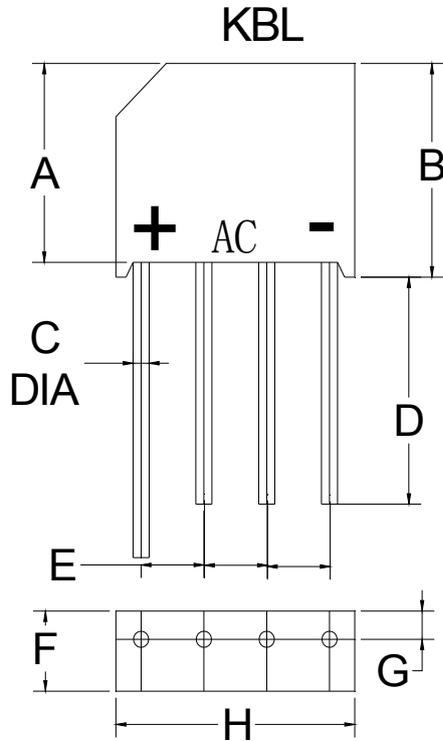


FIG4: Typical Reverse Characteristics



Package Outline Dimensions

in inches (millimeters)



Dimensions in millimeters

KBL		
Dim	Min	Max
A	13.7	15.7
B	15.2	16.3
C	1.2	1.3
D	16	/
E	4.6	5.6
F	5.5	6.5
G	1.8	2.4
H	18.5	19.5

Revision History

Document Version	Date of release	Description of changes
Rev.A	2014.04.28	First issue

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