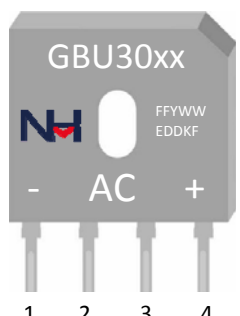
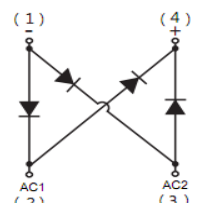


**GBU3006 THRU GBU3010**

**BRIDGE RECTIFIERS**



<b>VOLTAGE</b>	600~1000 Volts	<b>CURRENT</b>	30.0 Amperes	<b>GBU</b>	<b>Marking &amp; Schematic diagram</b>										
<b>FEATURES</b>				 <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>PIN</th> <th>DISCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output Cathode(-)</td> </tr> <tr> <td>2</td> <td>Input Pin(AC1)</td> </tr> <tr> <td>3</td> <td>Input Pin(AC2)</td> </tr> <tr> <td>4</td> <td>Output Anode(+)</td> </tr> </tbody> </table> 		PIN	DISCRIPTION	1	Output Cathode(-)	2	Input Pin(AC1)	3	Input Pin(AC2)	4	Output Anode(+)
PIN	DISCRIPTION														
1	Output Cathode(-)														
2	Input Pin(AC1)														
3	Input Pin(AC2)														
4	Output Anode(+)														
<b>MECHANICAL DATA</b>															
<ul style="list-style-type: none"> <li>• Glass passivated die construction</li> <li>• low forward voltage drop</li> <li>• High current capability</li> <li>• High surge current capability</li> <li>• Plastic material-UL flammability 94V-0</li> </ul>				<p><b>Remark:</b></p> <p>①. NH=niuhang trademark</p> <p>②. FF=Product line code,According to actual changes YWW=Data code,According to actual changes EDDKF=Inernal code,According to actual changes</p> <p>③. GBU30xx=Modle,xx=06,08,10</p> <p>④. "- AC +"=Polarity mark</p>											
<b>TYPICAL APPLICATIONS</b>															
<ul style="list-style-type: none"> <li>• For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications</li> </ul>															
<p>Single phase,half wave,60Hz,resistive or inductive load.For capacitive load,derate current by 20%</p>															

**Maximum Ratings** (Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	GBU3006	GBU3008	GBU3010	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 @ TC=100°C (see fig.1)	$I_{F(AV)}$	with heatsink without heatsink		30 4.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	$I_{FSM}$			350	A
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$			508.38	A <sup>2</sup> sec

**Electrical Characterstcs** (Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	GBU3006	GBU3008	GBU3010	Unit
Maximum Forward Voltage Per Diode @15.0A (Note 1)	$V_{FM}$			1.0	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	$I_{RRM}$	TC=25°C TC=125°C		5 300	uA
Typical Junction Capacitance Per Diode (Note 3)	$C_J$			115	pF

**Thermal Characteristcs** (Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	GBU3006	GBU3008	GBU3010	Unit
Operating Junction Temperature Range	$T_J$			-55 to +150	°C
Storage Temperature Range	$T_{STD}$			-55 to +150	
Typical thermal resistance (Note 4)	$R_{\theta JA}$ $R_{\theta JC}$			25.0 0.8	°C/W

- Notes: 1. Pulse test: 300 μs pulse width,1% duty cycle  
 2. Pulse test: pulse width ≤40ms  
 3. Measured at 1 MHZ and applied reverse voltage of 4.0 VDC.  
 4. Device mounted on Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

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RATING AND CHARACTERISTIC CURVES

