

# GBU406-GBU410(LS)

## GLASS PASSIVATED BRIDGE RECTIFIERS

**REVERSE VOLTAGE – 600 to 1000 Volts**  
**FORWARD CURRENT – 4.0 Amperes**

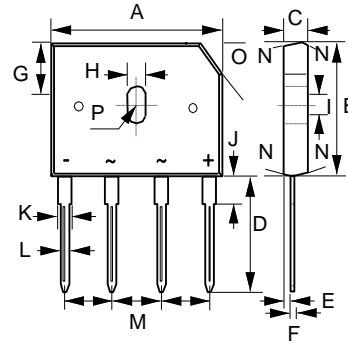
### FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- UL recognition file # E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

### MECHANICAL DATA

- Package: GBU
- Package Material: "Green" molding compound, UL flammability classification 94V-0 (No Br. Sb. Cl)
- Terminals: Lead free plating (Tin finish) Ⓜ3
- Polarity: As marked on Body
- Weight: 0.15 ounces, 4.0 grams, Approximate
- Mounting position : Any

### GBU



GBU		
DIM	MIN	MAX
A	21.80	22.30
B	18.30	18.80
C	3.30	3.56
D	17.50	18.00
E	0.76	1.00
F	0.46	0.56
G	7.40	7.90
H	3.50	4.10
I	1.65	2.16
J	2.25	2.75
K	1.95	2.35
L	1.02	1.27
M	4.83	5.33
N	7.0° TYPICAL	
O	(3.2) x 45°	
P	1.90 RADIUS	
All dimension in millimeter		

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

PARAMETER	SYMBOL	GBU406	GBU408	GBU410	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Maximum DC blocking voltage	$V_{DC}$	600	800	1000	V
Average rectified output current per device @ $T_C=100^\circ\text{C}$	$I_{(AV)}$	4.0 2.4			A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	@ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$		160 150	A
Peak forward surge current 1.0ms single half sine-wave superimposed on rated load	$I_{FSM}$	@ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$		320 300	A
$I^2 t$ rating for fusing ( $t = 8.3\text{ms}$ )	$I^2 t$			106	$\text{A}^2\text{S}$
Operating and storage temperature range	$T_J, T_{STG}$			-55 to +150	$^\circ\text{C}$

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION		SYMBOL	MAX	UNIT
Forward voltage	$I_F = 2\text{A}$	$T_A = 25^\circ\text{C}$	$V_F$	1.0	V
Leakage current	$V_R$ at rated	$T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	$I_R$	5 500	$\mu\text{A}$
Typical junction capacitance (Note 4)			$C_J$	40	pF

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 5) (without heatsink)	$R_{thJA}$ $R_{thJL}$ $R_{thJC}$	15 3.0 3.0	$^\circ\text{C/W}$

### Note :

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Device mounted on 50 mm \* 50 mm \* 1.6mm Cu Plate heatsink.

