

KBJL2008L

Low Vf Bridge Rectifiers



Voltage: 800 Volts

Current: 20 A

Package: KBJL

Features

- > NH'S Low Vf Rectifier Chip Technology
- > Low Forward Voltage Drop For High Efficiency
- > Low Leakage Current For High Reliability
- > High Surge Capability For High Reliability

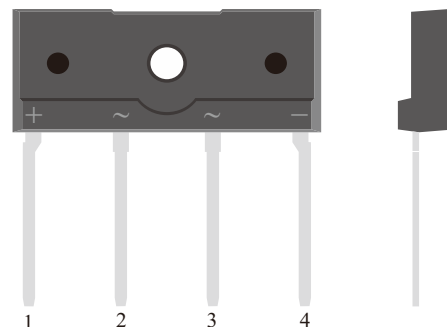
Mechanical Data

- > **Case:** Molded With UL-94 ClassV-0 Recognized, RoHS-Compliant
- > **Polarity:** Look At The Diagram And Polarity On The Right
- > **Terminals:** Tin Plated Leads,Solderable Per J-STD-002 And JESD22-B102

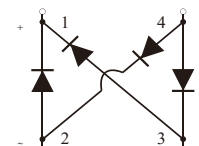
Typical Applications

- > Switch Mode Power Supplies (SMPS)
- > Fast Chargers
- > LED Driver And Monitor Lighting
- > Automotive Electronics And Charging Posts

Diagram:



Polarity:



Single Phase,Half Wave,60Hz,Resistive Or Inductive Load.For Capacitive Load,Derate Current By 20%

Maximum Ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	800	V
Maximum RMS Votag		V_{RMS}	560	V
Maximum DC Blocking Voltage		V_{DC}	800	V
Maximum Average Forward Rectified Current(Note2)	With Heatsink 100 °C Without Heatsink 100 °C	$I_{F(AV)}$	20 3.8	A
Peak Forward Surge Current Per Diode	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	280	A
Current Squared Time Per Diode	$t < 8.3ms$	I^2t	325.4	A ² sec
Maximum Mounting Torque	M3 screw	T_{MM}	1.1	N.m

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings			Unit
			Min.	Typ.	Max.	
Instaneous Forward Voltage Per Diode	$I_F = 10.0 A$	V_F	--	0.9	1.0	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25°C , $V_R = V_{RRM}$ Ta=90°C , $V_R = V_{RRM} * 80\%$	I_{RRM}	--	1 25	5 200	uA uA
Typical Junction Capacitance Per Diode	4 V,1MHz	C_J	--	90	--	pF

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Operating Junction Temperature Range		T_J	-55 to 150	°C
Storage Temperature Range		T_{STD}	-55 to 150	
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25°C	$R_{\theta JA}$	20.0	°C/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 75mm x 45mm x 2.5mm Alu. Heat.	$R_{\theta JC}$	1.6	

Notes: 1.Pulse Test: 300 Us Pulse Width,1% Duty Cycle

2.Device mounted on 250mm x 250mm x 2.0mm Aluminum Plate Heatsink.

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Typical Characteristics Curves

