

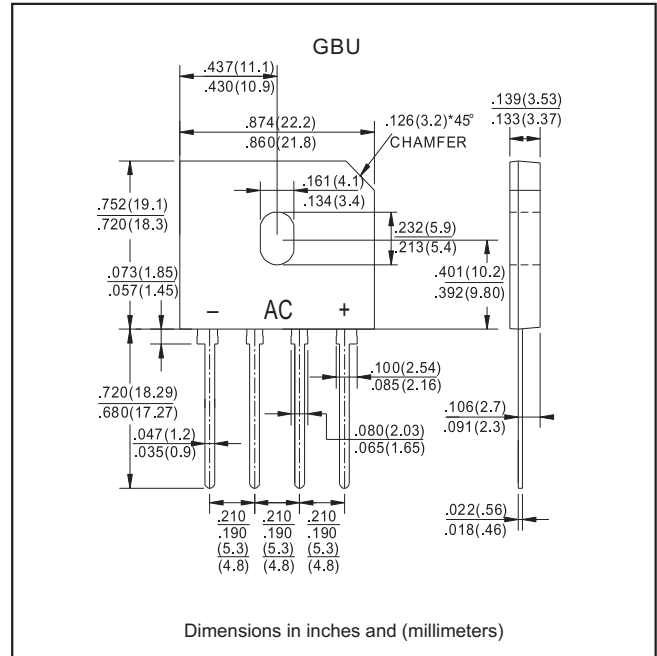
### Features

- 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 requirements.
- 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

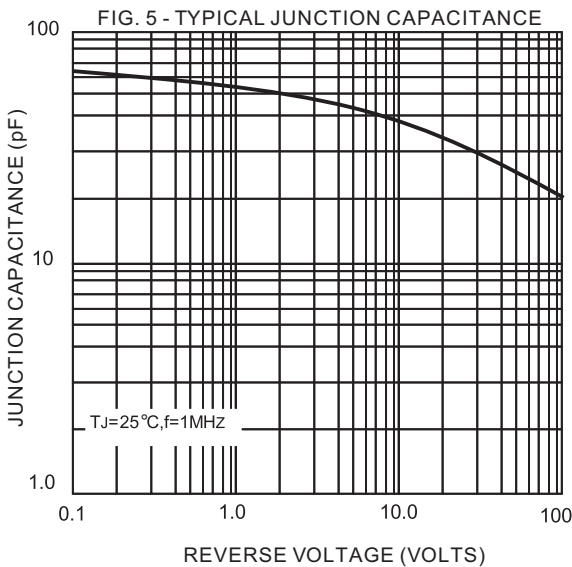
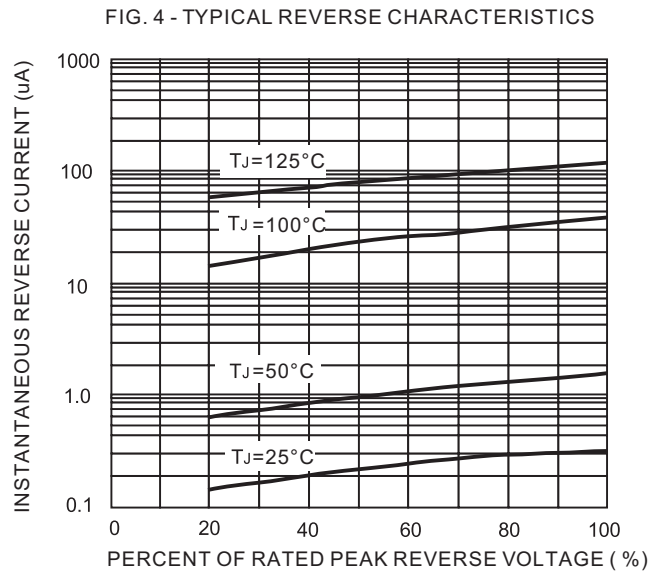
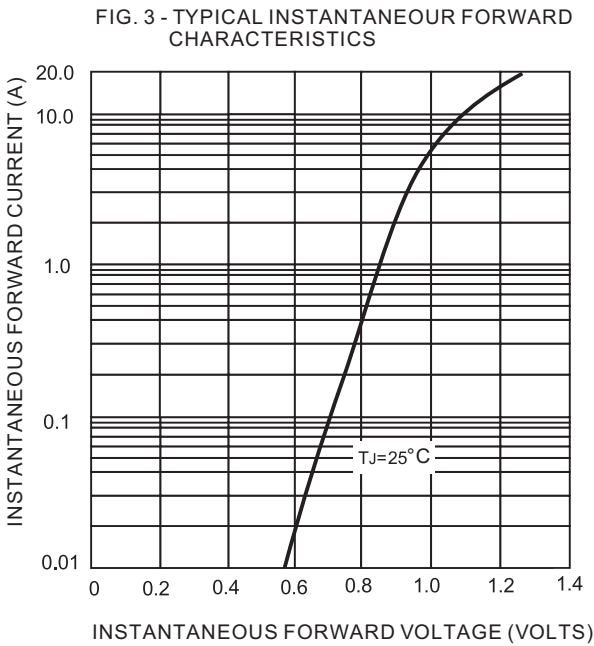
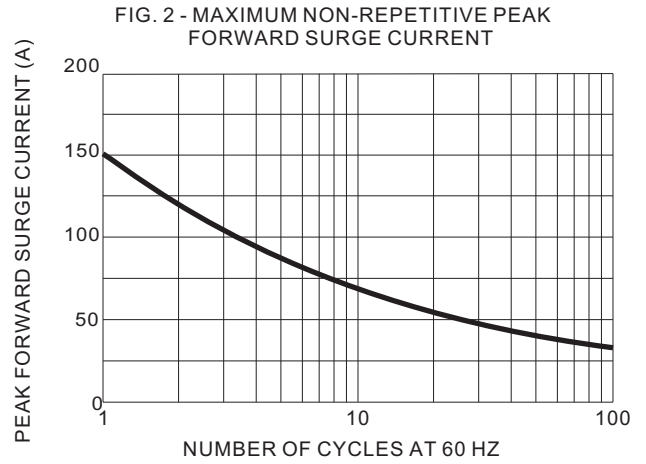
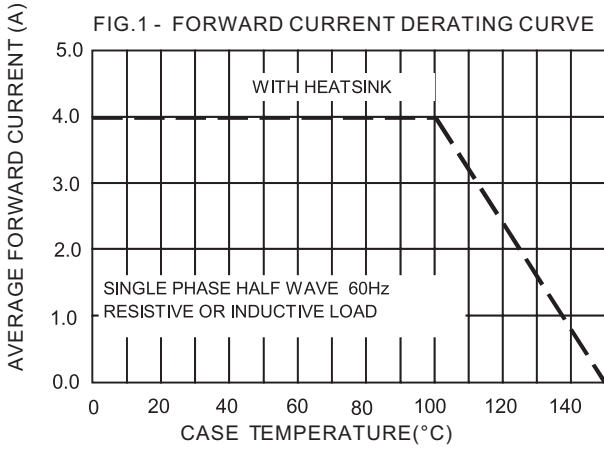


