GBJ20A THRU GBJ20M

List

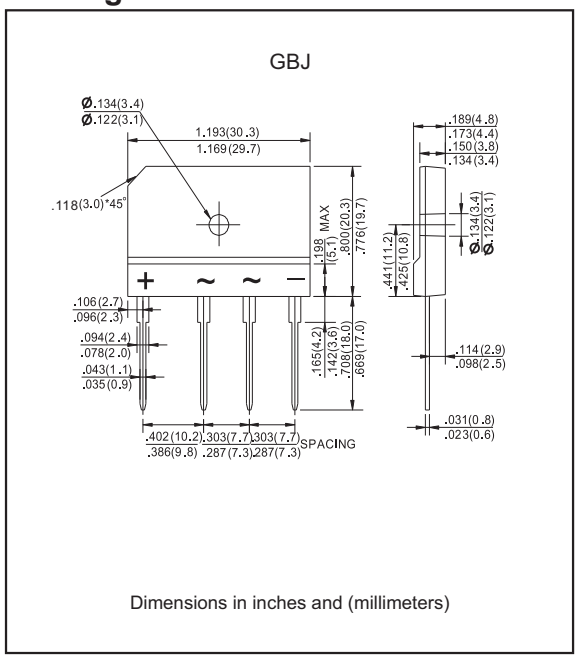
GBJ20A THRU GBJ20M

20.0A Glass Passivated Single Phase Bridge Rectifiers 50 - 1000V

Features

- Rating to 1000V PRV
- Ideal for printed circuit board
- Low forward voltage drop,high current capability
- Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirments.
- UL recognized file # E321971
- Suffix "-H" indicates Halogen free parts, ex. GBJ20A-H.

Package outline



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, GBJ
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any
- Weight : Approximated 7.00 gram

Maximum ratings and electrical characteristics (At T_A=25°C unless otherwise noted)

Rating at 25℃ ambnet temperature unless otherwise specified.
Single phase half-wave 60Hz, resistive of inductive load, for capacitive load current derate by 20%.

Parameter	Symbol	GBJ20A	GBJ20B	GBJ20D	GBJ20G	GBJ20J	GBJ20K	GBJ20M	Unit
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average forward rectified	$I_{(AV)}$	20.0							A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	250.0							A
Rating for fusing (t=8.3ms, T_A=25℃)	I^2t	259							A^2s
Instantaneous forward voltage at 20.0A	V_F	1.10							V
DC reverse current T_A=25℃	I_R	5.0							μA
at rated DC blocking voltage T_A=125℃		500							
Typical junction capacitance (Note 1)	C_J	92.0							pF
Typical thermal resistance	$R_{\theta JC}$	55.0							℃/W
Operating junction temperature range	T_J	+150							℃
Storage temperature range	T_{STG}	-55 to +150							℃

Note : 1. Measured at 1MHz and applied reverse voltage of 4.0V DC.

Rating and characteristic curves (GBJ20A THRU GBJ20M)

