

GBU606 THRU GBU610

BRIDGE RECTIFIERS



VOLTAGE	600~1000 Volts	CURRENT	6.0 Amperes	GBU	Marking & Schematic diag										
FEATURES				<table border="1"> <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(+)
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1	Output Cathode(-)														
2	Input Pin(AC1)														
3	Input Pin(AC2)														
4	Output Anode(+)														
<ul style="list-style-type: none"> ■ Glass passivated die construction ■ low forward voltage drop ■ High current capability ■ High surge current capability ■ Plastic material-UL flammability 94V-0 															
MECHANICAL DATA				<p>Remark:</p> <ul style="list-style-type: none"> ①. NH=niuhang trademark ②. FF=Product line code,According to actual changes YWW=Data code,According to actual changes EDDKF=Inernal code,According to actual changes ③. GBU6xx=Modle,xx=06,08,10 ④. "- AC +"=Polarity mark 											
<ul style="list-style-type: none"> ■ Case: GBU , olded lastic ■ Terminals: Plated Leads Solderable per MIL-STD-202, Method 208 ■ Polarity: As Marked on Case ■ Mounting Position: Any ■ Lead Free: For RoHS / Lead Free Version 															
TYPICAL APPLICATIONS															
<ul style="list-style-type: none"> ■ For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications 															

Single phase,half wave,60Hz,resistive or inductive load.For capacitive load,derate current by 20%

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

Parameter	Symbol	GBU606	GBU608	GBU610	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		6 2.8	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}			150	A
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$			93.38	A ² sec

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

Parameter	Symbol	GBU606	GBU608	GBU610	Unit
Maximum Forward Voltage Per Diode @3.0A (Note 1)	V_{FM}			1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	I_{RRM}	T _c =25°C T _c =125°C		5 500	uA
Typical Junction Capacitance Per Diode (Note 3)	C_J			65	pF

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

Parameter	Symbol	GBU606	GBU608	GBU610	Unit
Operating Junction Temperature Range	T_J			-55 to +150	°C
Storage Temperature Range	T_{STD}			-55 to +150	
Typical thermal resistance (Note 4)	$R_{\theta JA}$ $R_{\theta JC}$			23.0 1.8	°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 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