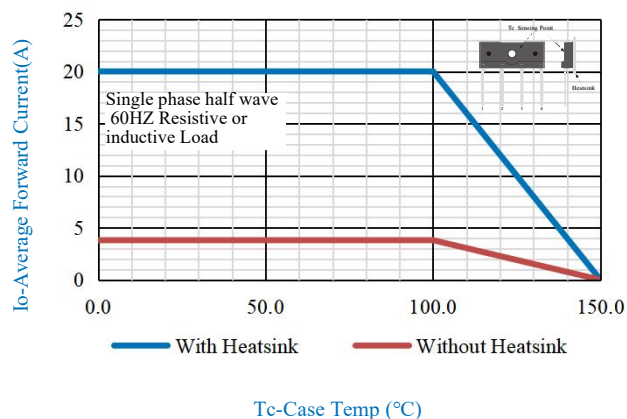


Fig.1-Forward Current Derating Curve

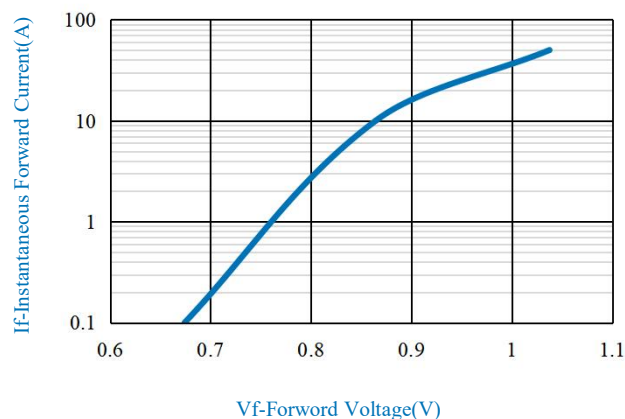


Fig.2-Typical Instantaneous Forward

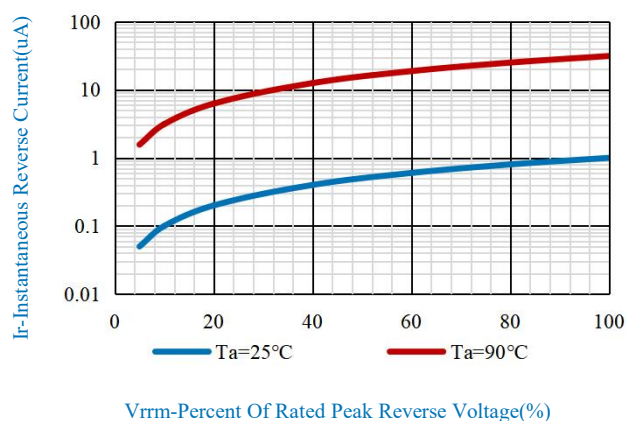


Fig.3-Typical Reverse Characteristics

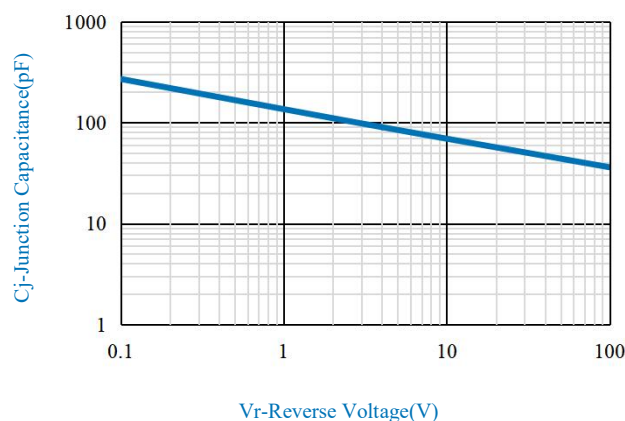


Fig.4-Typical Junction Capacitance

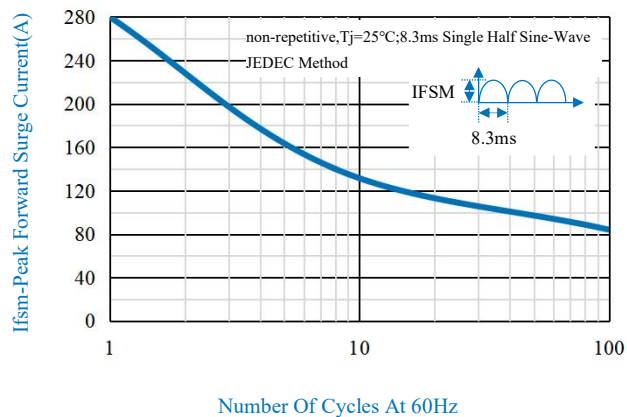


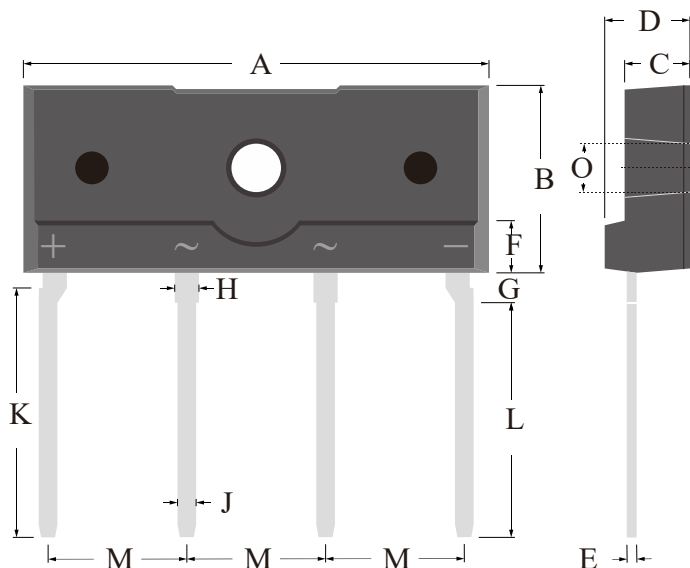
Fig.5-Max. Non-Repetitive Surge Current

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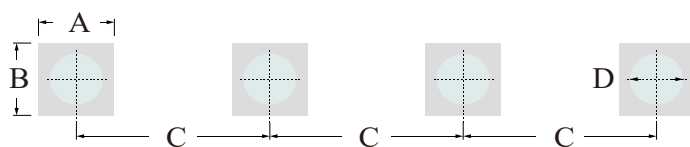
OUTLINE DRAWINGS



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OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	24.00	-	26.00	0.9449	-	1.0236
B	9.80	-	10.80	0.3858	-	0.4252
C	3.25	-	3.75	0.1280	-	0.1476
D	4.35	-	4.85	0.1713	-	0.1909
E	0.33	-	0.73	0.0130	-	0.0287
F	2.65	-	3.05	0.1043	-	0.1201
G	1.45	-	1.85	0.0571	-	0.0728
H	1.10	-	1.50	0.0433	-	0.0591
J	0.80	-	1.20	0.0315	-	0.0472
K	13.20	-	14.20	0.5197	-	0.5591
L	12.40	-	13.40	0.4882	-	0.5276
M	7.15	-	7.75	0.2815	-	0.3051
O	3.00	-	3.50	0.1181	-	0.1378

RECOMMEDND LAYOUT DRAWINGS



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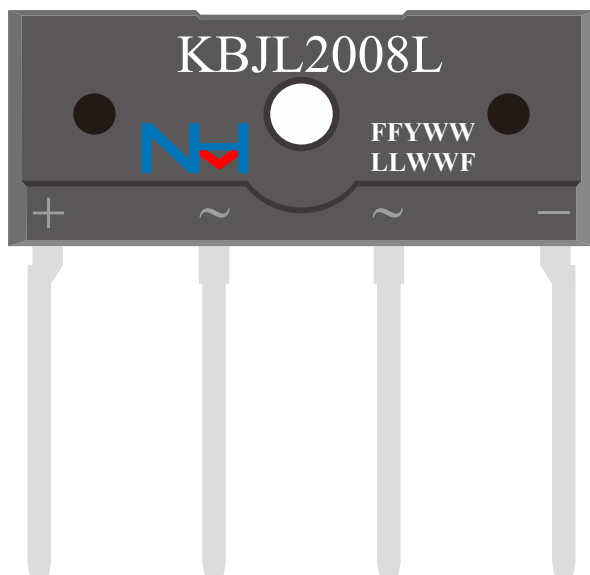
OUTLINE DIMENSIONS						
Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	2.00	-	-	0.0787	-
B	-	2.00	-	-	0.0787	-
C	-	7.50	-	-	0.2953	-
D	-	1.30	-	-	0.0512	-

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MARKING



MARKING INSTRUCTION

NH=Niuhan Trademark
FF=Product Line Code,According To Actual Changes
YWW=Date Code,According To Actual Changes
LLWWF=Inernal Code,According To Actual Changes
KBJL2008L=Model
+ ~ ~ -=Polarity Mark

PACKING INFORMATION

Package Type	Package Code	Product Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
KBJL	P1	2.568	Box	250	250	2500
KBJL	P2	2.568	Tube	20	1000	2000

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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow

	Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
	Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
	Preheat-Temperature Min (TS min) -Temperature Max (TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
	Time maintained above: -Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
	Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
	Time within 5°C of actual peak temperature (tp)	10-30 seconds	20-40 seconds
	Ramp down rate	6°C/second max.	6°C/second max.
	Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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Specification Revision History

Rev.	Date	Changed Items	Pre-Changed Content	Changed Content
A/1	2014-10-20	First Issue		
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