

Features

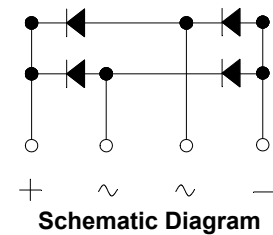
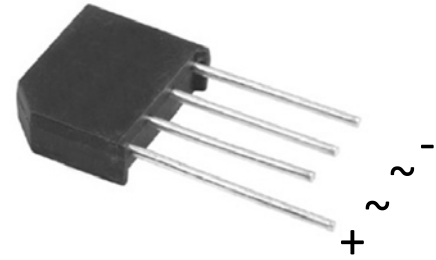
- Ideal for printed circuit boards
- High surge current capability
- Solder dip 275°C max. 7s, per JESD 22-B106

Typical Applications

General purpose use in AC/DC bridge full wave rectification for switching 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



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	KBL6005	KBL601	KBL602	KBL604	KBL606	KBL608	KBL610	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Average Rectified Output Current @ 60Hz Sine Wave, R-load, $T_A=40^\circ\text{C}$	I_O	6.0							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 @ $\text{ms} \leq t \leq 8.3\text{ms}$, $T_J=25^\circ\text{C}$, Rating per Diode	I^2t	76							A^2S
Thermal Resistance, Between Junction and Ambient ¹	$R_{\theta JA}$	19							$^\circ\text{C}/\text{W}$
Thermal Resistance, Between Junction and Lead ²	$R_{\theta JL}$	5							
Junction Temperature	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150							$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Test Conditions	Value	Unit
Maximum Instantaneous Forward Voltage Drop Per Diode	V_{FM}	$I_{FM}=3\text{A}$	1.05	V
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Diode	I_{RRM}	$V_{RM}=V_{RRM}$	10	μA

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)

