



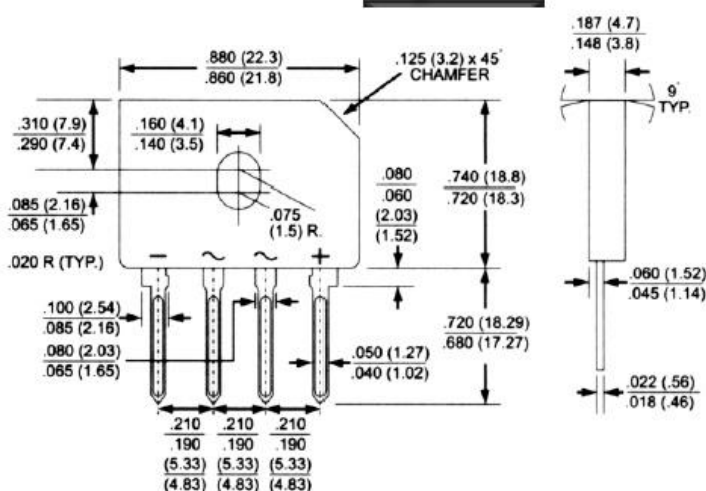
GBU4005 thru GBU410

SYNSEMI SEMICONDUCTOR

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_{FAV}	4.0				2.4			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				500.0			μA
Rating for fusing ($t \leq 8.3\text{ms}$)	Pt	93							A^2sec
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 50mmx 50mm x 1.6mm Cu plate heatsink

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RATINGS AND CHARACTERISTIC CURVES

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

FIG. 1 - FORWARD CURRENT DERATING CURVE

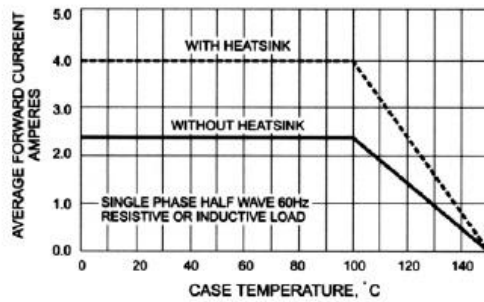


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

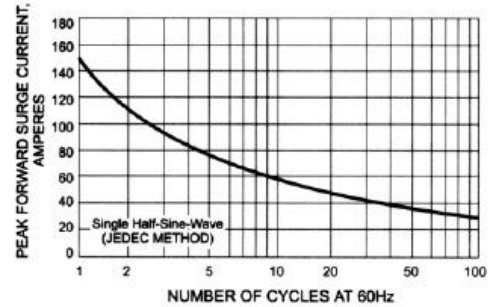


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

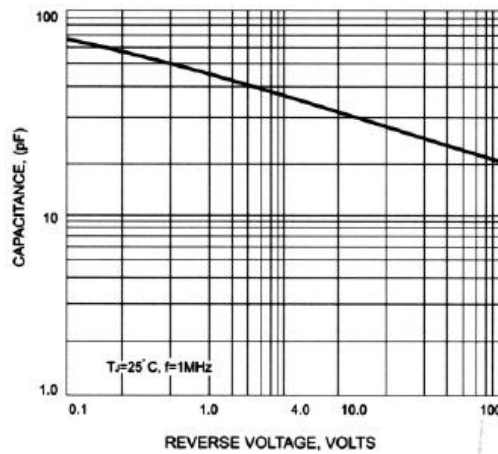


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

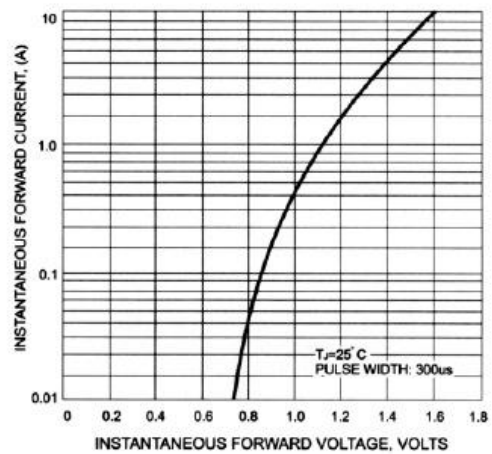


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS

