GBJ1006G THRU GBJ1010G

General Bridge Rectifiers

Pb-Free RoHS COMPLIANT

Voltage:	600~1000 Volts	Current:	10.0 Ampers	Package:	GBJ

Features

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

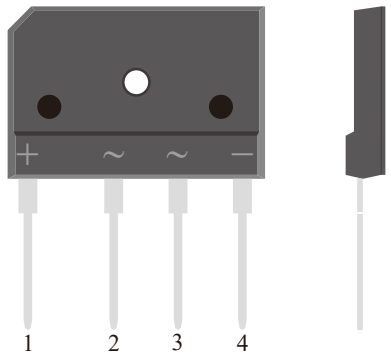
Mechanical Data

- **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

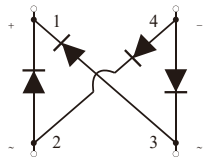
Typical Applications

- 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℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	GBJ 1006G	GBJ 1008G	GBJ 1010G	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	600	800	1000	V
Maximum RMS Voltag		V_{RMS}	420	560	700	V
Maximum DC Blocking Voltage		V_{DC}	600	800	1000	V
Maximum Average Forward Rectified Current	With Heatsink 100 ℃ Without Heatsink 25 ℃	$I_{F(AV)}$	10 3.2			A
Peak Forward Surge Current Per Diode	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	220			A
Current Squared Time Per Diode	t< 8.3ms	I^2t	200.9			A^2sec
Maximum Mounting Torque	M3 srew	T_{MM}	1.1			N.m

Electrical Characteristcs (Ta=25℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	GBJ 1006G	GBJ 1008G	GBJ 1010G	Unit
Instaneous Forward Voltage Per Diode	I_F= 5.0 A	V_F	1.0			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25℃ ,V_R=VRRM Ta=125℃ ,V_R=VRRM*80%	I_{RRM}	5 500			uA uA
Typical Junction Capacitance Per Diode	4 V,1MHz	C_J	70			pF

Thermal Characteristcs (Ta=25℃ Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	GBJ 1006G	GBJ 1008G	GBJ 1010G	Unit
Operating Junction Temperature Range		T_J	-55~150			℃
Storage Temperature Range		T_{STD}	-55~150			
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25℃	$R_{\theta JA}$	20.0			℃/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 75mm x 45mm x 2.5mm Alu. Heat.	$R_{\theta JC}$	1.2			

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

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Typical Characteristics Curves

