GBU8A THRU GBU8M

List

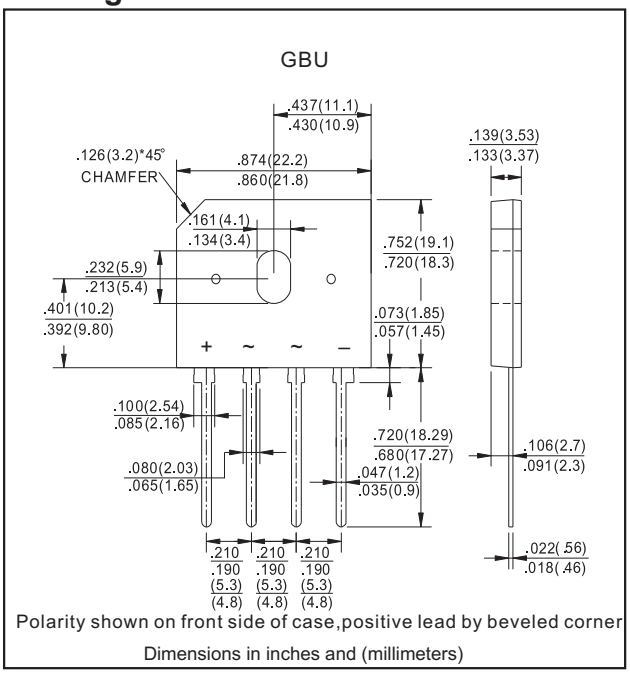
GBU8A THRU GBU8M

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

Features

- Surge overload ratings to 200 amperes peak.
- 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.
- UL recognized file # E321971
- Suffix "-H" indicates Halogen free parts, ex. GBU8A-H.

Package outline



Polarity shown on front side of case,positive lead by beveled corner

Dimensions in inches and (millimeters)

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
- Weight : Approximated 4.00 gram

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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	(with heatsink Note 1) at T_C=100°C (without heatsink)	I_O			8.0 2.9	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			200	A
Reverse current	V_R = V_{RRM} T_J = 25°C	I_R			10.0	uA
	V_R = V_{RRM} T_J = 125°C				500	
I^2t Rating for fusing	t < 8.3 ms	I^2t			166	A^2s
Typical junction capacitance per element	Measured at 1.0MHz and applied reverse voltage of 4.0 VDC	C_J		60		pF
Typical thermal resistance	Junction to case	$R_{\theta JC}$		2.2		°C/W
Storage temperature		T_{STG}	-65		+175	°C

Note 1. Device mounted on 75mm*75mm*1.6mm Cu plate heatsink.

SYMBOLS	V_{RRM} *1 (V)	V_{RMS} *2 (V)	V_R *3 (V)	V_F *4 (V)	Operating temperature T_J, (°C)
GBU8A	50	35	50	1.10	-55 to +150
GBU8B	100	70	100		
GBU8D	200	140	200		
GBU8G	400	280	400		
GBU8J	600	420	600		
GBU8K	800	560	800		
GBU8M	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=4.0A

Rating and characteristic curves (GBU8A THRU GBU8M)