### Maximum ratings and Electrical Characteristics (AT T<sub>A</sub>=25°C unless otherwise noted)

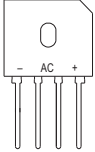
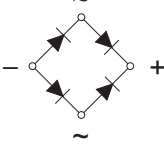
TYPE NUMBER	SYMBOL	GBU 4005	GBU 401	GBU 402	GBU 404	GBU 406	GBU 408	GBU 410	UNITS
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								V
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	
DC Blocking Voltage	V <sub>DC</sub>								
RMS Reverse Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1)@T <sub>C</sub> =90°C	I <sub>F(AV)</sub>	4.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150							A
Forward Voltage per element @I <sub>F</sub> =2.0A @I <sub>F</sub> =4.0A	V <sub>FM</sub>	1.0 1.1							V
Peak Reverse Current At Rated DC Blocking Voltage @T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>	5.0 200							uA
I <sup>2</sup> t Rating for fusing (t <8.3ms)	I <sup>2</sup> t	93.37							A <sup>2</sup> s
Dielectric Strength	V <sub>ids</sub>	2500							V
The proposed installation torque Max torque	Tor	5.0 8.0							Kgf.cm
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	35							pF
Typical Thermal Resistance	R <sub>θJA</sub>	23							°C/W
	R <sub>θJC</sub>	4.2							
	R <sub>θJL</sub>	5.5							
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

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

**Rating and characteristic curves**



**Pinning information**

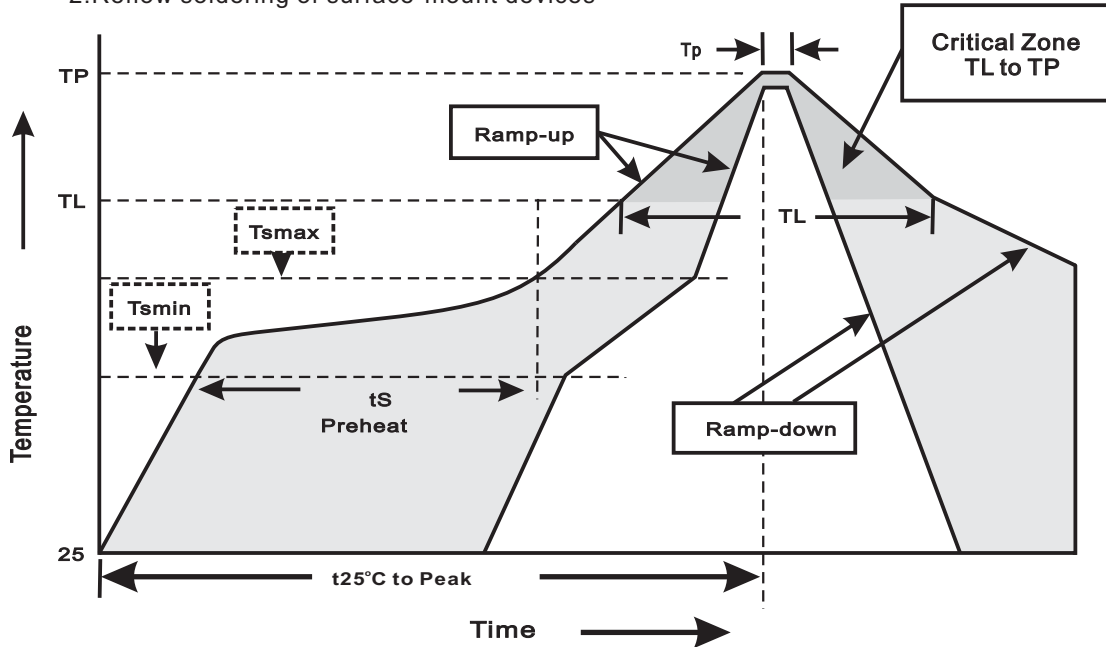
Simplified outline	Symbol
	

**Marking**

Type number	Marking code
GBU4005	GBU4005
GBU401	GBU401
GBU402	GBU402
GBU404	GBU404
GBU406	GBU406
GBU408	GBU408
GBU410	GBU410

**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(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes