GBU3506 THRU GBU3510

BRIDGE RECTIFIERS

VOLTAGE	600~1000 Volts	CURRENT	35.0 Ampers

FEATURES

- Glass passivated die construction
- low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0

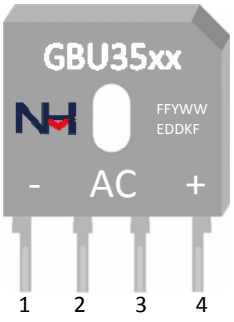
MECHANICAL DATA

- 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

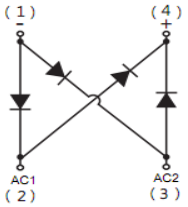
TYPICAL APPLICATIONS

- For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications

GBU — Marking & Schematic diagram



PIN	DISCRIPTION
1	Output Cathode(-)
2	Input Pin(AC1)
3	Input Pin(AC2)
4	Output Anode(+)



Remark:

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. GBU35xx=Modle,xx=06,08,10

④. "- AC +"=Polarity mark

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

Maximum Ratings (Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter		Symbol	GBU3506	GBU3508	GBU3510	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)	with heatsink without heatsink	$I_{F(AV)}$	35 4.2			A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)		I_{FSM}	450			A
Current Squared Time Per Diode(t<8.3ms)		I^2t	840.38			A^2sec

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

Parameter		Symbol	GBU3506	GBU3508	GBU3510	Unit
Maximum Forward Voltage Per Diode @17.5A (Note 1)		V_{FM}	1.05			V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	T_C=25℃ T_C=125℃	I_{RRM}	5 300			uA
Typical Junction Capacitance Per Diode (Note 3)		C_J	150			pF

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

Parameter	Symbol	GBU3506	GBU3508	GBU3510	Unit
Operating Junction Temperature Range	T_J	-55 to +150			℃
Storage Temperature Range	T_{STD}	-55 to +150			℃
Typical thermal resistance (Note 4)	$R_{\theta JA}$ $R_{\theta JC}$	22.0 0.5			℃/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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Pb-Free RoHS COMPLIANT