FIG.1 - FORWARD CURRENT DERATING CURVE

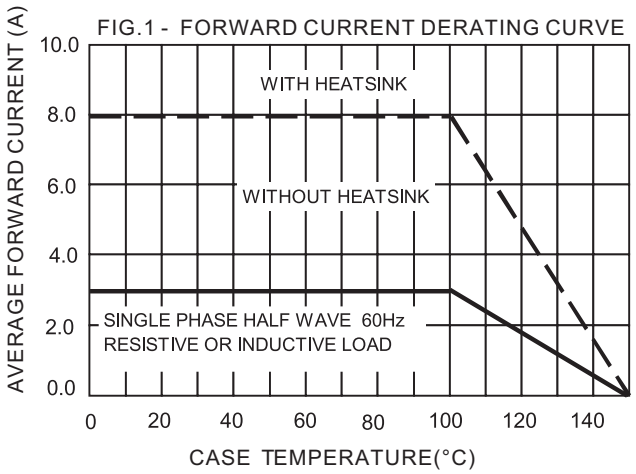


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

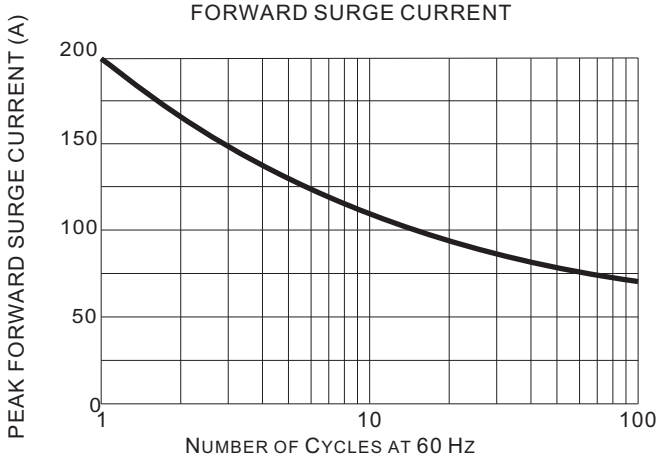


FIG. 3 - TYPICAL INSTANTANEOUR FORWARD CHARACTERISTICS

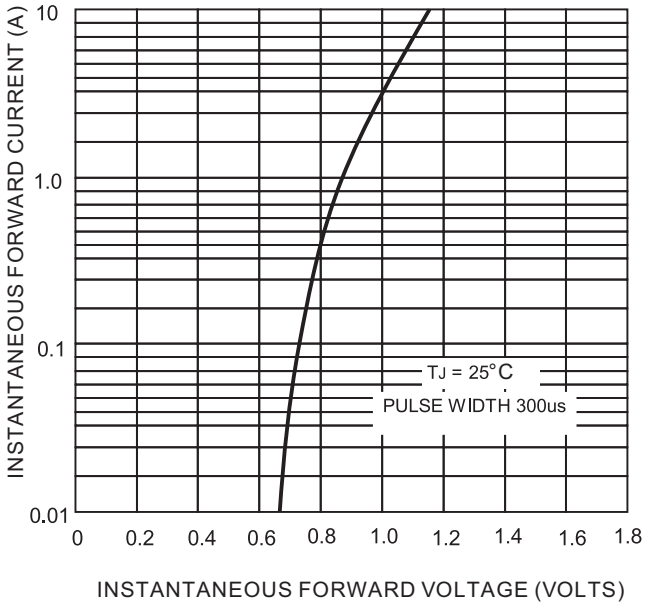


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

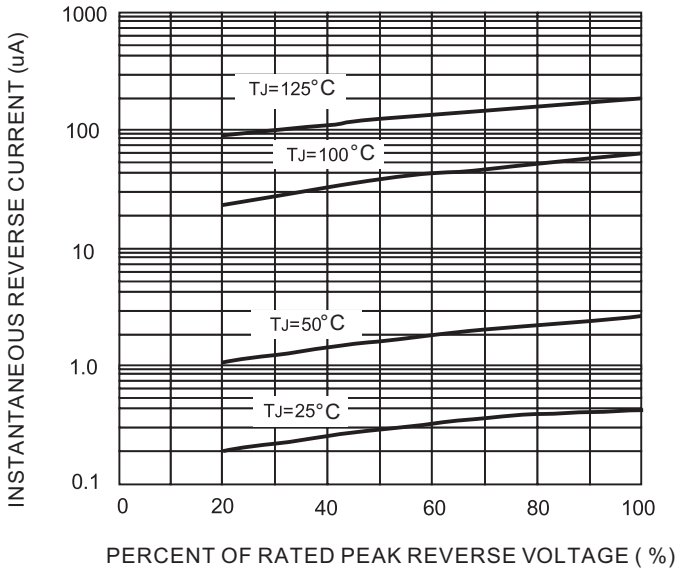
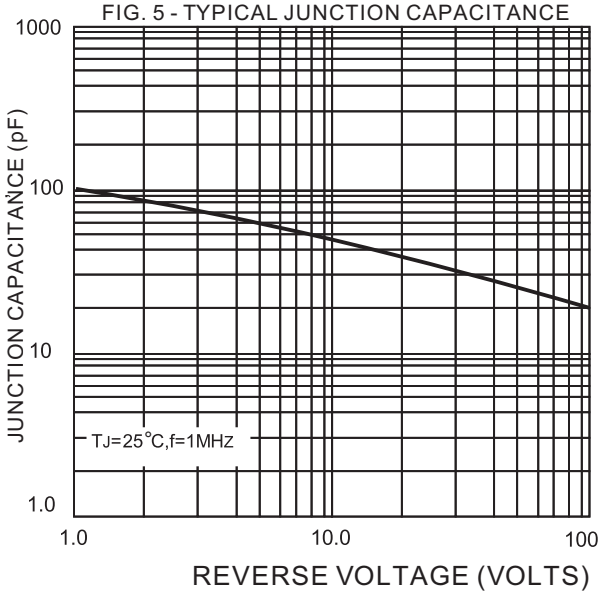