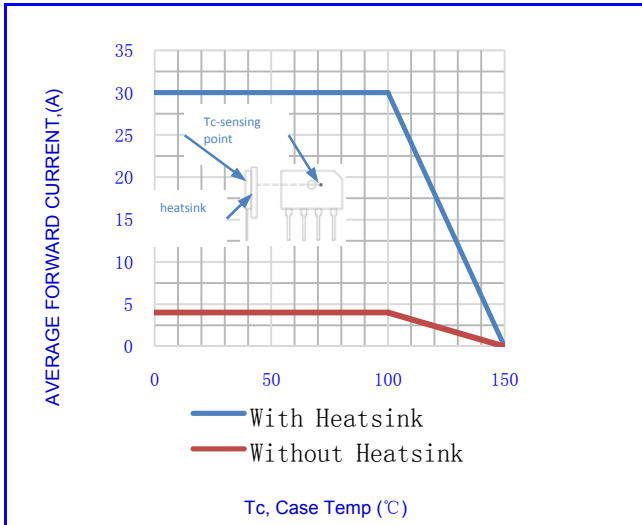


Fig.1-FORWARD CURRENT DERATING CURVE

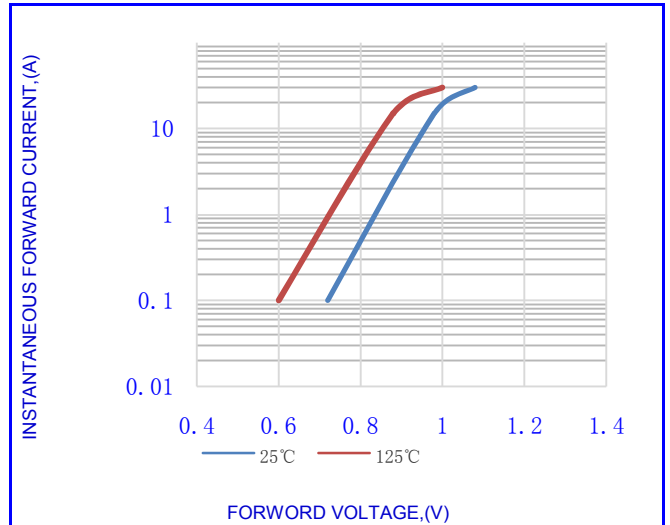


Fig.2- TYPICAL INSTANTANEOUS FORWARD

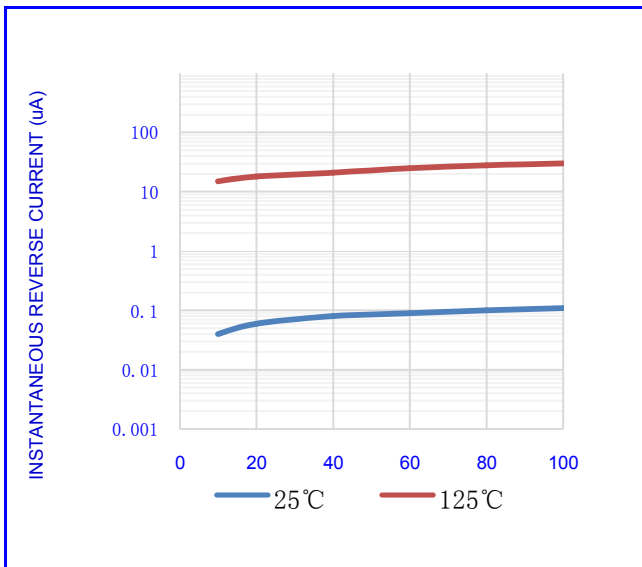


Fig.3- TYPICAL REVERSE CHARACTERISTICS

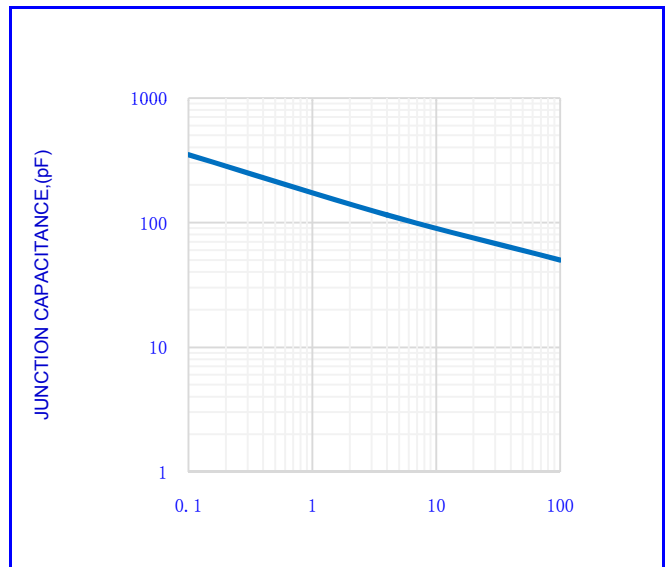


Fig.4- TYPICAL JUNCTION CAPACITANCE

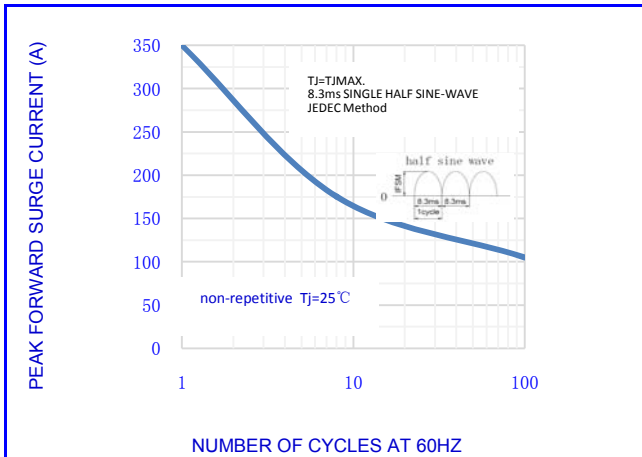


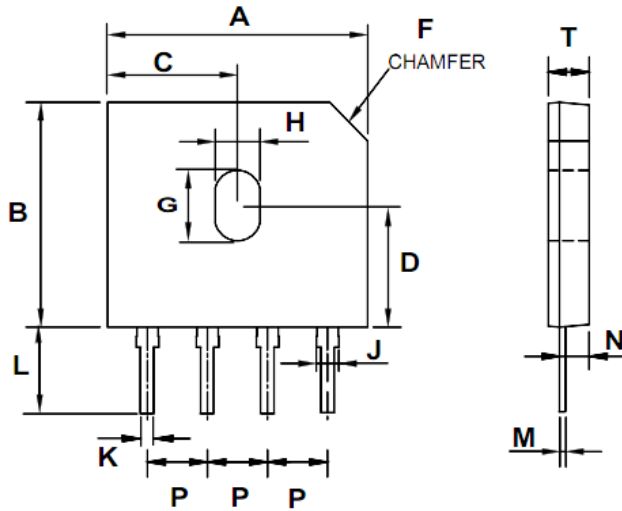
Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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**OUTLINE DRAWINGS**



DIM	OUTLINE DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	21.8	-	22.2	0.86	-	0.874
B	18.3	-	19.1	0.72	-	0.752
C	10.9	-	11.1	0.43	-	0.437
D	9.8	-	10.2	0.392	-	0.401
F	-	3.2°/45°	-	-	0.126°/45°	-
