




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0626-MBSMB110S0S110
DATE	June 26, 2021
REVISION	A0
DESCRIPTION	SMD Single Phase Glass Passivated Bridge Rectifier, MBS Series, MB110S Type 4 Pins, Reverse Voltage 100V Max. Forward Current 1.0A Max. Operating Temp. Range -55°C ~+125°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD MB110S
PART CODE	MBSMB110S0S110

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

CUSTOMER APPROVE
DATE:

SMD BRIDGE RECTIFIER MBS SERIES



MAIN FEATURE

- Reliable low cost construction utilizing molded plastic technique
- Small size simple installation
- High surge current capability
- High temperature soldering guaranteed. 260 °C/10 seconds, at 5 lbs (2.3kg) tension

APPLICATION

- For printed circuit board

[RFQ](#)

[Request For Quotation](#)

PART CODE GUIDE

MBS	MB110S0	S	110
1	2	3	4

- 1) **MBS**: SMD Single Phase Glass Passivated Bridge Rectifier, 4 pins, MBS Series
- 2) **MB110S0**: Type code for original part number MB110S
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **110**: Specification code for Reverse Voltage 100V Max. Forward Current 1.0A Max.

MORE ITEMS AVAILABLE

MBSMB14S00S104	MBSMB16S00S106	MBSMB18S00S108	MBSMB110S0S110	MBSMB120S0S120

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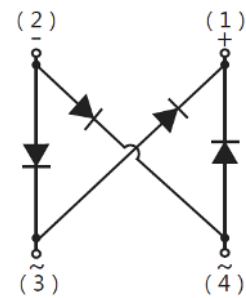
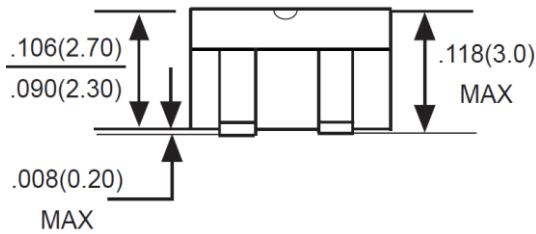
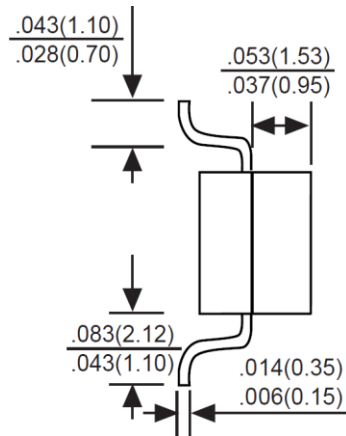
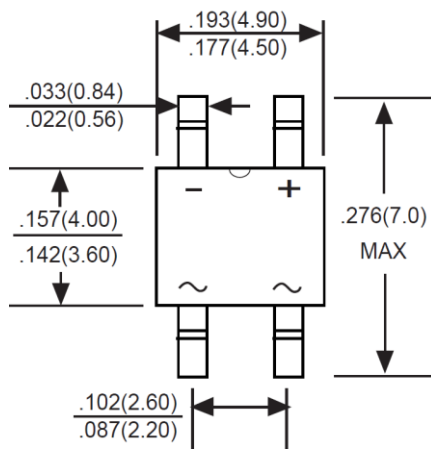
DIMENSION (Unit: Inch/mm)

Image for reference

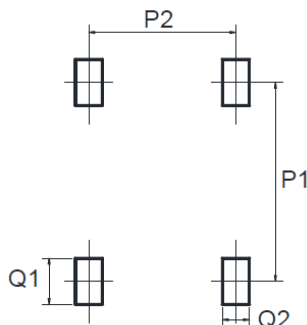


Marking: MB110S

MBS



Recommend Pad Layout



Symbol	Min. (Inch)	Min. (mm)
P1	0.236	6.00
P2	0.094	2.40
Q1	0.072	1.84
Q2	0.047	1.20

SMD BRIDGE RECTIFIER MBS SERIES
MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC MBS molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on case	Any	0.0080 Ounce, 0.220 grams

MAX. RATING & CHARACTERISTICS

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Repetitive peak reverse voltage	V _{RRM}			100	Volts
RMS voltage	V _{RMS}			70	Volts
DC blocking voltage	V _{DC}			100	Volts
Average forward output rectified current at T _c = 30°C On glass-epoxy PCB On aluminum substrate	I _{AV}			1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}		30		A
Instantaneous forward voltage at 1A	V _F			0.9	Volts
DC reverse current at rated DC blocking voltage	I _R			0.1	mA
				2.0	mA
Junction capacitance	C _J		80		pF
Thermal resistance (Note 4)	R _{QJA}		100		°C/W
Operating junction temperature range	T _J	-55		+125	
Storage temperature range	T _{STG}	-55		+150	°C

Note

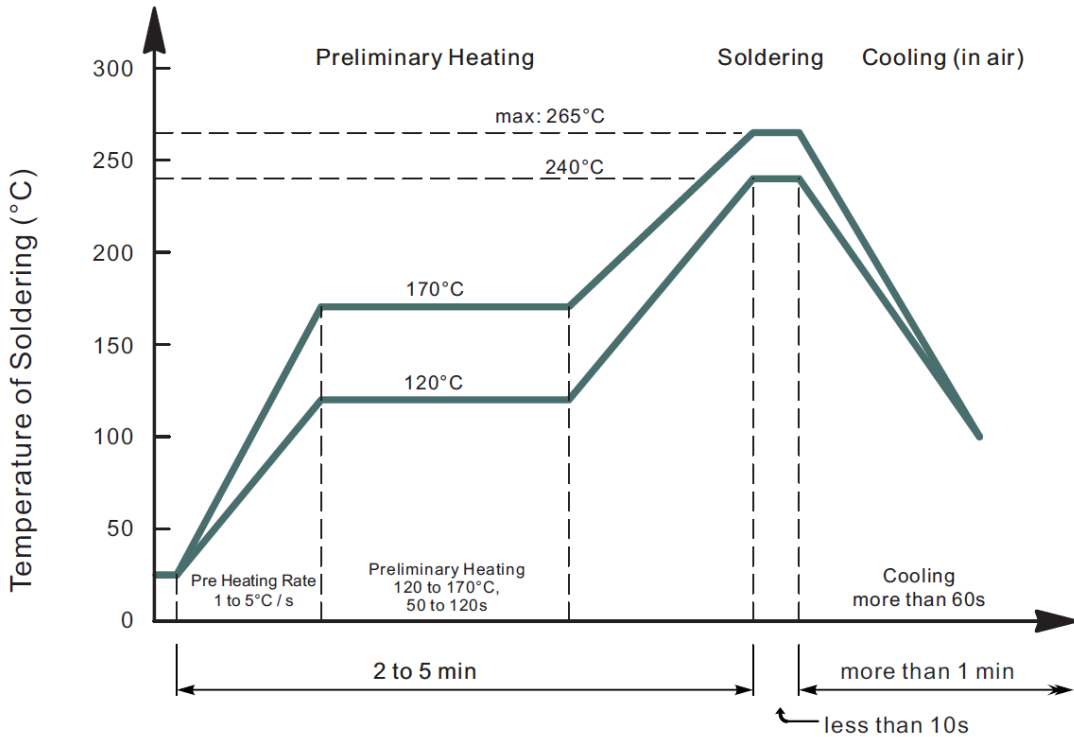
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- On glass epoxy PCB mounted on 0.05*0.05" (1.3*1.3mm) pads
- Thermal resistance from junction to ambient and from junction to lead PCB on mounted on 0.20*0.20" (5.0*5.0mm) solder pads
- Measured at 1.0MHz and applied reverse voltage of 4.0V

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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

SUGGESTED REFLOW PROFILE (For Reference Only)



- Recommended peak temperature is over 245°C, If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)
- Welding shall not exceed 2 times
- Remark: lead free solder paste (96.5 sn/3.0 Ag/0.5Cu)

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Forward Current Derating Curve

