

GBU35A Thru GBU35M

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GBU35A Thru GBU35M

**35.0A Glass Passivated Single-Phase
Bridge Rectifiers : 50V ~ 1000V**

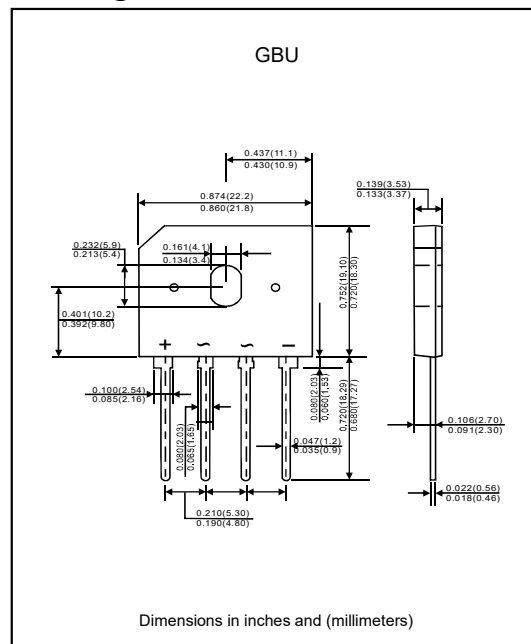
Features

- Idea for printed circuit board.
- Glass passivated chip.
- Low forward voltage drop.
- High surge current capability.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex. GBU35A-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, GBU.
- Terminals : Solder plated, solder able per MIL-STD-750, Method 2026.
- Polarity : Indicated by cathode band.
- Mounting Position : Any.

Package outline



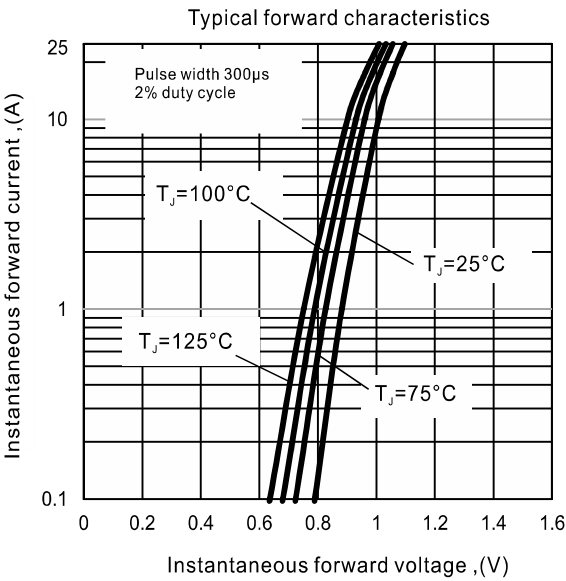
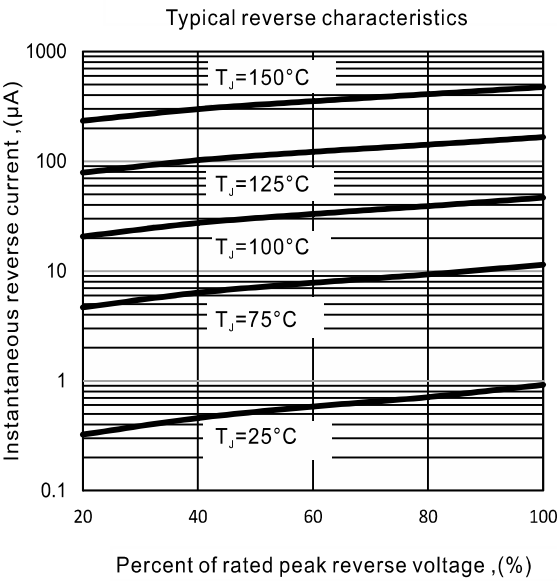
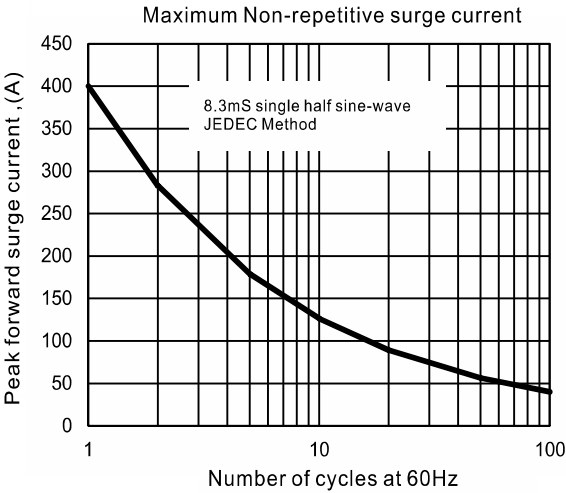
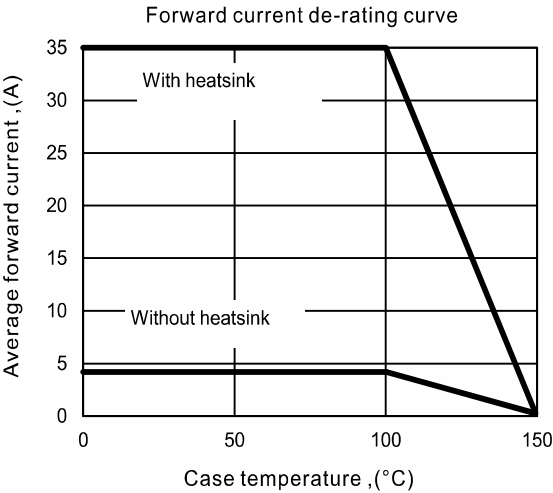
Maximum ratings and electrical characteristics (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	GBU 35A	GBU 35B	GBU 35D	GBU 35G	GBU 35J	GBU 35K	GBU 35M	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current (T _c =100°C) (with heatsin) (Note2) (without heatsink)	I _(AV)	35 4.2							A
Peak forward surge current, 8.3ms single half sine-wave, superimposed on rated load (JEDEC Method)	I _{FSM}	400							A
Rating for fusing (t<8.3ms)	I ² t	664							A
Maximum instantaneous forward voltage per diode at 17.5A DC	V _F	1.1							V
Maximum DC reverse current (T _j =25°C)	I _R	5.0							μA
At rated DC blocking voltage per diode (T _j =125°C)		500							
Typical junction capacitance per diode (Note 1)	C _j	70							pF
Typical thermal resistance to case (Note 2)	R _{θJc}	2.2							°C/W
Operating junction temperature	T _J	+150							°C
Storage temperature range	T _{STG}	-55 to +150							°C