**RATING AND CHARACTERISTIC CURVES  
GBU406-GBU410**

FIG.1 - FORWARD CURRENT DERATING CURVE

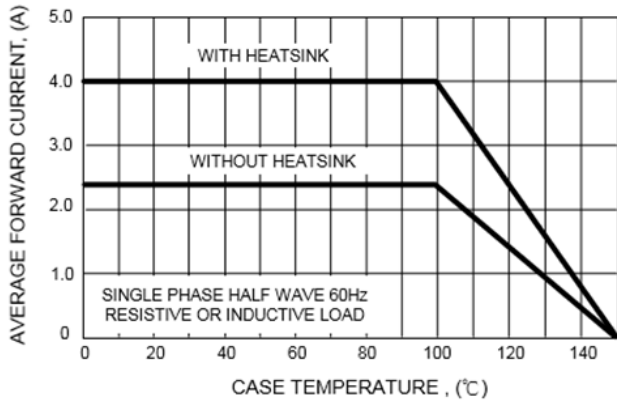


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

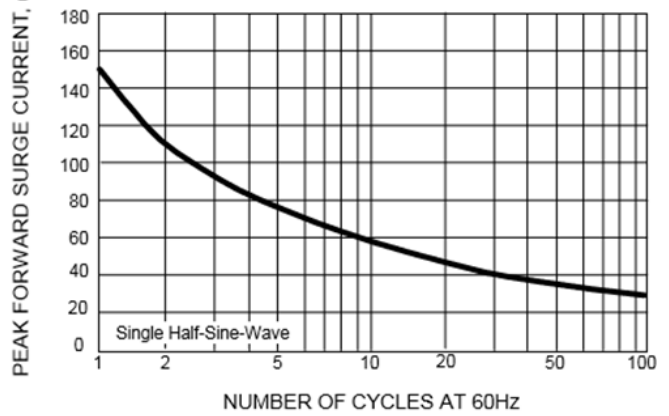


FIG.3 - TYPICAL JUNCTION CAPACITANCE

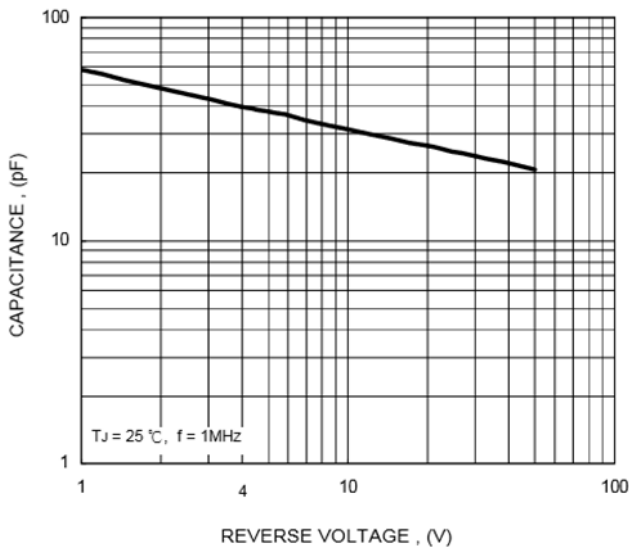
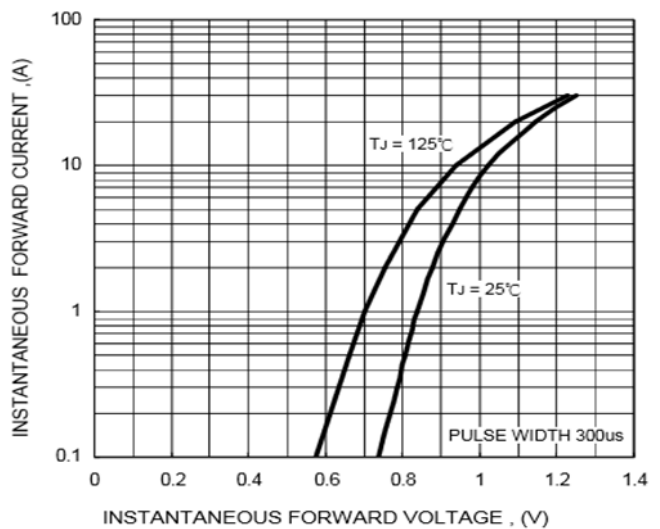


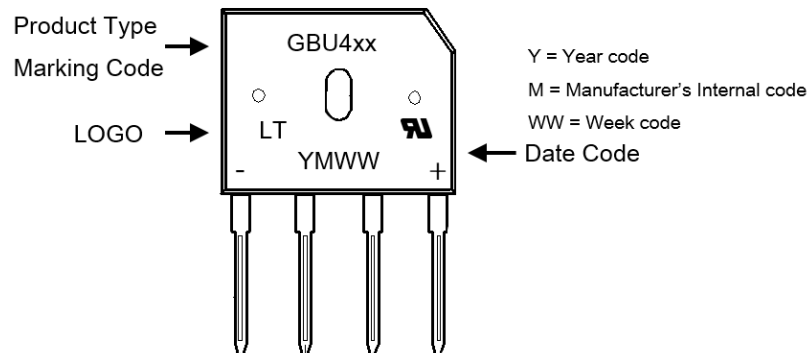
FIG.4 - TYPICAL FORWARD CHARACTERISTICS



## Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
GBU406_HF	GBU	20pcs	Tube
GBU408_HF	GBU	20pcs	Tube
GBU410_HF	GBU	20pcs	Tube

## Marking Information :



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