

GBP406G THRU GBP410G

BRIDGE RECTIFIERS



VOLTAGE	600~1000 Volts	CURRENT	4.0 Amperes	GBP	Marking & Schematic diagram										
FEATURES				<div style="display: flex; align-items: center;"> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>PIN</th> <th>DISCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output Anode(+)</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 Cathode(-)</td> </tr> </tbody> </table> </div> <div style="margin-top: 10px;"> </div>		PIN	DISCRIPTION	1	Output Anode(+)	2	Input Pin(AC1)	3	Input Pin(AC2)	4	Output Cathode(-)
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2	Input Pin(AC1)														
3	Input Pin(AC2)														
4	Output Cathode(-)														
MECHANICAL DATA															
TYPICAL 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	GBP406G	GBP408G	GBP410G	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	4.0			A
	without heatsink	1.3			
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	120			A
Current Squared Time Per Diode (t<8.3ms)	$I^2 t$	59.76			A ² sec

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

Parameter	Symbol	GBP406G	GBP408G	GBP410G	Unit
Maximum Forward Voltage Per Diode (Note 1)	@4.0A	1.1			V
	@2.0A	1.0			
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	T _c =25°C	5			uA
	T _c =125°C	300			
Typical Junction Capacitance Per Diode (Note 3)	C_J	45			pF

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

Parameter	Symbol	GBP406G	GBP408G	GBP410G	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 _{θJA}	34			°C/W
	R _{θJC}	15			

- Notes:
1. Pulse test: 300 μs pulse width, 1% duty cycle
 2. Pulse test: pulse width ≤ 40ms
 3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 4. Device mounted on Device mounted on 75mm x 45mm x 2.5mm Aluminum Plate Heatsink.

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RATING AND CHARACTERISTIC CURVES

