

GBJ25005A thru GBJ2510A

Bridge Rectifiers

Voltage Range 50V to 1000V Forward Current 25A

Features

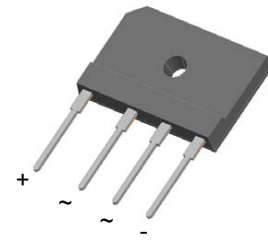
- Glass passivated chip junction
- Thin single in-line package
- High surge current capability
- Solder dip 275 °C max. 7s, per JESD 22-B106

Typical Applications

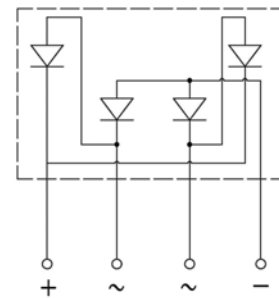
General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

Mechanical Data

- Package: GBJ (5S)
- Molding compound meets UL 94 V-0 flammability rating, RoHS compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: As marked on body



GBJ (5S)



Schematic Diagram

Absolute Maximum Ratings (T_A=25°C Unless otherwise specified)

Parameter	Symbol	GBJ 25005A	GBJ 2501A	GBJ 2502A	GBJ 2504A	GBJ 2506A	GBJ 2508A	GBJ 2510A	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
Average Rectified Output Current @ 60Hz Sine Wave, R-load ¹	with Heatsink T _c =100°C	25.0							A
	without Heatsink T _A =25°C	4.0							
Forward Surge Current (Non-Repetitive) @ 60Hz Half Sine Wave, 1 Cycle, T _J =25°C	I _{FSM}	350							A
Forward Surge Current (Non-Repetitive) @ 1ms Square Wave, 1 Cycle, T _J =25°C		700							
Current Squared Time @ 1ms ≤ t ≤ 8.3ms, T _J =25°C, Rating per Diode	I ² t	508							A ² S
Thermal Resistance, Between Junction and Ambient, without Heatsink ¹	R _{θJA}	18							°C/W
Thermal Resistance, Between Junction and Case, with Heatsink ¹	R _{θJC}	0.8							
Junction Temperature	T _J	-55 to +150							°C
Storage Temperature	T _{STG}	-55 to +150							°C
Dielectric Strength @ Terminals to Case, AC 1 Minute	V _{dis}	2.5							KV
Mounting Torque @ Recommend Torque: 5kg·cm	Tor	8.0							kg·cm

Note: 1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Test Conditions	GBJ 25005A	GBJ 2501A	GBJ 2502A	GBJ 2504A	GBJ 2506A	GBJ 2508A	GBJ 2510A	Unit
Maximum Instantaneous Forward Voltage Drop Per Diode	V_F	$I_{FM}=12.5\text{A}$	1.0						V	
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Diode	I_R	$T_J=25^\circ\text{C}$	5						μA	
		$T_J=125^\circ\text{C}$	100							
Typical Junction Capacitance	C_J	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	116						pF	

Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

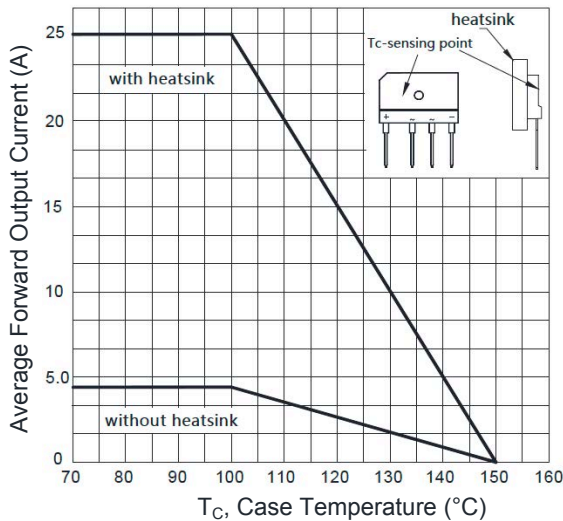


Figure 1. I_o - T_c Curve

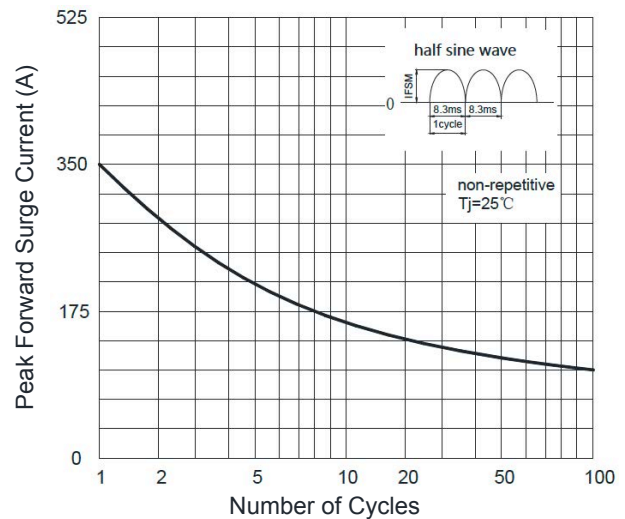


Figure 2. Surge Forward Current Capability

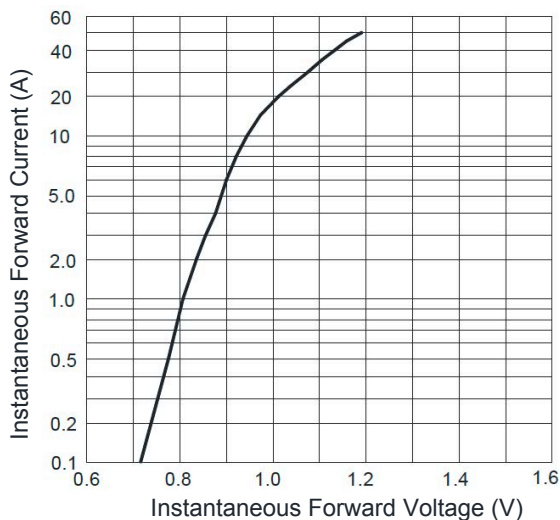


Figure 3. Typical Forward Voltage

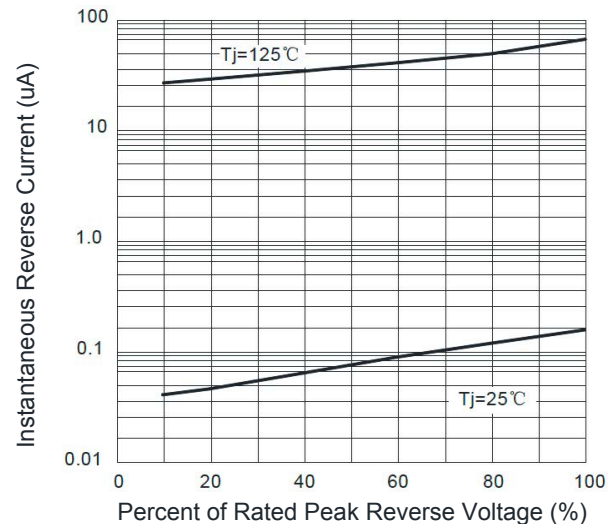


Figure 4. Typical Reverse Characteristics

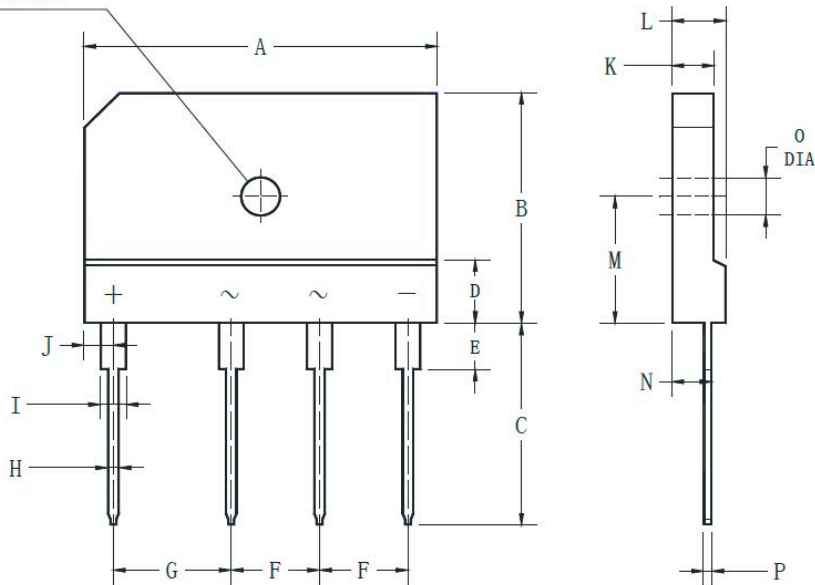
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Package Outline Dimensions GBJ(5S)

HOLE FOR NO.
6 SCREW



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	29.700	30.300	1.169	1.193
B	19.700	20.300	0.776	0.799
C	17.000	18.000	0.669	0.709
D	4.800	5.800	0.189	0.228
E	3.800	4.200	0.150	0.165
F	7.300	7.700	0.287	0.303
G	9.800	10.200	0.386	0.402
H	0.900	1.100	0.035	0.043
I	2.000	2.400	0.079	0.094
J	2.300	2.700	0.091	0.106
K	3.400	3.800	0.134	0.150
L	4.400	4.800	0.173	0.189
M	10.800	11.200	0.425	0.441
N	3.100	3.700	0.122	0.146
O	3.100	3.400	0.122	0.134
P	0.600	0.800	0.024	0.031

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Order Information

Device	Package	Marking	Carrier	Quantity
GBJ25005A	GBJ(5S)	GBJ25005A	Tube	15 pcs / Tube
GBJ2501A	GBJ(5S)	GBJ2501A	Tube	15 pcs / Tube
GBJ2502A	GBJ(5S)	GBJ2502A	Tube	15 pcs / Tube
GBJ2504A	GBJ(5S)	GBJ2504A	Tube	15 pcs / Tube
GBJ2506A	GBJ(5S)	GBJ2506A	Tube	15 pcs / Tube
GBJ2508A	GBJ(5S)	GBJ2508A	Tube	15 pcs / Tube
GBJ2510A	GBJ(5S)	GBJ2510A	Tube	15 pcs / Tube