Fig.1 FORWARD CURRENT DERATING CURVE

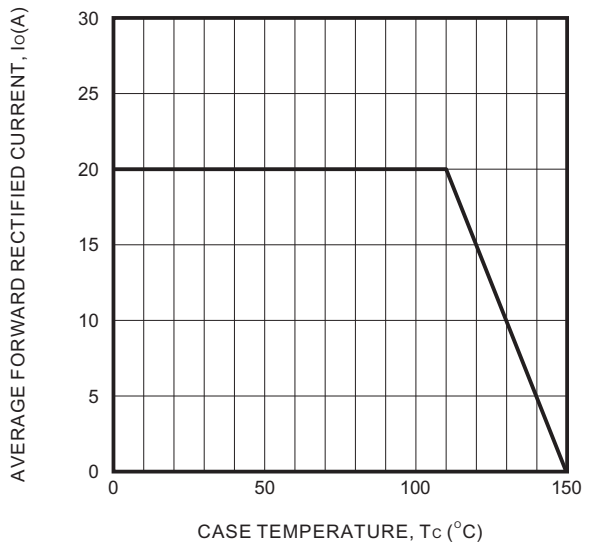


Fig.2 FORWARD SURGE CURRENT DERATING CURVE

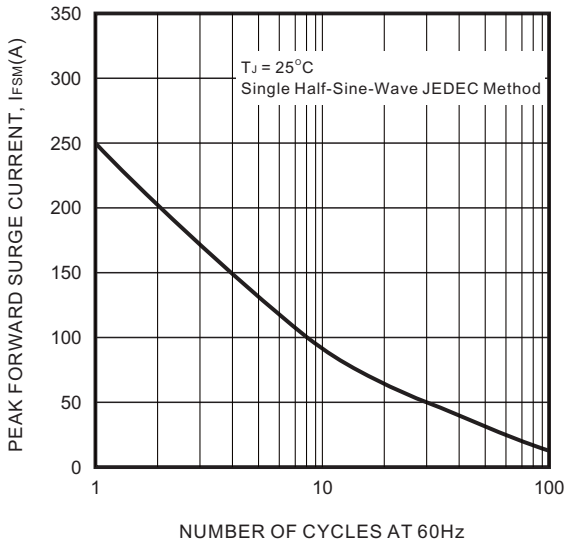


Fig.3 TYPICAL REVERSE CHARACTERISTICS

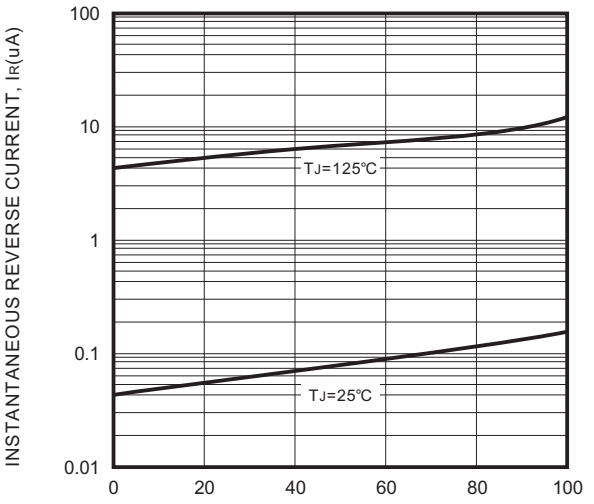
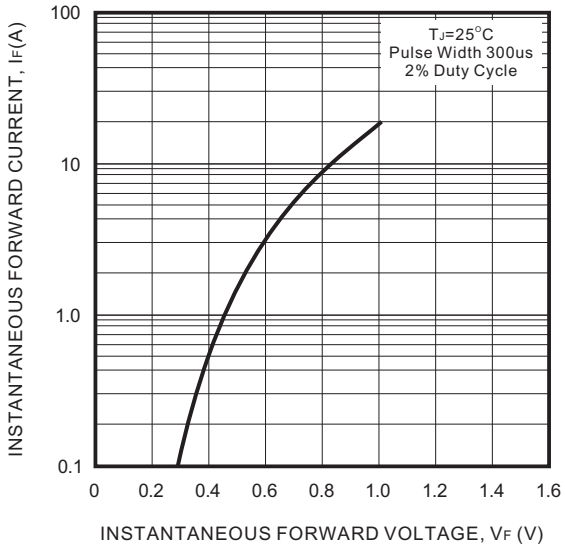


Fig.4 TYPICAL FORWARD CHARACTERISTICS



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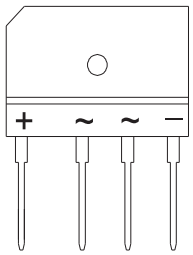
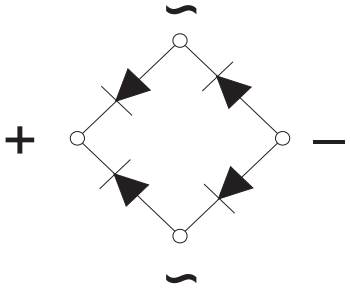
Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
GBJ20A	GBJ20A,GBJ20005
GBJ20B	GBJ20B,GBJ2001
GBJ20D	GBJ20D,GBJ2002
GBJ20G	GBJ20G,GBJ2004
GBJ20J	GBJ20J,GBJ2006
GBJ20K	GBJ20K,GBJ2008
GBJ20M	GBJ20M,GBJ2010

Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
GBJ	15	475*42.0*8.1	496*224*101	750	7.8

Bulk packing

PACKAGE	BOX (pcs)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
GBJ	250	305*130.0*45	325*280*200	2000	12

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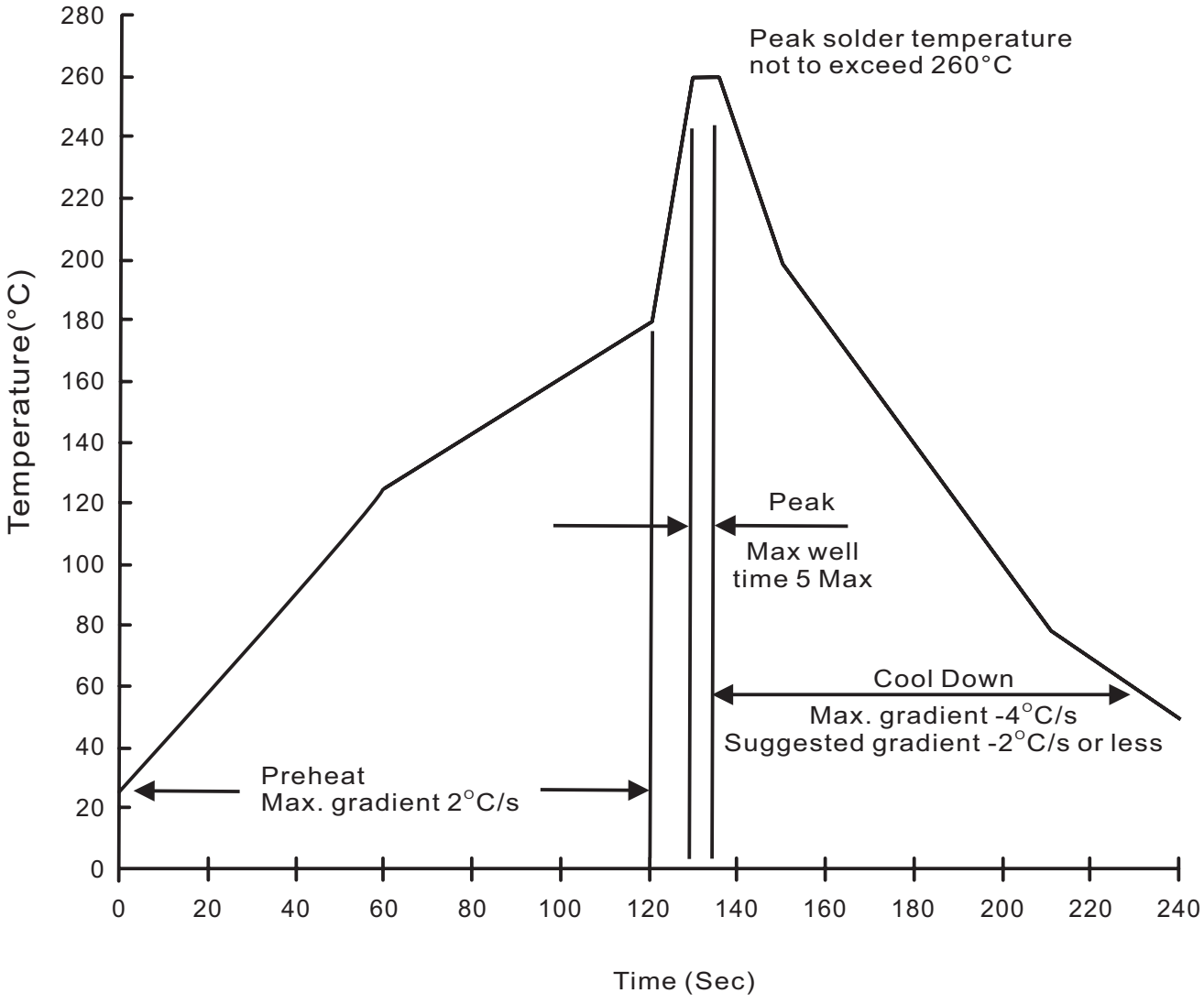
Suggested thermal profiles for soldering processes

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 150°C for 1000 hrs.	MIL-STD-750D METHOD-1031