



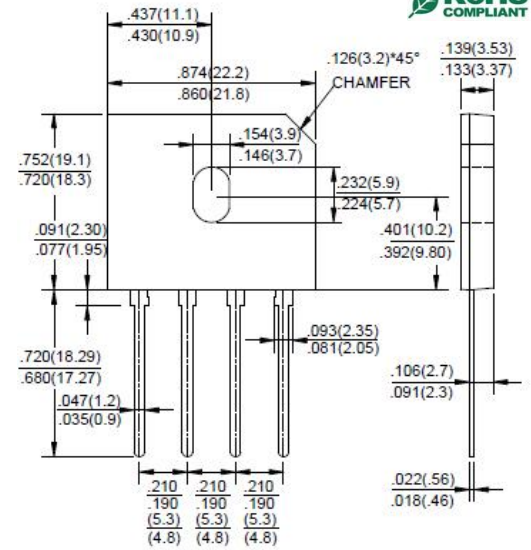
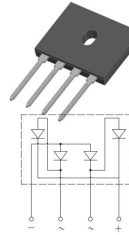
# GBU4005 THRU GBU410

**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 4.0 Ampere



## Features

- Glass Passivated Bridge Rectifiers
- Reverse Voltage - 50 to 1000Volts
- Forward Current - 4.0Amperes
- Surge overload rating -200 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has U/L flammability classification 94V-0
- Mounting position:Any
- Weight: 0.138 ounces , 3.90grams



Dimensions in inches and (millimeters)

**Package: GBU**

## Mechanical Data

- Maximum Ratings and
- Electrical Characteristics
- specified.Single phase, half wave ,60Hz, resistive or inductive
- load.For capacitive load, derate current by 20%

## Maximum Ratings and Electrical Characteristics

- Rating at 25°C ambient temperature unless otherwise

TYPE NUMBER	SYMBOL	GBU 4005	GBU 401	GBU 402	GBU 404	GBU 406	GBU 408	GBU 410	UNIT
Maximum Reverse Peak Repetitive Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current, 0.06" (1.5mm) lead length at $T_C=100^\circ C$	$I_{(AV)}$	4.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	125							Amps
Rating for Fusing ( $t < 8.3ms$ )	$I^2t$	112							$A^2s$
Maximum Instantaneous Forward Voltage drop Per Bridge element 4.0A	$V_F$	1.1							Volts
Maximum Reverse Current at rated DC blocking voltage per element	$T_A=25^\circ C$	10							$\mu Amps$
	$T_A=125^\circ C$	500							
Typical Junction Capacitance Per Element (Note1)	$C_J$	211			94				pF
Typical Thermal Resistance (NOTE 2)	$R_{\theta JC}$	4.2							$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	(-55 to +150)							$^\circ C$

### Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Junction to case with heatsink.
3. Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw.

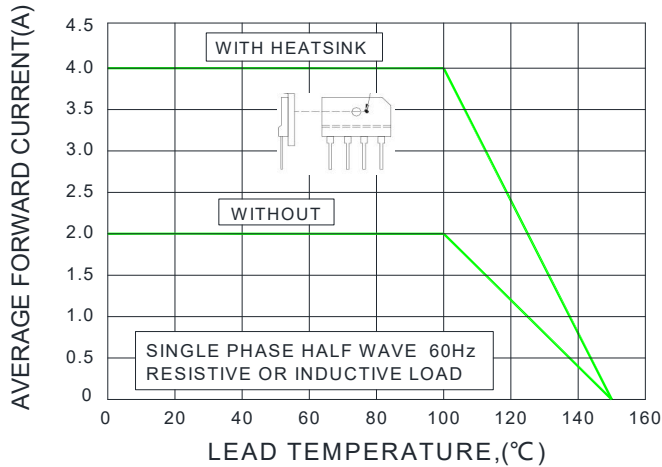


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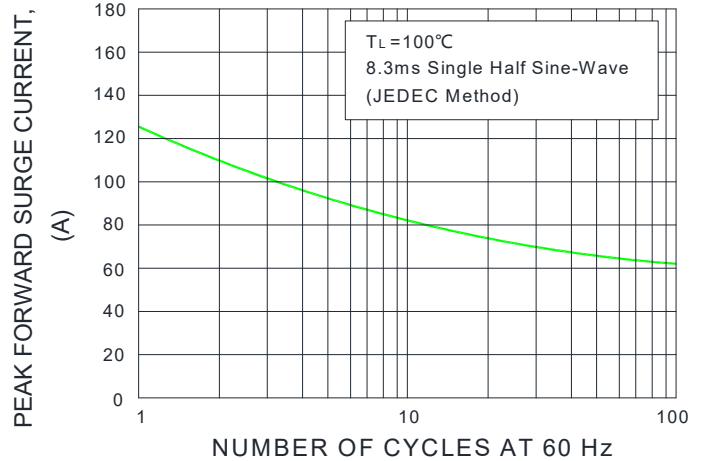
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## Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

