

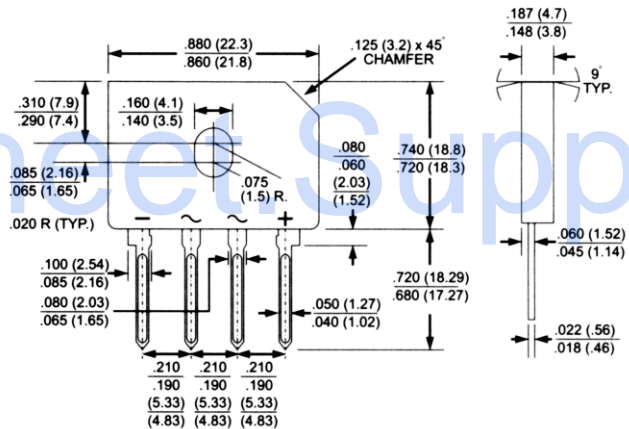


# GBU4005 thru GBU410

Glass Passivated Single-Phase Bridge Rectifiers  
Voltage Range 50 to 1000 Volts Forward Current 4.0 Amperes

## Features

- ◆ Surge overload rating - 150 Amperes peak
- ◆ Ideal for printed circuit boards
- ◆ Reliable low cost construction utilizing molded plastic technique
- ◆ Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Mounting Position: Any



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Parameter	Symbols	GBU4005	GBU401	GBU402	GBU404	GBU406	GBU408	GBU410	Units
Maximum recurrent peak reverse 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 @ $T_c=100^\circ\text{C}$ (with heatsink Note 2) (without heatsink)	$I_{F(AV)}$				4.0				Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$				150.0				Amps
Max. instantaneous forward voltage drop at 2.0A DC	$V_F$				1.0				Volt
Maximum DC reverse current @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage per element @ $T_J=125^\circ\text{C}$	$I_R$				5.0				$\mu\text{A}$
Rating for fusing ( $t<8.3\text{ms}$ )	$I^2t$				93				$\text{A}^2\text{sec}$
Typical junction capacitance per element (Note 1)	$C_J$				45				pF
Typical thermal resistance (Note 2)	$R_{\theta JC}$				2.2				$^\circ\text{C/W}$
Operating temperature range	$T_J$				-55 to +150				$^\circ\text{C}$
Storage temperature range	$T_{STG}$				-55 to +150				$^\circ\text{C}$

- Notes:**
1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC
  2. Device mounted on 50mm x 50mm x 1.6mm Cu plate heatsink

# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

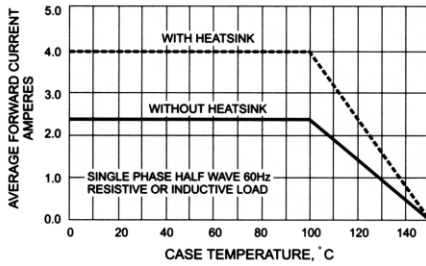


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

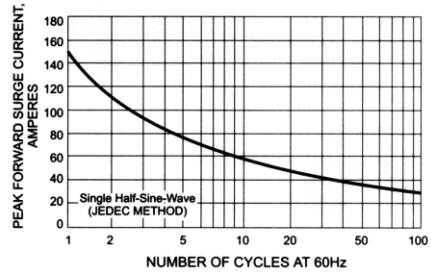


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

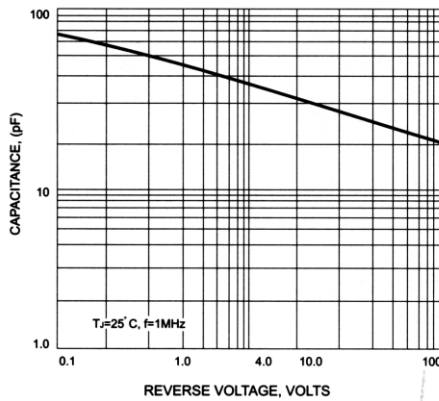


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

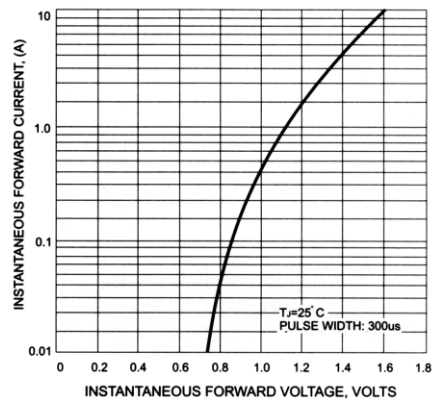


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS