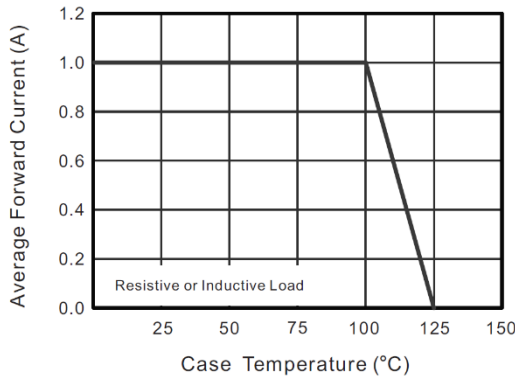


Fig.2 Typical Reverse Characteristics

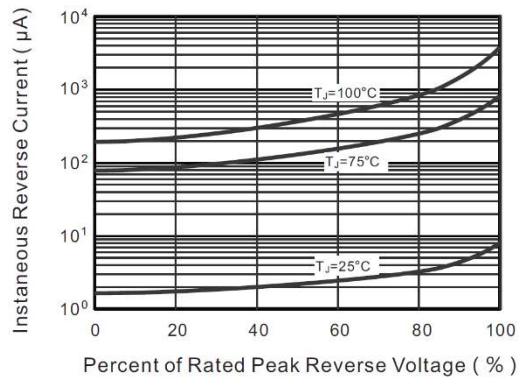


Fig. 3 Typical Forward Characteristics (per leg)

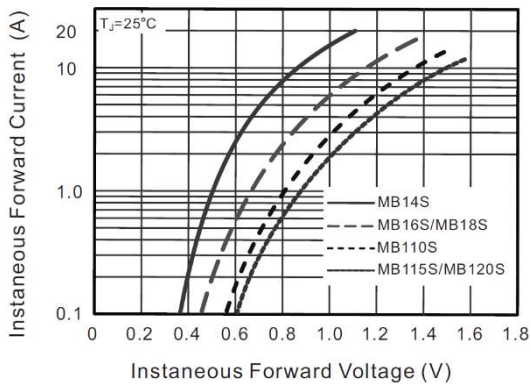


Fig.4 Typical Junction Capacitance

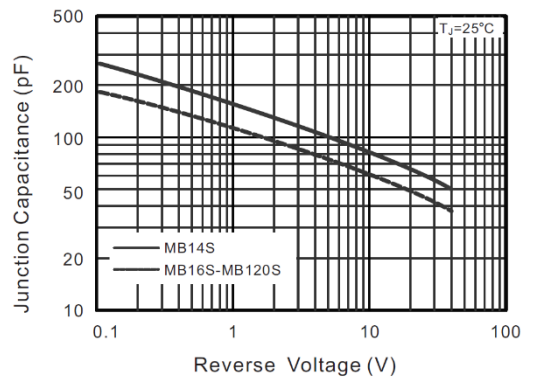


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

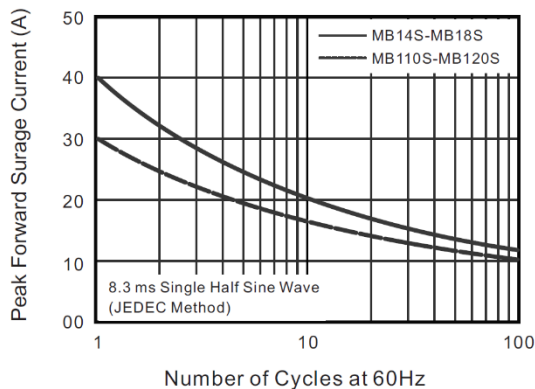
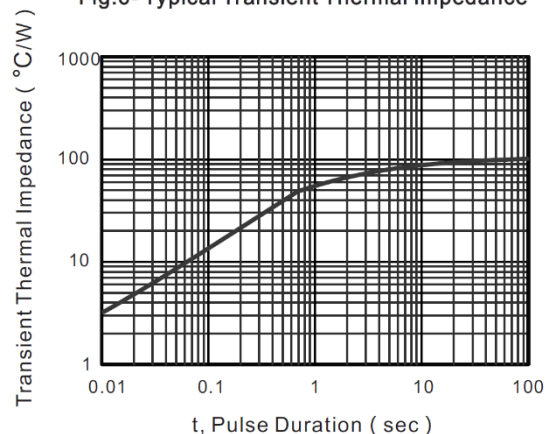


