GBU8005 THRU GBU810

8.0 Glass Passivated Single Phase Bridge Rectifiers-50-1000V

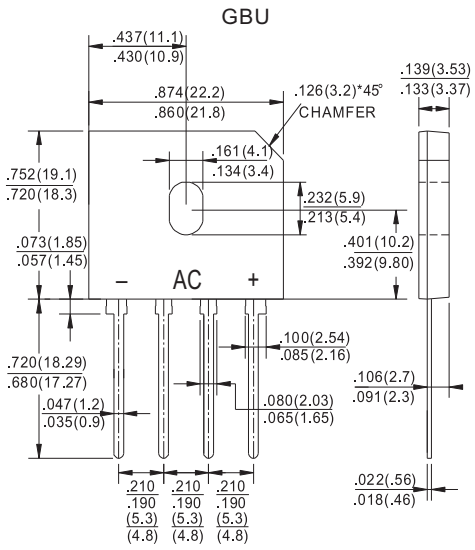
Features

- Recommended for non-automatic applications.
- Ideal for & save space on printed circuit board.
- Applicable for automatic insertion.
- Reliable low cost construction utilizing molded plastic technology results in inexpensive product.
- Glass passivated chip junctions.
- Lead-free parts meet RoHS requirments.
- Suffix "-H" indicates Halogen free parts.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, GBU
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

TYPE NUMBER	SYMBOL	GBU 8005	GBU 801	GBU 802	GBU 804	GBU 806	GBU 808	GBU 810	UNITS
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{DC}	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1)@T_C=90℃	$I_{F(AV)}$	8.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200							A
Forward Voltage per element @IF=4.0A @IF=8.0A	V_{FM}	1.1 1.1							V
Peak Reverse Current @T_J=25℃ At Rated DC Blocking Voltage T_J=125℃	I_R	5.0 200							uA
I^2t Rating for fusing (t <8.3ms)	I^2t	166							A^2s
Dielectric Strength	Vids	2500							V
The proposed installation torque Max torque	Tor	5.0 8.0							Kgf.cm
Typical Junction Capacitance (Note 2)	C_J	60							pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	22 4.0 5.0							℃/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to +150							℃

Note: 1. Mounted on glass epoxy PC board with 1.3mm² solder pad.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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Rating and characteristic curves