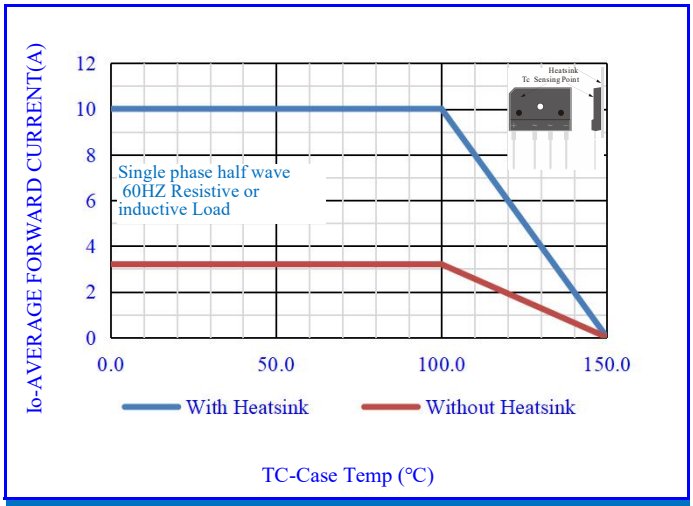

Fig.1-FORWARD CURRENT DERATING CURVE

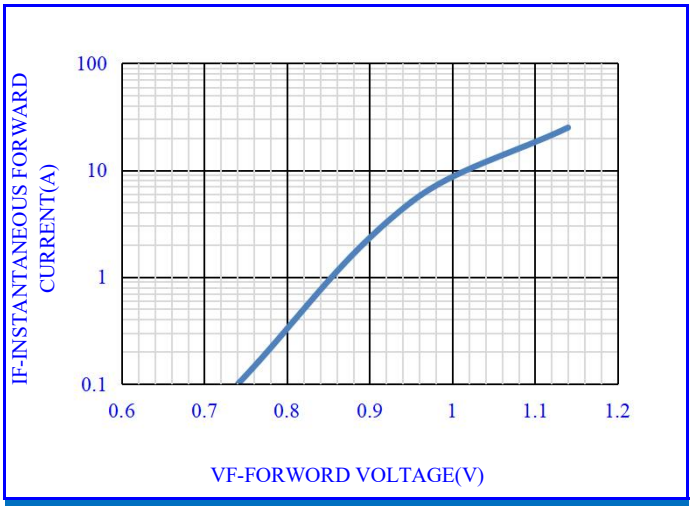

Fig.2- TYPICAL INSTANTANEOUS FORWARD

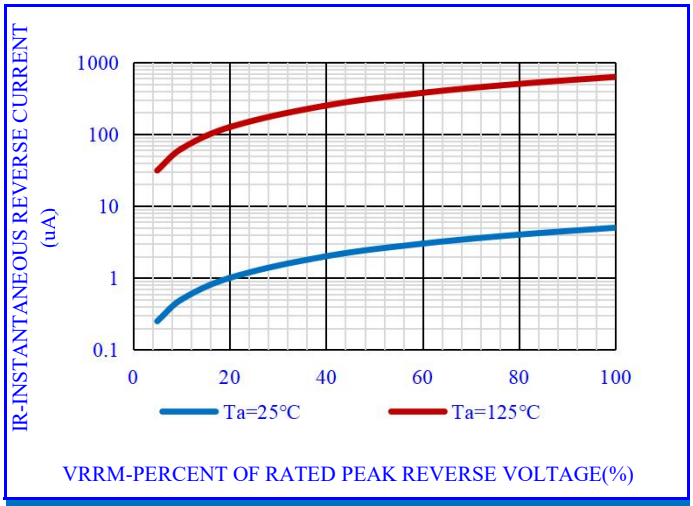

Fig.3- TYPICAL REVERSE CHARACTERISTICS

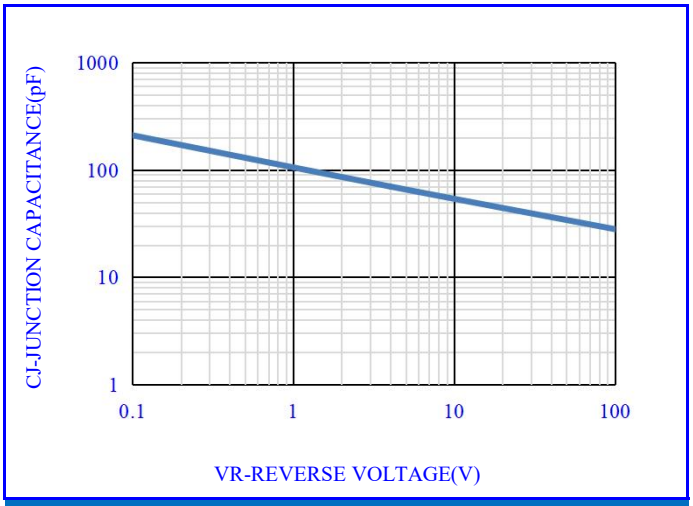

Fig.4- TYPICAL JUNCTION CAPACITANCE

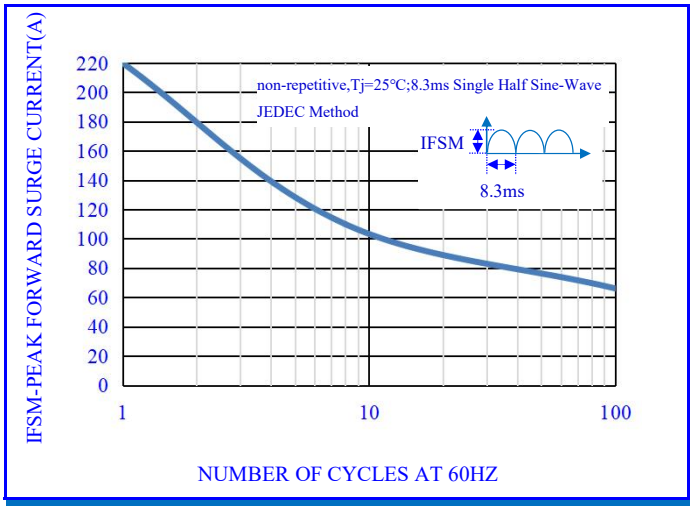

Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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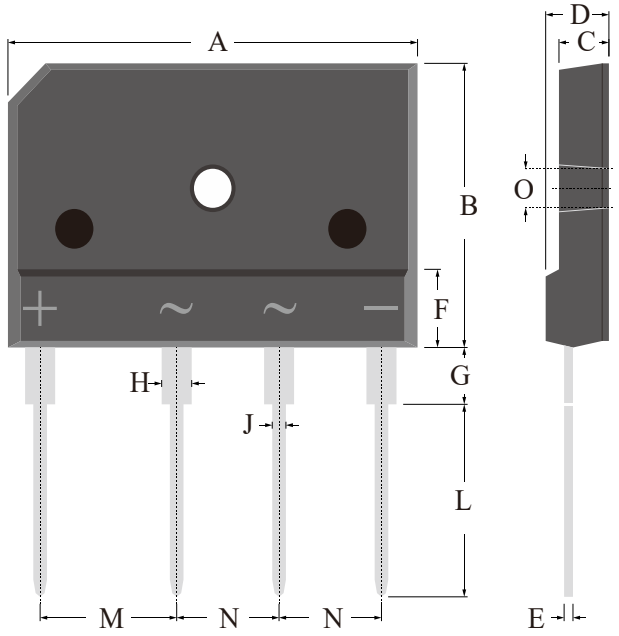
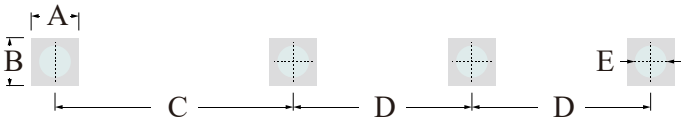
OUTLINE DRAWINGS



