






THE DATASHEET OF GBJ5010



SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0626- GBJ501000L500A
DATE	June. 26, 2021
REVISION	A1
DESCRIPTION	Thru Hole Silicon Bridge Rectifier, GBJ Series, GBJ5010 Type, 4 Pins, Reverse Voltage 1000V Max. Forward Current 50 A Max. Operating Temp. Range -55°C ~+150°C, Package in Bulk, 250pcs/Box RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD GBJ5010
PART CODE	GBJ501000L500A

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: June 26, 2021			

CUSTOMER APPROVE	
DATE:	

THRU HOLE BRIDGE RECTIFIER GBJ SERIES

MAIN FEATURE



- The technique plastic material has Underwrite Laboratory Flammability Classification 94V-0
- Rating to 1000V PRV
- Reliable low cost construction utilizing molded plastic
- Low forward voltage drop
- High current capability

APPLICATION

- For printed circuit board

RFQ

[Request For Quotation](#)

PART CODE GUIDE

GBJ	501000	L	500A
1	2	3	4

- 1) **GBJ**: Thru Hole Silicon Bridge Rectifier, GBJ Series, 4 Pins
- 2) **501000**: Type code for original part number GBJ5010
- 3) **L**: Package code, In Bulk, 250pcs/Box.
- 4) **500A**: Specification code for Reverse Voltage 1000V Max. Forward Current 50 A Max

MORE ITEMS AVAILABLE

GBJ150050L1505	GBJ150100L5010	GBJ150200L1520	GBJ150400L1540	GBJ150600L1560
GBJ150800L1580	GBJ151000L150A			
GBJ2500050L2505	GBJ250100L2510	GBJ250200L2520	GBJ250400L2540	GBJ250600L2560
GBJ250800L2580	GBJ251000L250A			
GBJ350050L3505	GBJ350100L3510	GBJ350200L3520	GBJ350400L3540	GBJ350600L3560
GBJ350800L3580	GBJ351000L350A			
GBJ500050L5005	GBJ500100L5010	GBJ500200L5020	GBJ500400L5040	GBJ500600L5060
GBJ500800L5080	GBJ501000L500A			

THRU HOLE BRIDGE RECTIFIER GBJ SERIES

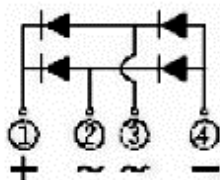
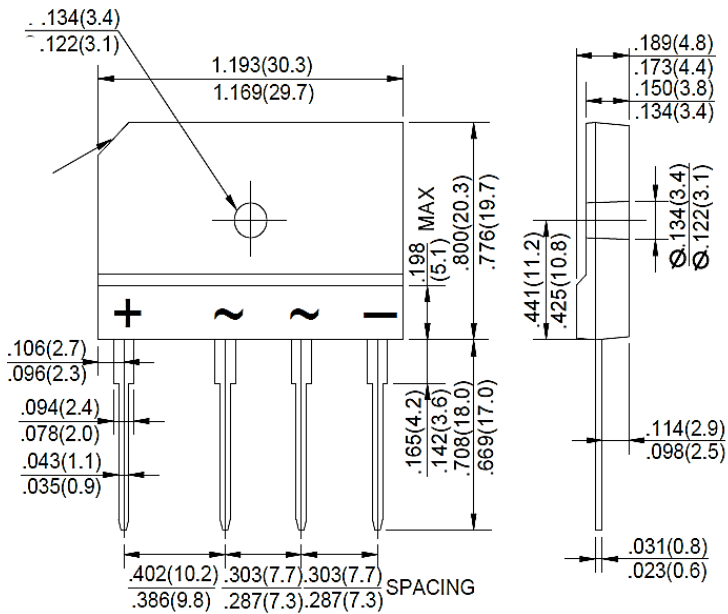
DIMENSION (Unit: Inch/mm)

Image for reference



Marking: GBJ5010

GBJ



THRU HOLE BRIDGE RECTIFIER GBJ SERIES
MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC GBJ molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on body	Any	-

MAX. RATING & CHARACTERISTICS

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Repetitive peak reverse voltage	V _{RRM}			1000	Volts
RMS voltage	V _{RMS}			700	Volts
DC blocking voltage	V _{DC}			1000	Volts
Average forward rectified current at T _c = 100°C (see Note 3) without heatsink	I _{AV}			50	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		510		A ² S
Forward voltage drop per bridge element at 25A	V _F			1.1	Volts
DC reverse current at rated DC blocking voltage	I _R			10	μA
				0.5	mA
Thermal capacitance	C _J		85		pF
Thermal resistance (Note 3)	R _{QJA}		0.6		°C/W
Operating junction temperature range	T _J	-55		+150	
Storage temperature range	T _{STG}	-55		+150	°C