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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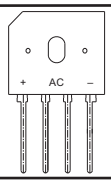
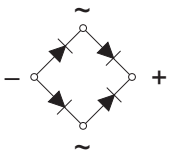
Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
GBU8A	GBU8A
GBU8B	GBU8B
GBU8D	GBU8D
GBU8G	GBU8G
GBU8J	GBU8J
GBU8K	GBU8K
GBU8M	GBU8M

Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
GBU	20	474*42*7	496*225*90	1,000	6.5

BULK PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
GBU	800	350 * 337 * 44	375 * 360 * 213	3,200	16.9

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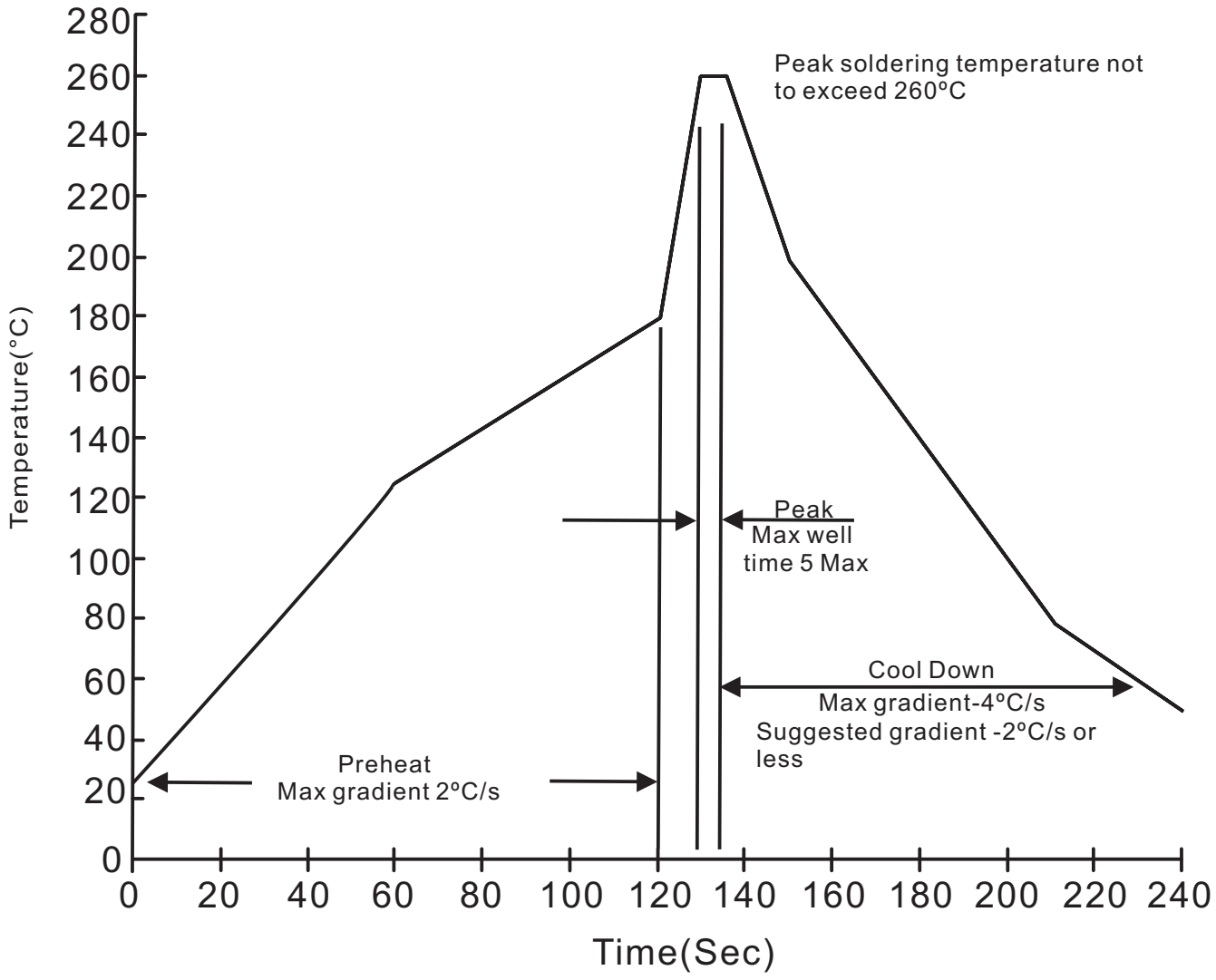
Suggested thermal profiles for soldering processes

1.Lead free temperature profile wave-soldering



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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	V_R=80% rate at T_J=150°C for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at T_A=25°C for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	T_A = 25°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°C for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°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°C, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031