FIG.1 - FORWARD CURRENT DERATING CURVE

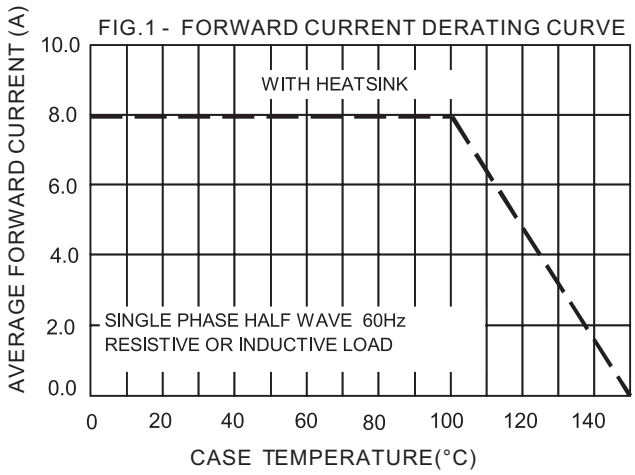


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

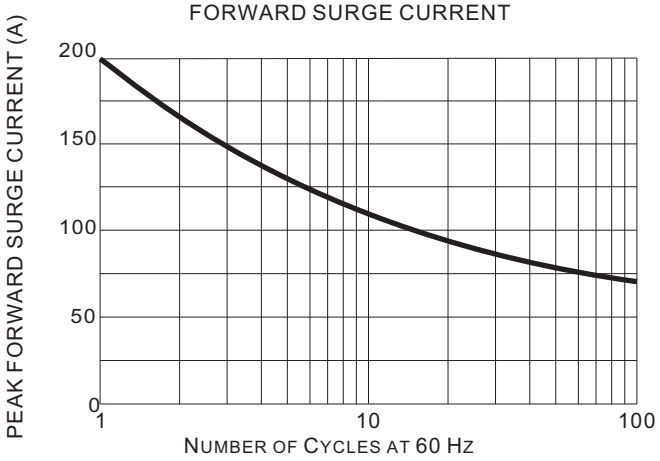


FIG. 3 - TYPICAL INSTANTANEOUR FORWARD CHARACTERISTICS

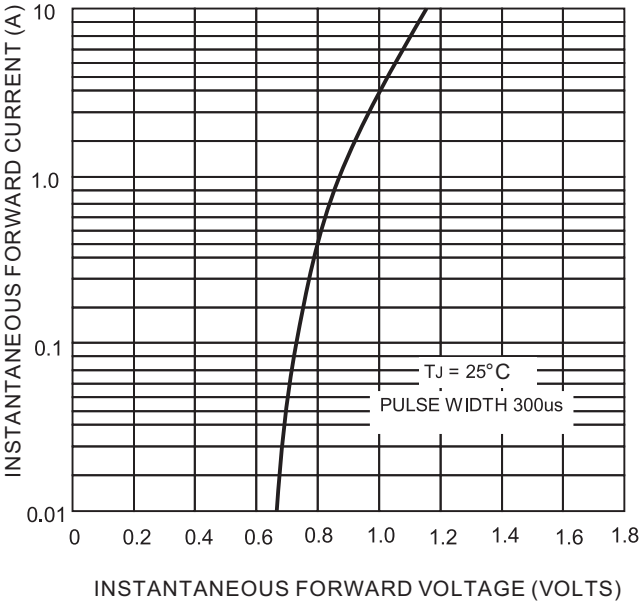


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

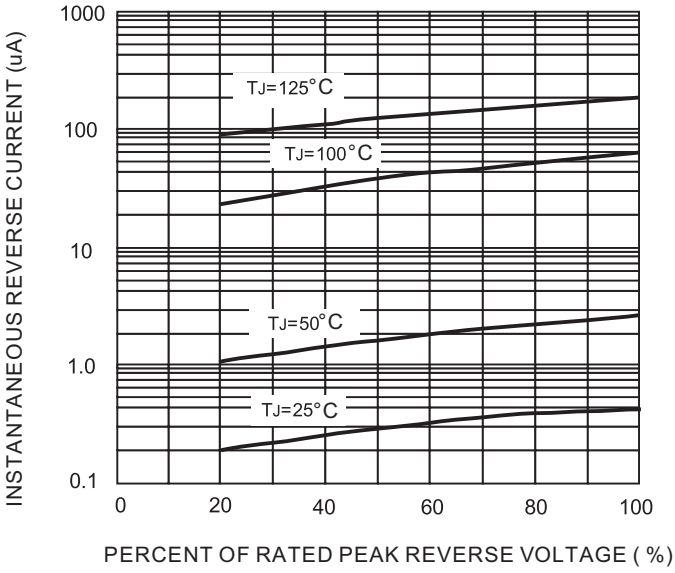
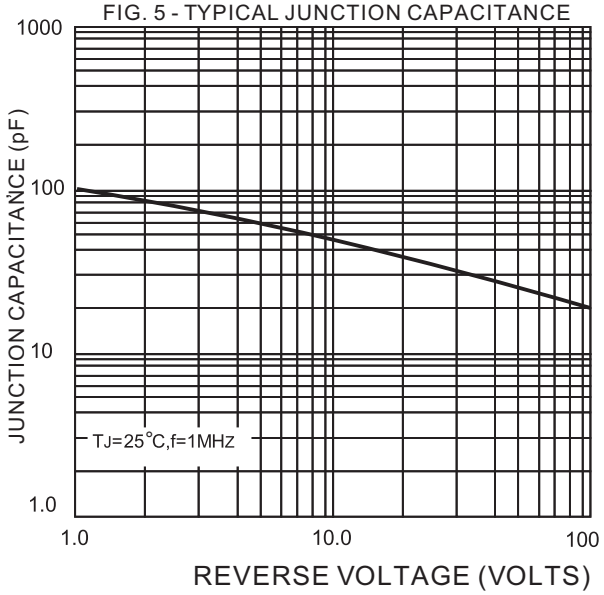


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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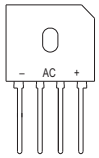
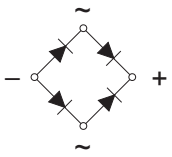
Pinning information

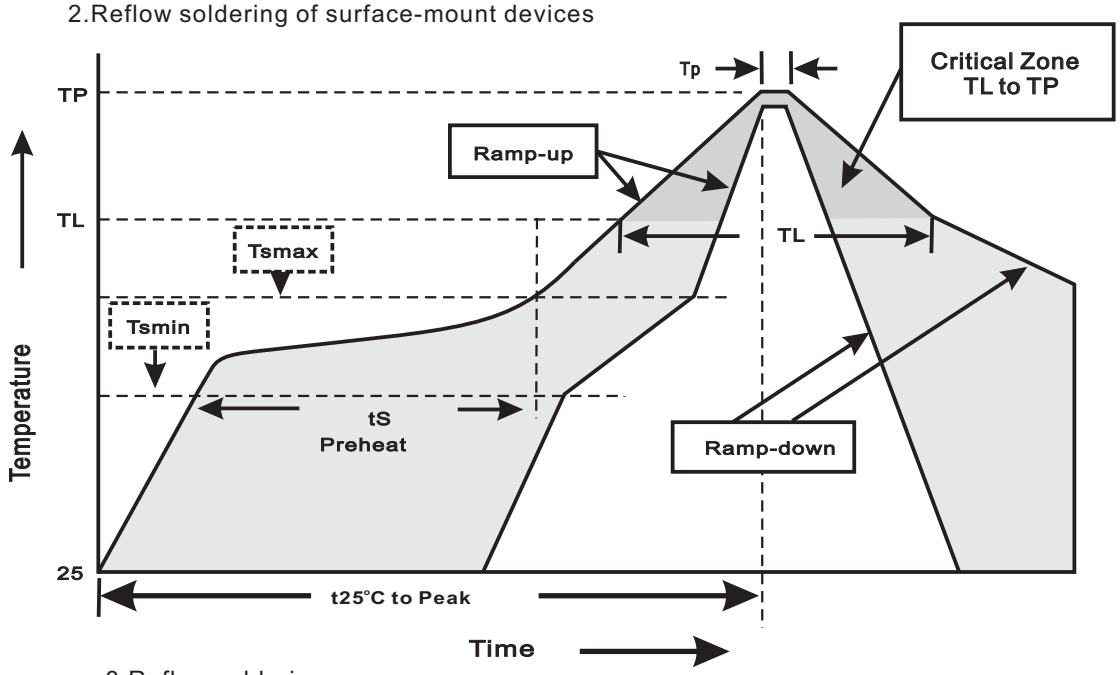
Simplified outline	Symbol
	

Marking

Type number	Marking code
GBU8005	GBU8005
GBU801	GBU801
GBU802	GBU802
GBU804	GBU804
GBU806	GBU806
GBU808	GBU808
GBU810	GBU810

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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