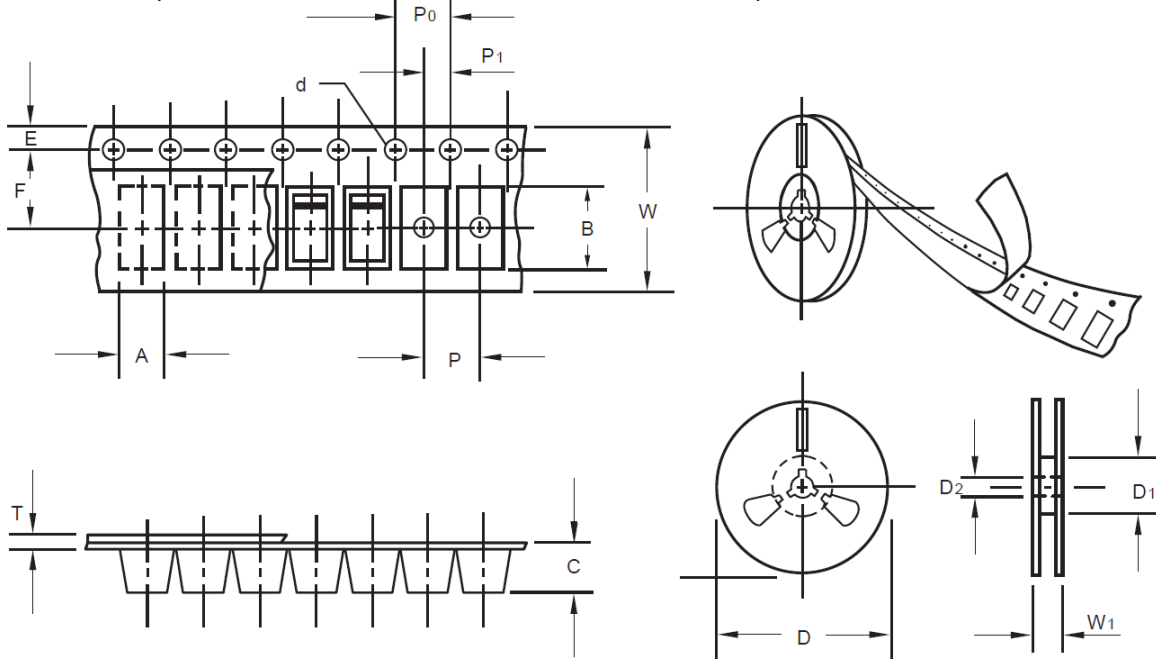
Fig.6- Typical Transient Thermal Impedance



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TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.

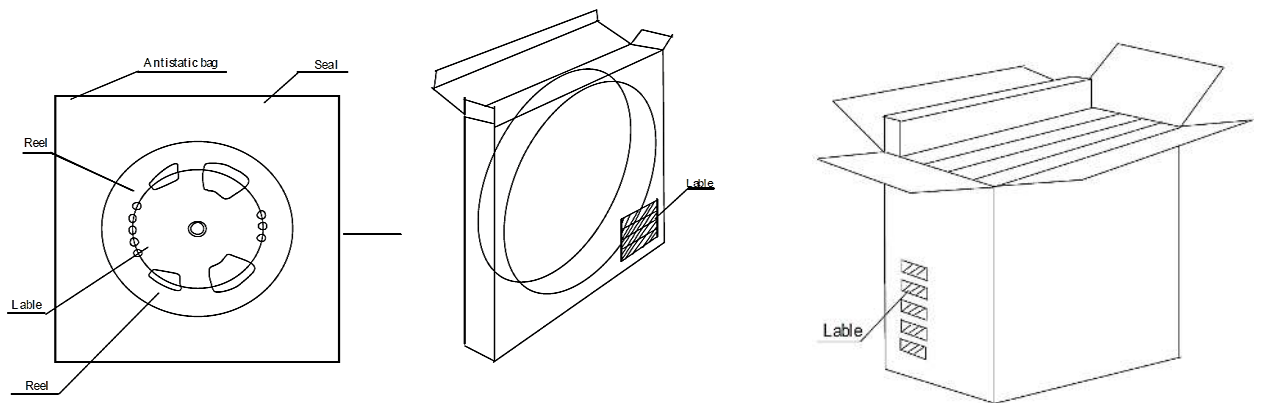


Item	Symbol	Tolerance	MBS
Carrier width	A	0.1	2.8
Carrier Length	B	0.1	5.33
Carrier Depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13"Reel outside diameter	D	2.0	330.00
13"Reel inner diameter	D1	Min.	50.00
7"Reel outside diameter	D	-	-
7"Reel inner diameter	D1	-	-
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.0
Overall tape thickness	T	0.1	0.28
Tape width	W	0.3	12.00
Reel width	W1	1.0	18.0

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PACKAGE

Case Code	Reel Size	MPQ (pcs)	Component Spacing (mm)	Qty. Per Box (pcs)	Inner Box L*W*H (mm)	Reel Size (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
MBS	13"	3,000	-	6,000	190*190*41	330	380*380*380	48,000	12.0



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