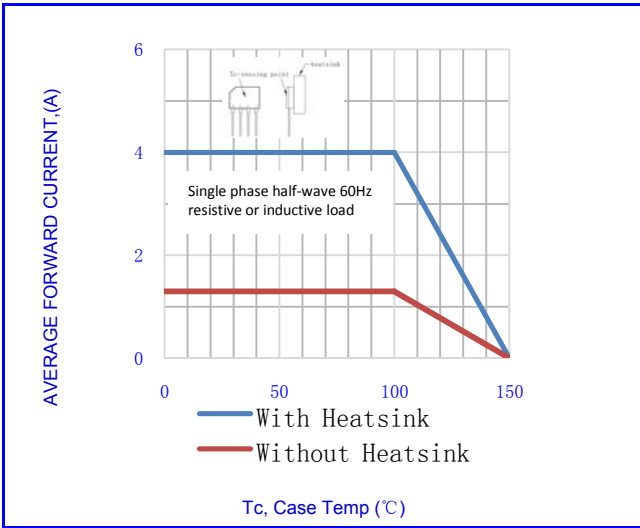


Fig.1-FORWARD CURRENT DERATING CURVE

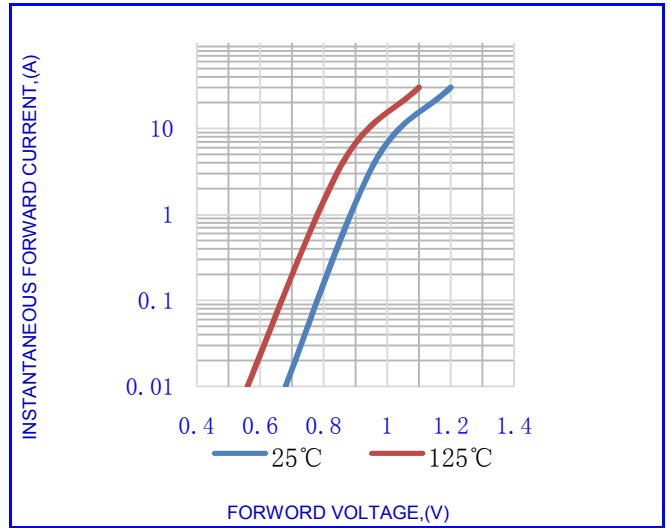


Fig.2- TYPICAL INSTANTANEOUS FORWARD

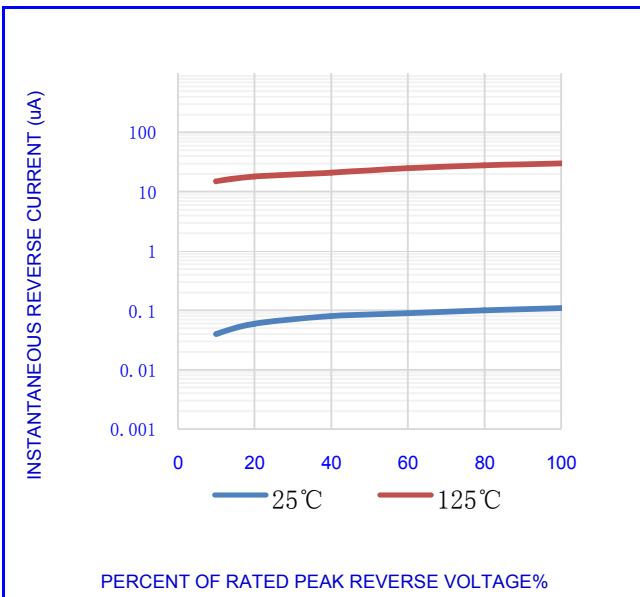


Fig.3- TYPICAL REVERSE CHARACTERISTICS

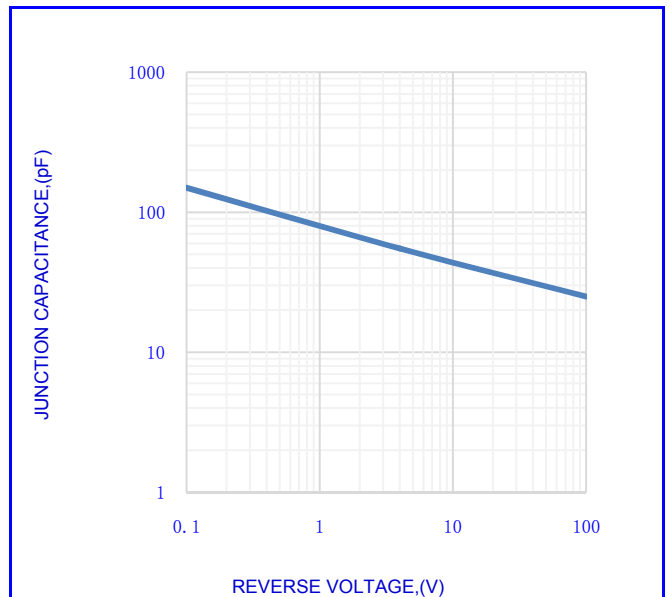


Fig.4- TYPICAL JUNCTION CAPACITANCE

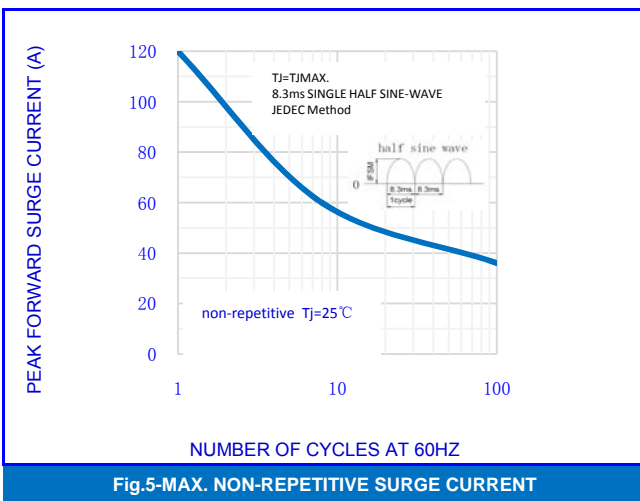


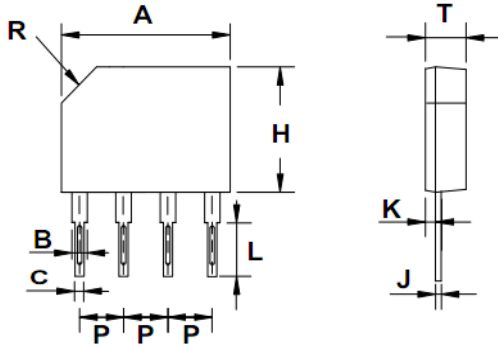
Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