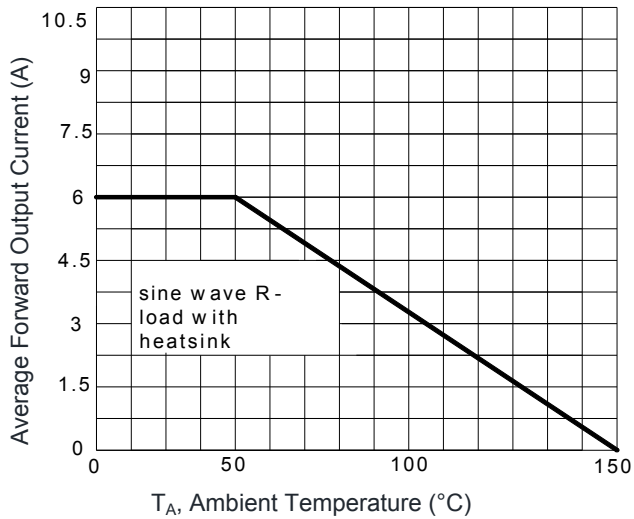


Figure 1. I_O - T_A Curve

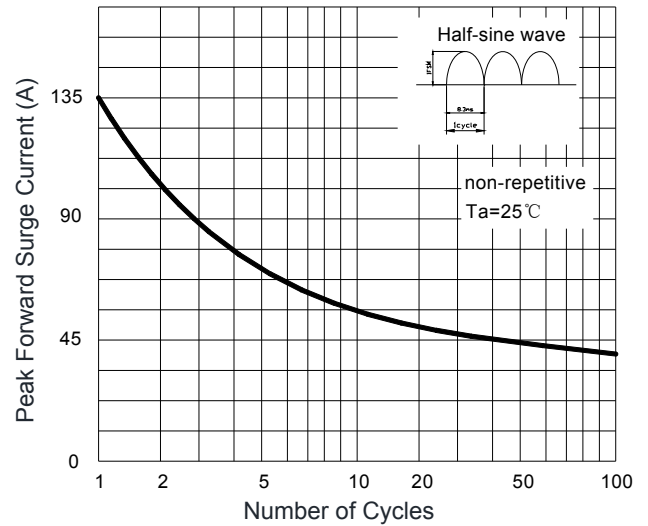


Figure 2. Surge Forward Current Capability

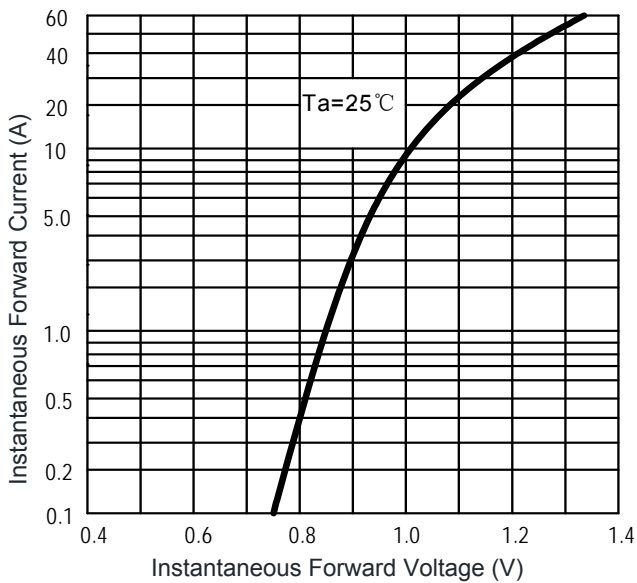


Figure 3. Instantaneous Forward Voltage

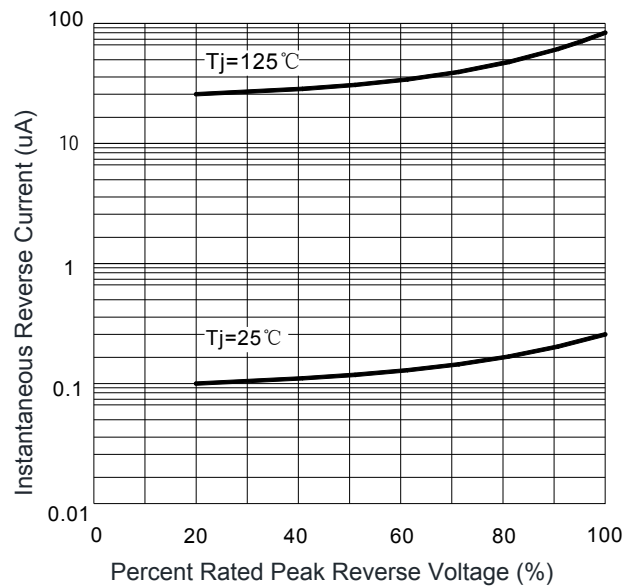
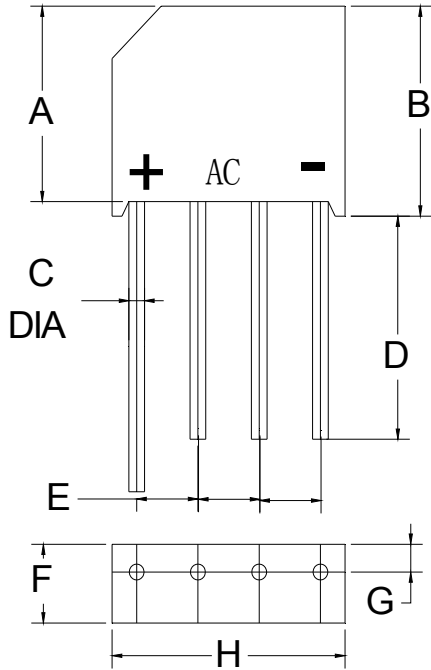


Figure 4. Typical Reverse Characteristics

Package Outline Dimensions (KBL)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	13.7	15.7	0.539	0.618
B	15.2	16.3	0.598	0.642
C	1.2	1.3	0.047	0.051
D	16.0	-	0.630	-
E	4.6	5.6	0.181	0.220
F	5.5	6.5	0.217	0.256
G	1.8	2.4	0.071	0.094
H	18.5	19.5	0.728	0.768