RATING AND CHARACTERISTIC CURVES

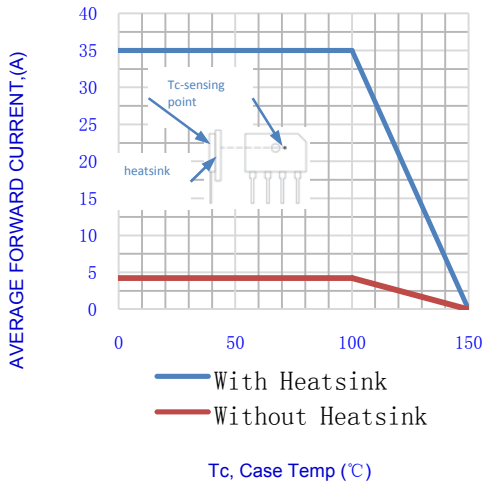

Fig.1-FORWARD CURRENT DERATING CURVE

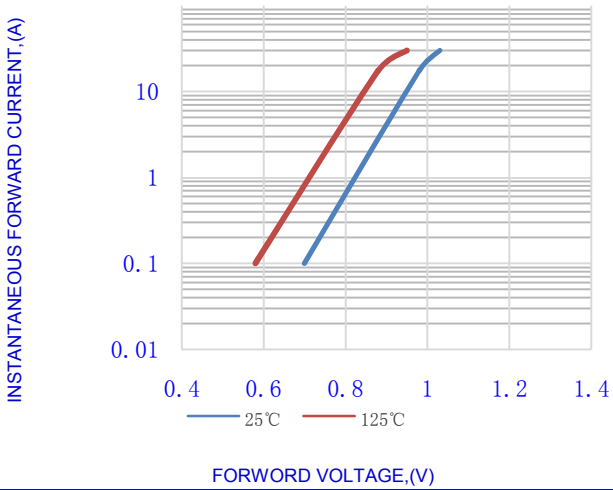

Fig.2- TYPICAL INSTANTANEOUS FORWARD

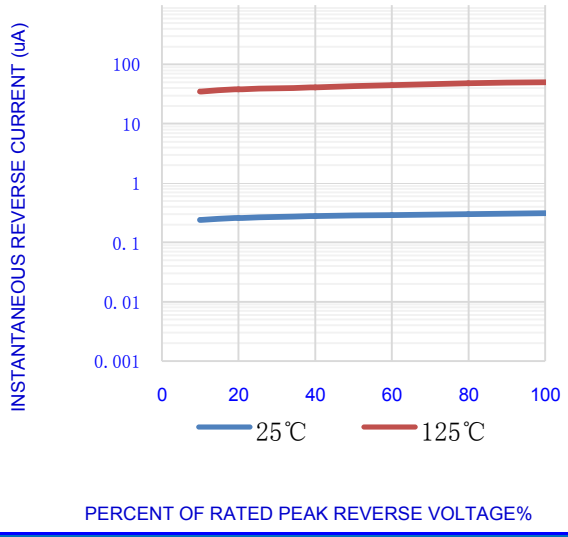

Fig.3- TYPICAL REVERSE CHARACTERISTICS

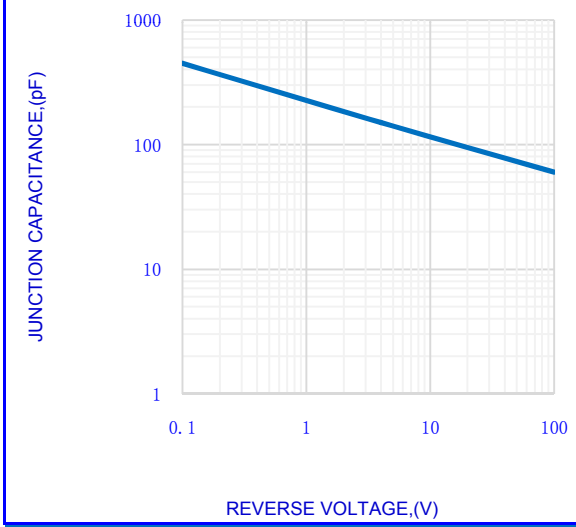

Fig.4- TYPICAL JUNCTION CAPACITANCE

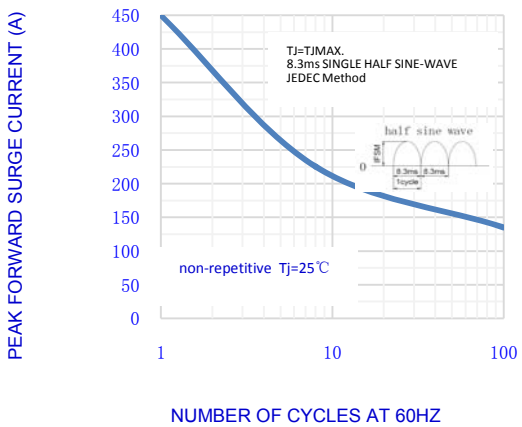

Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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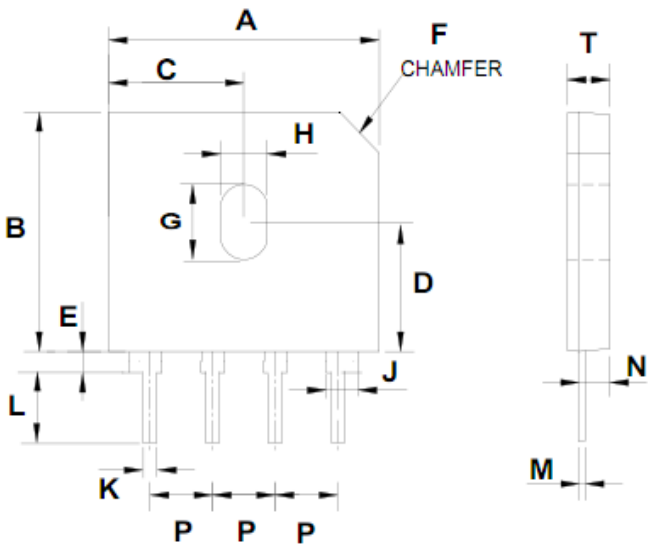
OUTLINE DRAWINGS



OUTLINE DIMENSIONS						
DIM	MILLIME TERS			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
E	1.5	-	2.3	0.077	-	0.091
F	-	3.2*45°	-	-	0.126*45°	-
G	5.4	-	5.9	0.224	-	0.232
H	3.4	-	4.1	0.146	-	0.154
J	2.15	-	2.55	0.081	-	0.093
K	0.9	-	1.2	0.035	-	0.047
L	2.8	3.0	3.2	0.118	0.1378	0.157
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

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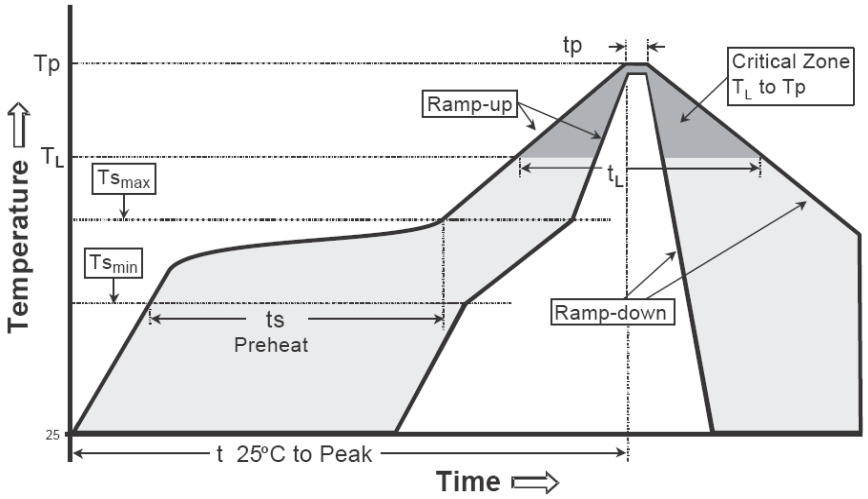
Recommended wave soldering condition

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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