

RGBU1506 THRU RGBU1510
FAST RECOVERY BRIDGE RECTIFIERS



VOLTAGE	600~1000 Volts	CURRENT	15.0 Amperes	GBU	Marking & Schematic diagram										
FEATURES				RGBU15xx NH FFYW/W EDDKF - AC + 1 2 3 4 <table><tr><th>PIN</th><th>DISCRIPTION</th></tr><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></table> (1) (2) (3) (4)		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(+)														
MECHANICAL DATA				Remark: ①. NH=niuhang trademark ②. FF=Product line code,According to actual changes YW=W Data code,According to actual changes EDDKF=Internal code,According to actual changes ③. RGBU15xx=Model,xx=06,08,10 ④. "- AC +"=Polarity mark											
TYPICAL APPLICATIONS															
■ 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	RGBU1506	RGBU1508	RGBU1510	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)	$I_{F(AV)}$	15 3.2			A										
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	240			A										
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$	239.04			A²sec										
Electrical Characteristcs (Ratings at 25°C ambient temperature unless otherwise specified)															
Parameter	Symbol	RGBU1506	RGBU1508	RGBU1510	Unit										
Maximum Forward Voltage Per Diode @7.5A (Note 1)	V_{FM}	1.3			V										
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	I_{RRM}	10 500			uA										
Typical Junction Capacitance Per Diode (Note 3)	C_J	65			pF										
Maximum Reverse Recovery Time (Note 4)	T_{RR}	150	250	500	nS										
Thermal Characteristcs (Ratings at 25°C ambient temperature unless otherwise specified)															
Parameter	Symbol	RGBU1506	RGBU1508	RGBU1510	Unit										
Operating Junction Temperature Range	T_J	-55 to +150			°C										
Storage Temperature Range	T_{STD}	-55 to +150													
Typical thermal resistance (Note 5)	$R_{\theta JA}$	23.0			°C/W										
	$R_{\theta JC}$	1.8													
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. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A 5. Device mounted on 75mm x 45mm x 4.5mm Aluminum Plate Heatsink.															

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RATING AND CHARACTERISTIC CURVES