Note

1. Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Device mounted on 75*75*1.6mm cooper pads
4. The typical data above is for reference only

THRU HOLE BRIDGE RECTIFIER GBJ SERIES

RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

THRU HOLE BRIDGE RECTIFIER GBJ SERIES

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

FIG.1-FORWARD CURRENT DERATING CURVE

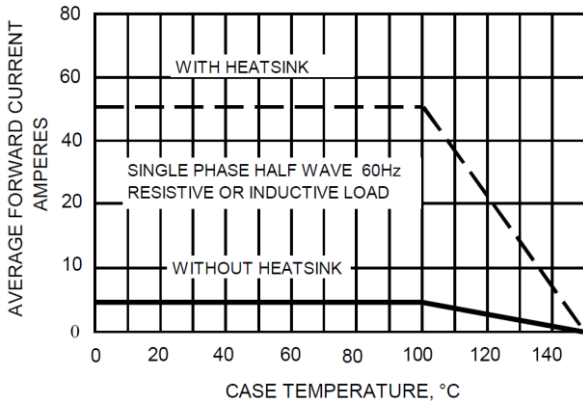


FIG.2-MAXMUN NON-REPETITIVE SURGE CURRENT

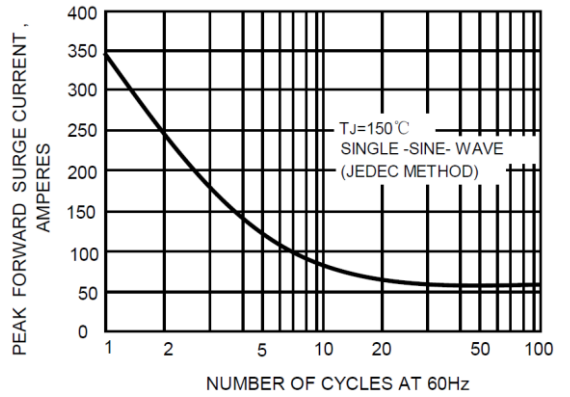


FIG.3-TYPICAL REVERSE CHARACTERISTICS

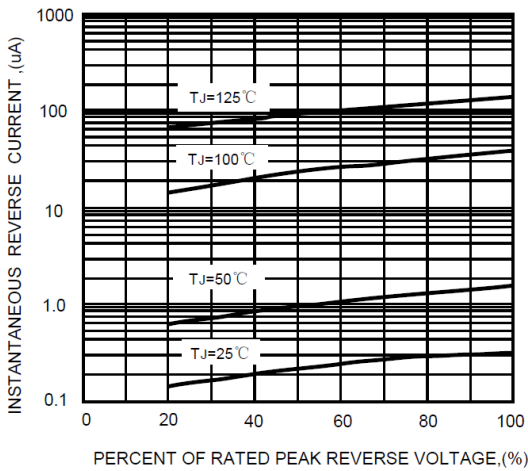
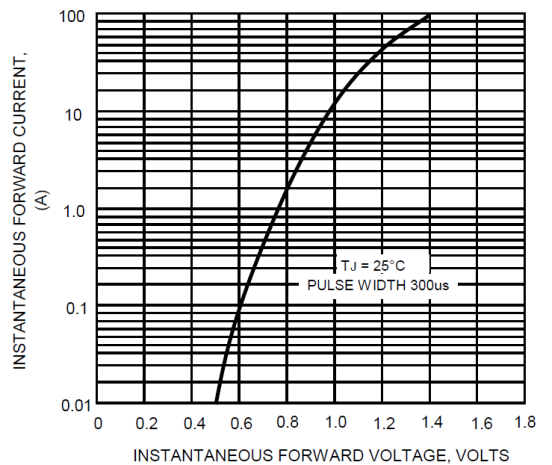


FIG.4-TYPICAL FORWARD CHARACTERISTICS



THRU HOLE BRIDGE RECTIFER WOM SERIES

PACKAGE

Part Type	Qty. Per Box (pcs)	G.W per box (kg)	Inner Box L*W*H (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
GBJ	250	1.95	310*145*43	325*330*210	2,000	16.40

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