GBJ

OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	29.00	-	31.00	1.1417	-	1.2205
B	19.00	-	21.00	0.7480	-	0.8268
C	3.45	-	3.95	0.1358	-	0.1555
D	4.35	-	4.85	0.1713	-	0.1909
E	0.50	-	0.90	0.0197	-	0.0354
F	5.20	-	5.80	0.2047	-	0.2283
G	3.75	-	4.25	0.1476	-	0.1673
H	2.00	-	2.40	0.0787	-	0.0945
J	0.80	-	1.20	0.0315	-	0.0472
L	13.00	-	15.00	0.5118	-	0.5906
M	9.50	-	10.50	0.3740	-	0.4134
N	7.20	-	7.80	0.2835	-	0.3071
O	3.00	-	3.40	0.1181	-	0.1339

RECOMMEDNED LAYOUT DRAWINGS



GBJ

OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	2.00	-	-	0.0787	-
B	-	2.00	-	-	0.0787	-
C	-	10.00	-	-	0.3937	-
D	-	4.60	-	-	0.1811	-
E	-	1.20	-	-	0.0472	-

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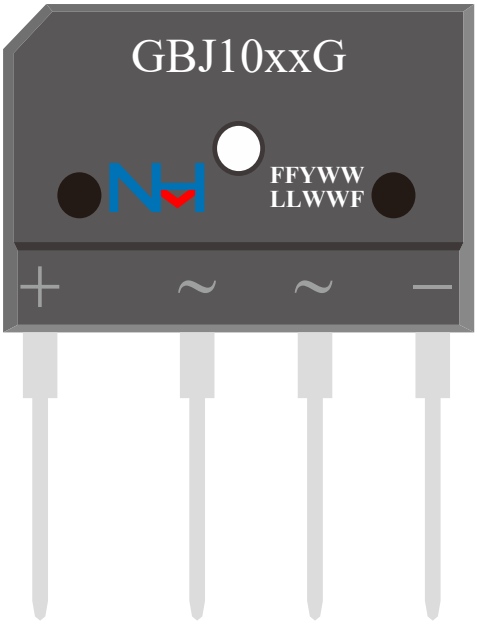
MARKING	MARKING INSTRUCTION
	**NH=Niuhang Trademark** **FF=Product Line Code,According To Actual Changes** **YWW=Date Code,According To Actual Changes** **LLWWF=Inernal Code,According To Actual Changes** **GBJ10xxG=Model,xx=06,08,10**

PACKING INFORMATION

Package Type	Package Code	Productor Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
GBJ	P1	6.873	Box	250	250	2500
GBJ	P2	6.873	Tube	15	750	1500

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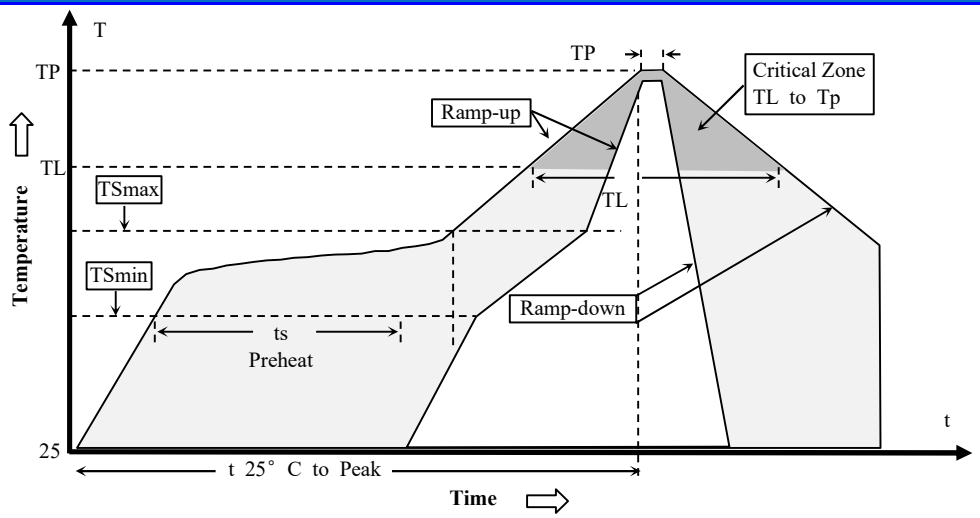
Recommended wave soldering condition

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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