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OUTLINE DRAWINGS



OUTLINE DIMENSIONS						
DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	14.30	-	14.70	0.563	-	0.579
B	1.25	-	1.55	0.049	-	0.061
C	0.65	-	0.95	0.026	-	0.037
H	10.40	-	10.80	0.409	-	0.425
L	3.50	-	4.00	0.138	-	0.157
P	3.60	-	4.00	0.142	-	0.157
T	3.00	-	3.40	0.118	-	0.134
K	0.80	-	1.20	0.031	-	0.047
J	0.30	-	0.50	0.012	-	0.020
R	-	135 °	-	-	135 °	-

GBP

Packing Information

Package	Pack	Quantity (pcs/box)	Box Size L×W×H (mm)	Carton Size L×W×H (mm)	Quantity (box/carton)
GBP	B/P	500	205×155×30	490×240×180	18

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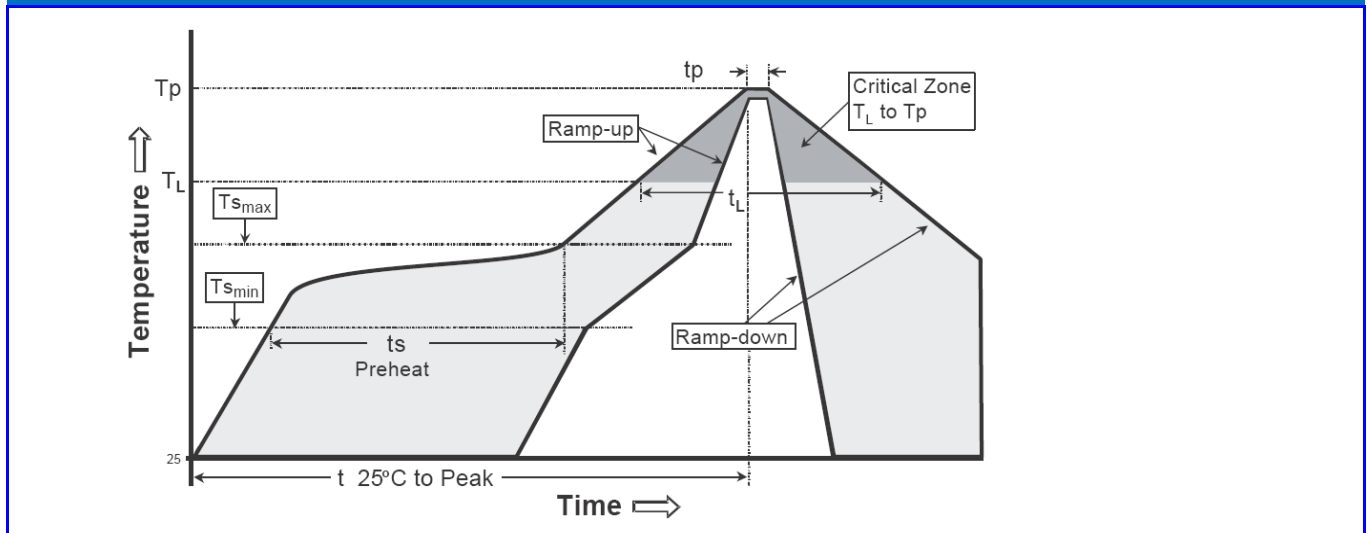
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Recommended wave soldering condition

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 (T_{Smax} to T_p)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(T_{Smin}) -Temperature Max(T_{Smax}) -Time(t_{smin} to t_{smax})	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (T_L) - Time (t_L)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(T_p)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(t_p)	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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