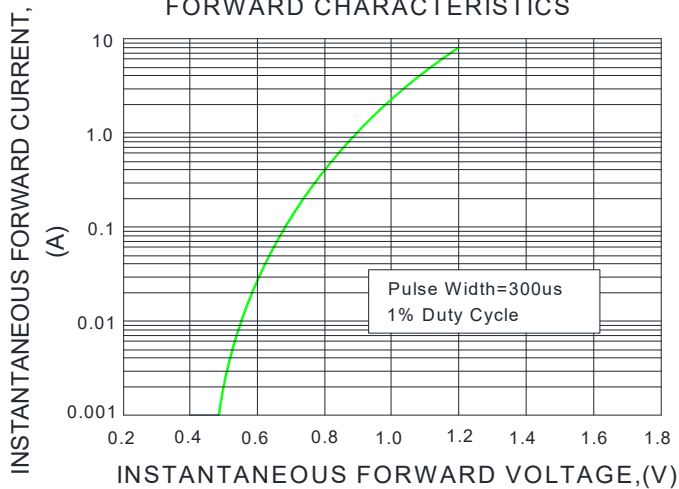
F1G.1-FORWARD CURRENT DERATING CURVE



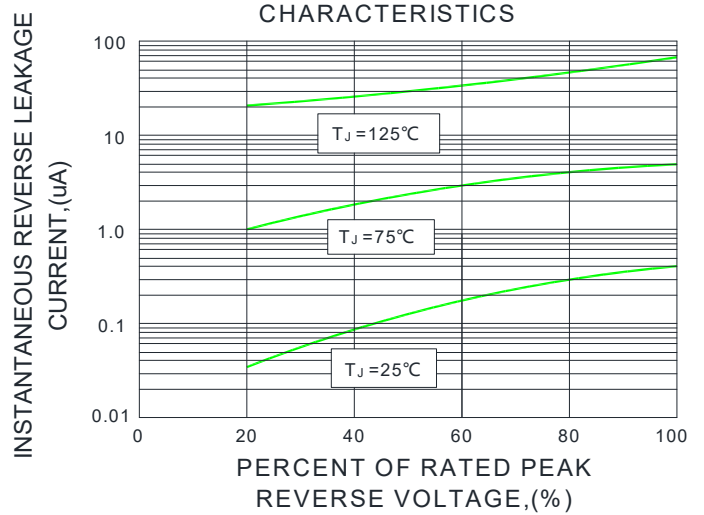
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



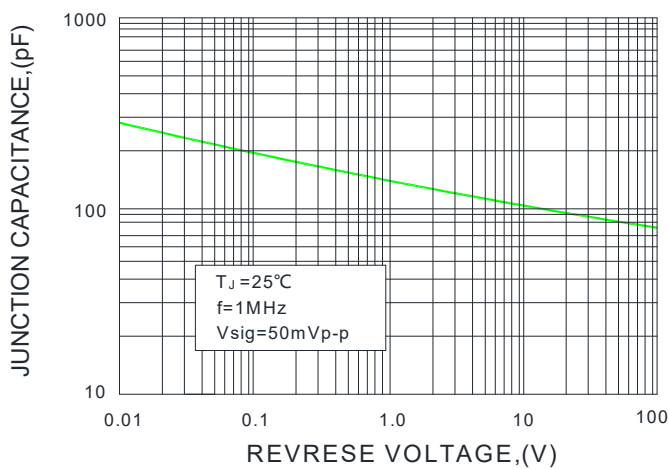
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE





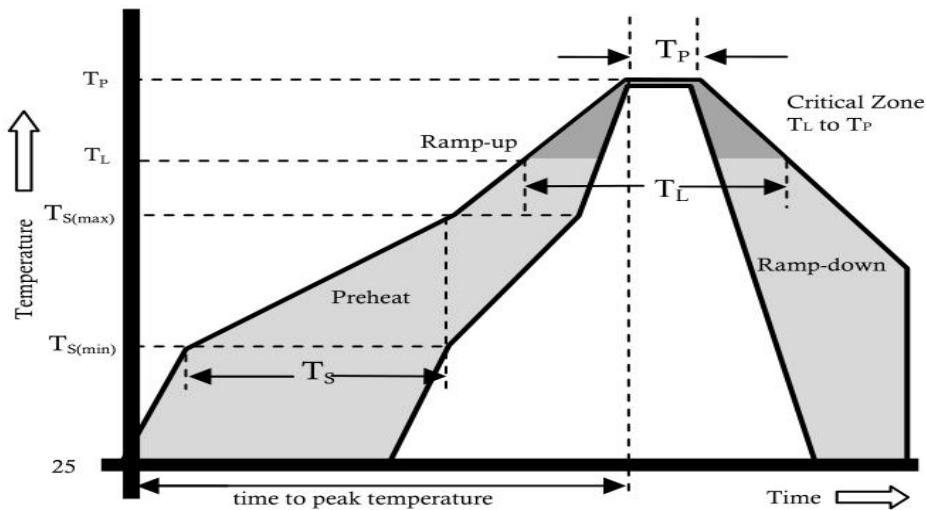
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Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
GBU	B1	Approximate 3.96	20	1000	2000	TUBE

Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_P$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_P$ )		8 min. Max.
Do not exceed		+260°C



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