Note : 1. Measured at 1MHz and applied reverse voltage of 4.0V DC.
 2. Device mounted on 100mm*100mm*1.6mm Cu plate heatsink.
 3. The typical data above is for reference only.
 4. Single phase half-wave 60Hz, resistive of inductive load, for capacitive load current derate by 20%.

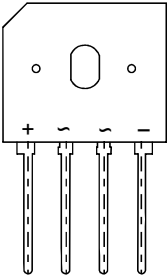
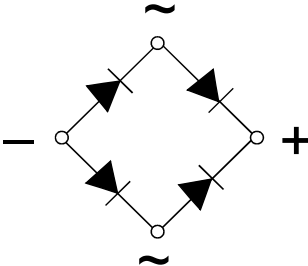
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Rating and characteristic curves



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Pinning information

Simplified outline	Symbol
	

Marking

Type Number	Marking code
GBU35A	GBU35005
GBU35B	GBU3501
GBU35D	GBU3502
GBU35G	GBU3504
GBU35J	GBU3506
GBU35K	GBU3508
GBU35M	GBU3510

Tube packing

Device Case Type	Q'ty1 (PCS/Tube)	Tube Size (m/m)	Carton Size (m/m)	Q'ty2 (PCS/Carton)
GBU	20	474*42*7	496*225*90	1,000

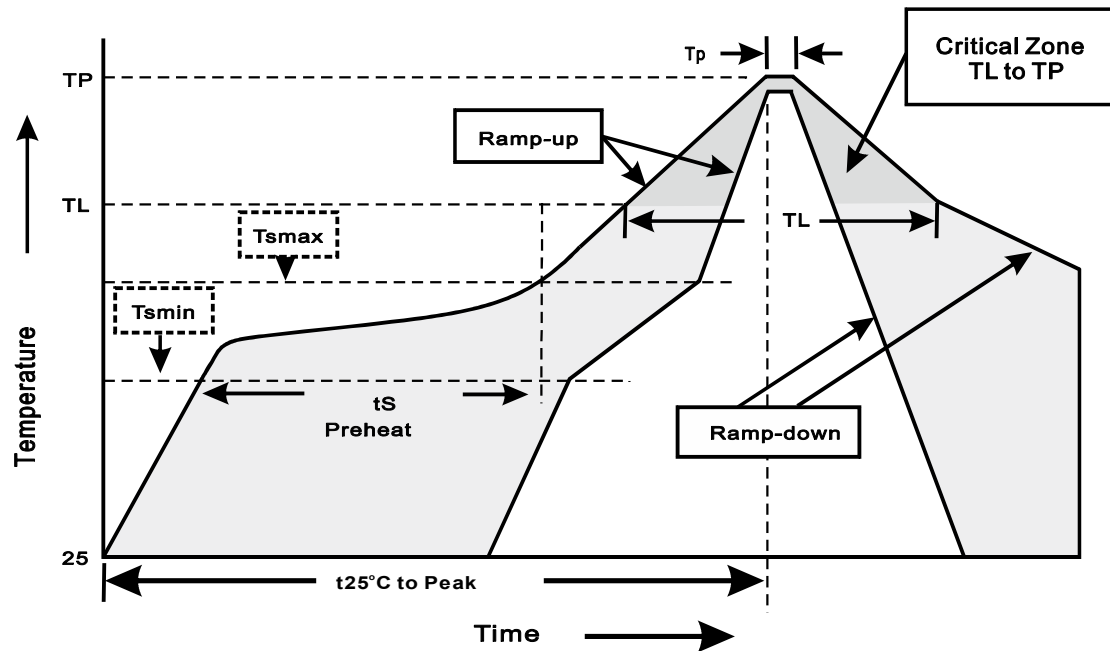
Bulk packing

Device Case Type	Q'ty1 (PCS/Box)	Inner Box Size (m/m)	Carton Size (m/m)	Q'ty2 (PCS/Carton)
GBU	800	350*337*44	375*360*213	3,200

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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(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} 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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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260\pm5^{\circ}\text{C}$ for $10\pm2\text{sec}$. immerse body into solder $1/16''\pm1/32''$	MIL-STD-750D METHOD-2031
2. Solderability	at $245\pm5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R=80\%$ rate at $T_J=125^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A=25^{\circ}\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^{\circ}\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	$15P_{SIG}$ at $T_A=121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave , one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A=85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 150°C for 1000 hrs.	MIL-STD-750D METHOD-1031