GBU606 THRU GBU610

BRIDGE RECTIFIERS



RATING AND CHARACTERISTIC CURVES

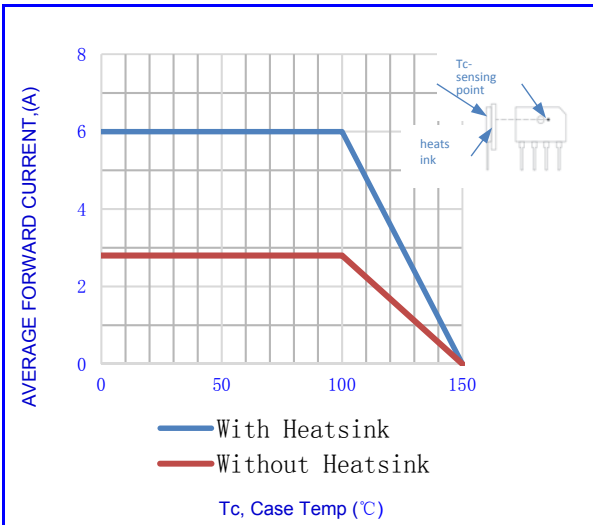


Fig.1-FORWARD CURRENT DERATING CURVE

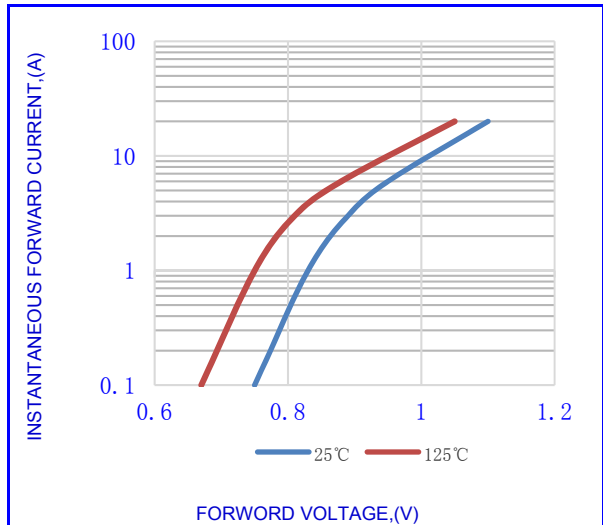


Fig.2- TYPICAL INSTANTANEOUS FORWARD

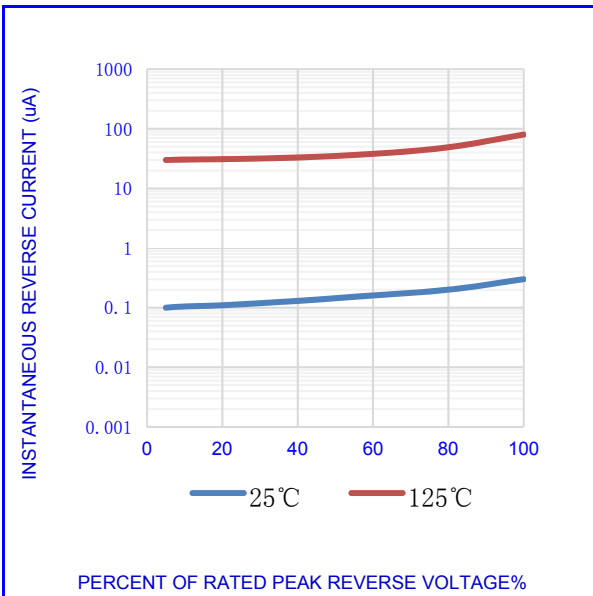


Fig.3- TYPICAL REVERSE CHARACTERISTICS

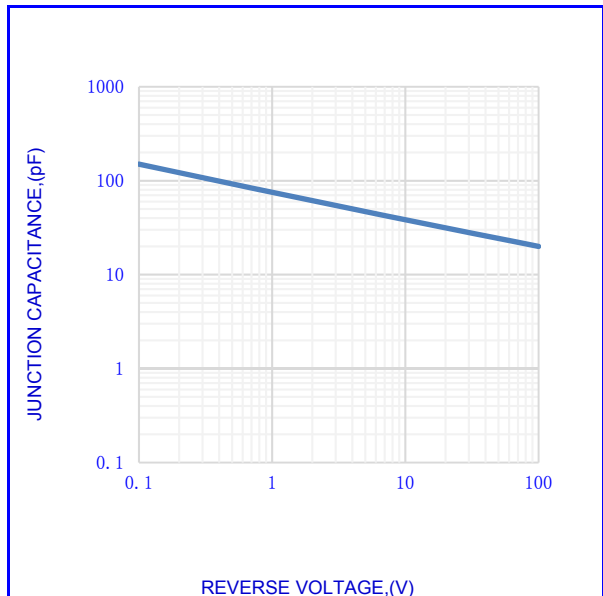


Fig.4- TYPICAL JUNCTION CAPACITANCE

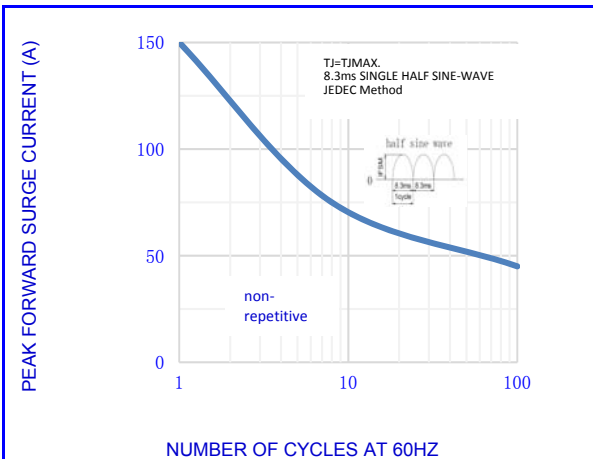


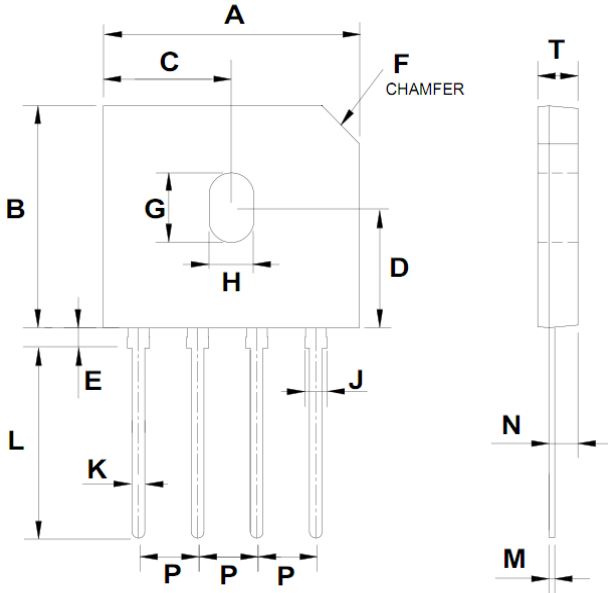
Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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OUTLINE DRAWINGS

GBU



DIM	OUTLINE DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	21.50	-	23.50	0.85	-	0.93
B	18.30	-	19.10	0.72	-	0.75
C	10.90	-	11.10	0.43	-	0.44