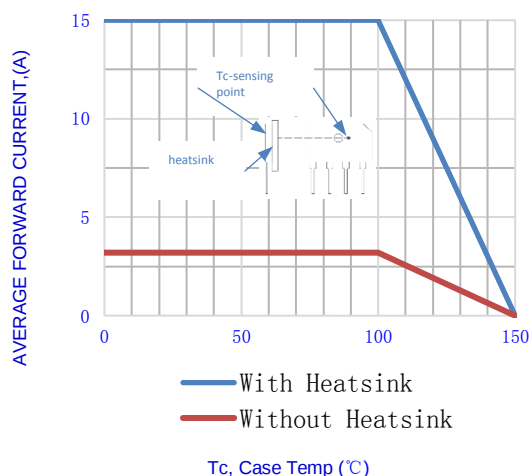


Fig.1-FORWARD CURRENT DERATING CURVE

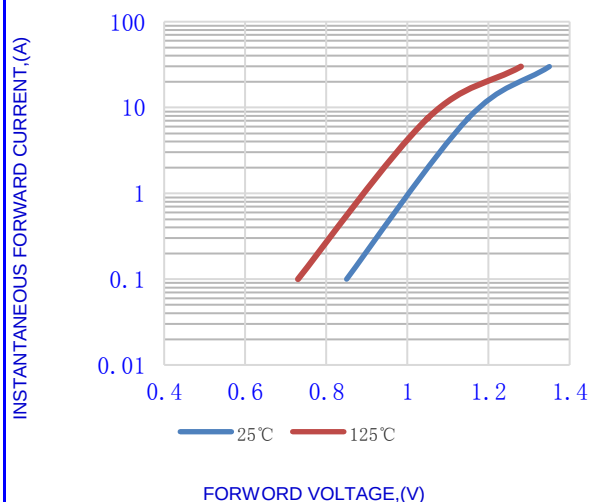


Fig.2- TYPICAL INSTANTANEOUS FORWARD

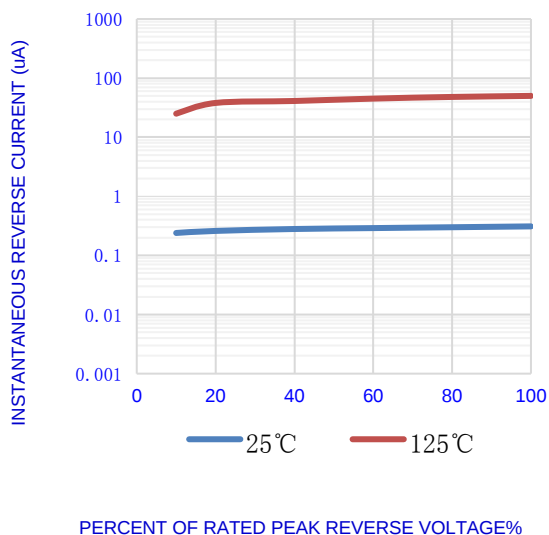


Fig.3- TYPICAL REVERSE CHARACTERISTICS

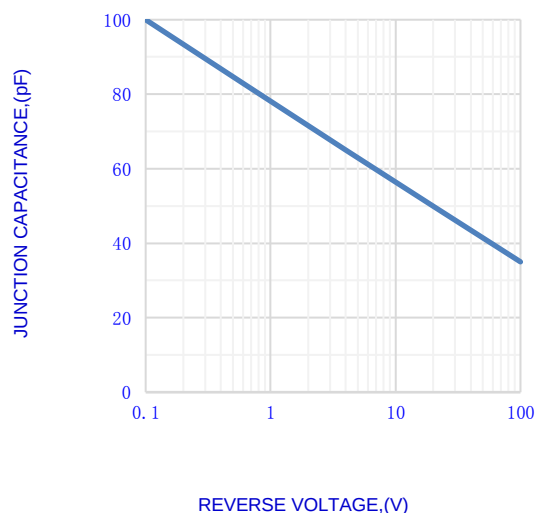


Fig.4- TYPICAL JUNCTION CAPACITANCE

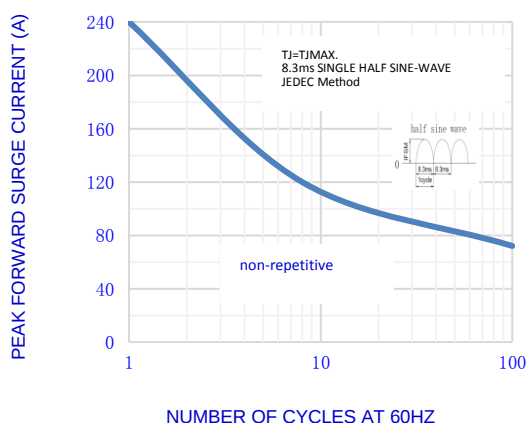


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

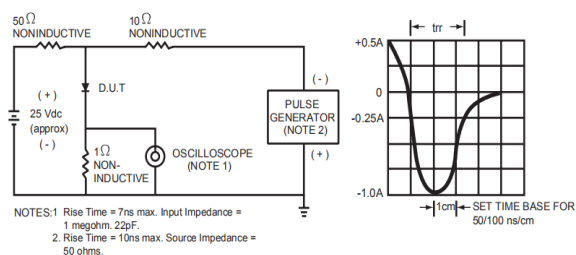


Fig.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

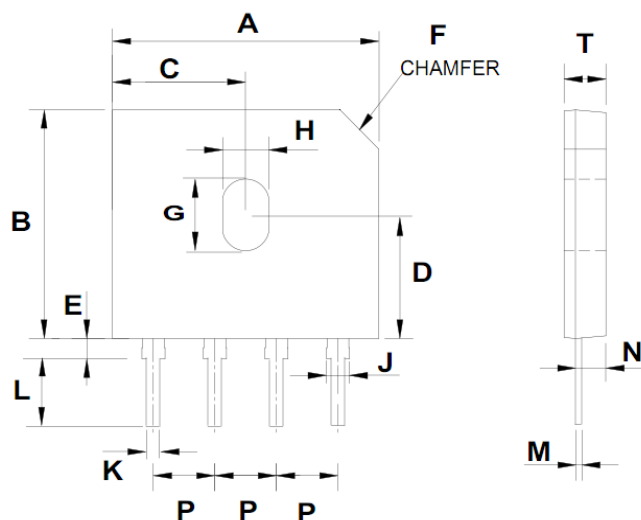
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OUTLINE DRAWINGS

GBU



OUTLINE DIMENSIONS						
DIM	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	5.60	6.00	6.40	0.22	0.24	0.25
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	230×45×120	380×240×190	3000

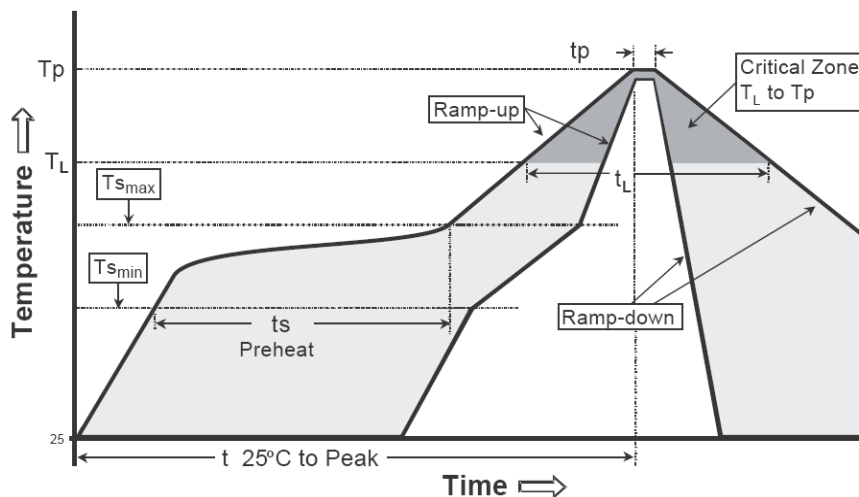
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Recommended wave soldering condition

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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