G	5.7	-	5.9	0.224	-	0.232
H	3.7	-	3.9	0.146	-	0.154
J	2.05	-	2.35	0.081	-	0.093
K	0.9	-	1.2	0.035	-	0.047
L	12.5	13	13.5	0.492	0.512	0.531
M	0.46	-	0.56	0.018	-	0.022
N	2.3	-	2.7	0.091	-	0.106
P	4.8	-	5.3	0.19	-	0.21
T	3.37	-	3.53	0.133	-	0.139

**GBU**

**Packing Information**

Package	Pack	Quantity (pcs/box)	Box Size L×W×H (mm)	Carton Size L×W×H (mm)	Quantity (box/carton)
GBU	B/P	250	230×45×120	380×240×190	12

**GBU3006 THRU GBU3010**

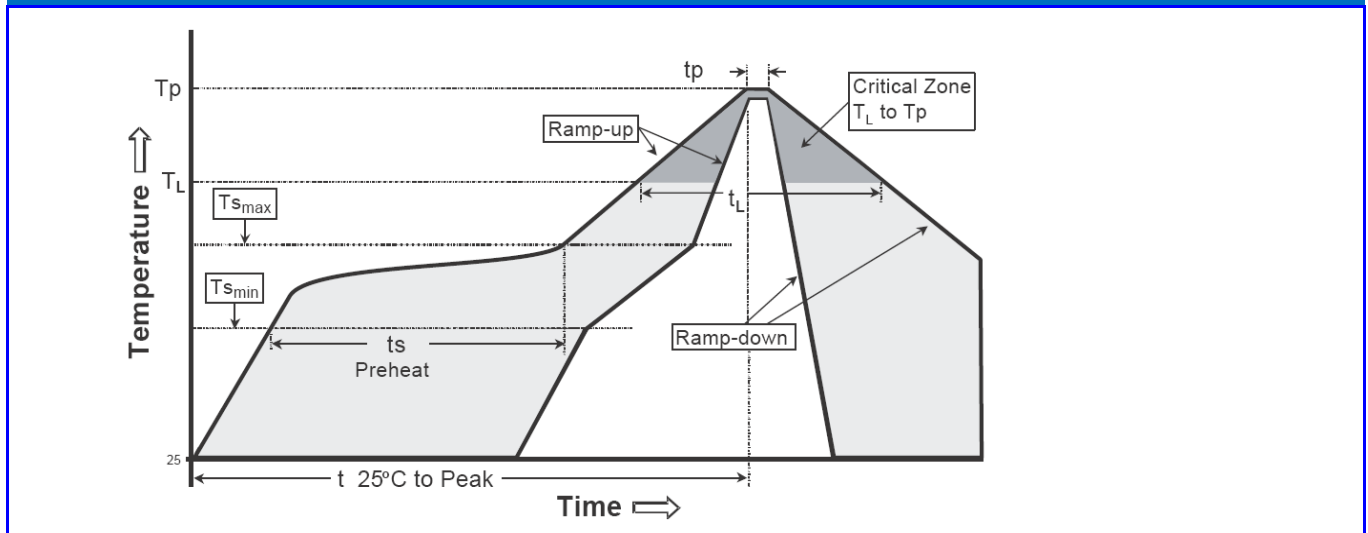
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**Recommended wave soldering condition**

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 (Tsmmax 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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