D	9.80	-	10.20	0.39	-	0.40
E	1.70	-	2.40	0.07	-	0.09
F	-	3.2°45°	-	-	3.2°45°	-
G	5.50	-	5.90	0.22	-	0.23
H	3.50	-	3.90	0.14	-	0.15
J	2.00	-	2.40	0.08	-	0.09
K	0.90	-	1.20	0.04	-	0.05
L	17.27	-	18.29	0.68	-	0.72
M	0.40	-	0.60	0.02	-	0.02
N	2.30	-	2.70	0.09	-	0.11
P	4.80	-	5.30	0.19	-	0.21
T	3.30	-	3.60	0.13	-	0.14

Packing Information

Package	Pack	Quantity (pcs/box)	Box Size L×W×H (mm)	Carton Size L×W×H (mm)	Quantity (pcs/carton)
GBU	B/P	250	230×110×30	490×240×180	5000

GBU606 THRU GBU610

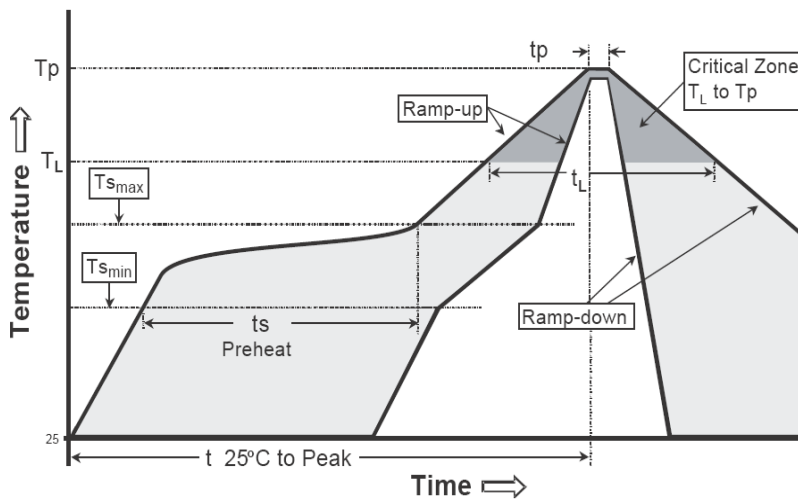
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Recommended wave soldering condition

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.

GBU606 THRU GBU610

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