




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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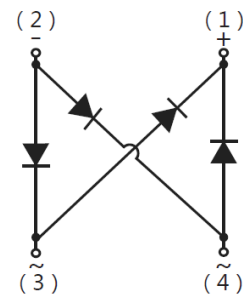
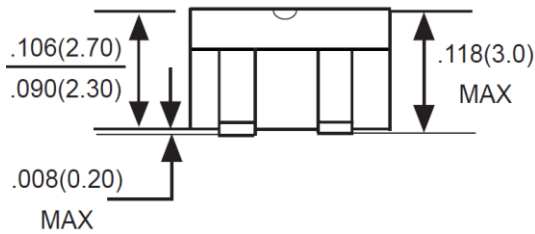
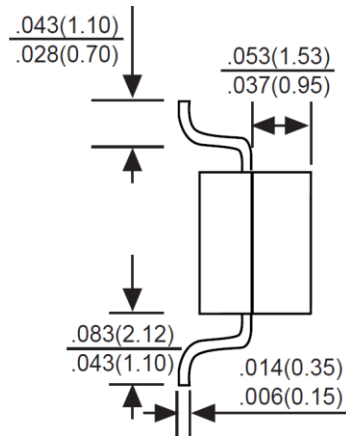
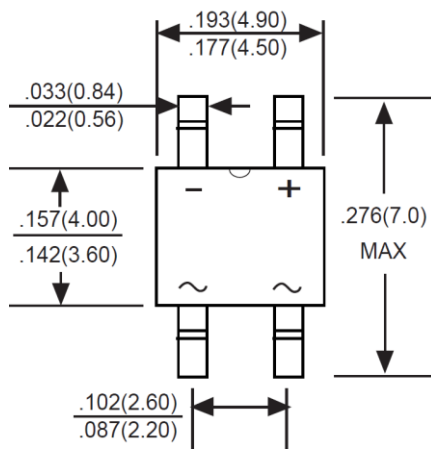
DIMENSION (Unit: Inch/mm)

Image for reference

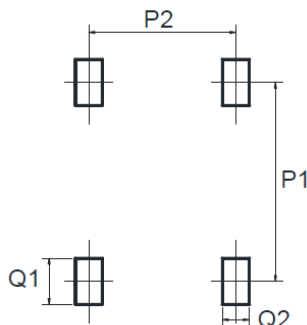


Marking: MB110S

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

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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

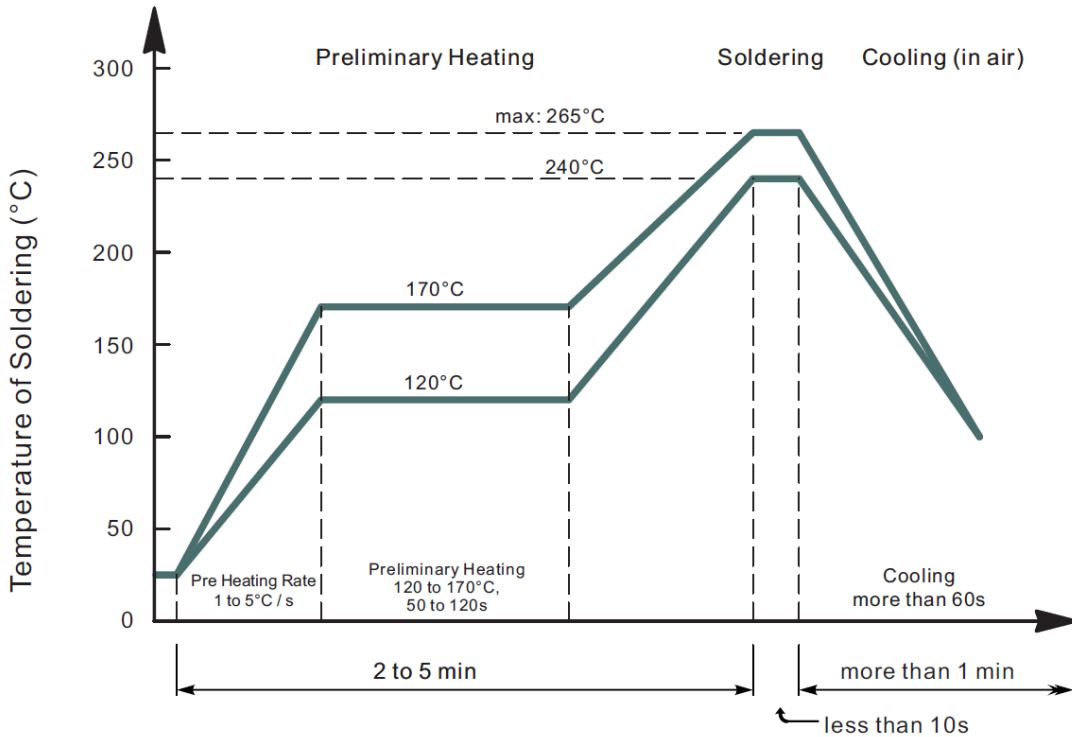
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- On glass epoxy PCB mounted on 0.05*0.05" (1.3*1.3mm) pads
- Thermal resistance from junction to ambient and from junction to lead PCB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

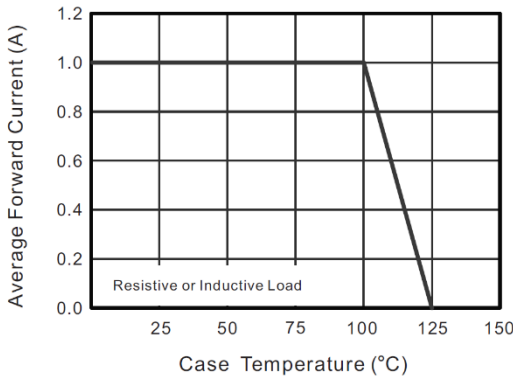


Fig.2 Typical Reverse Characteristics

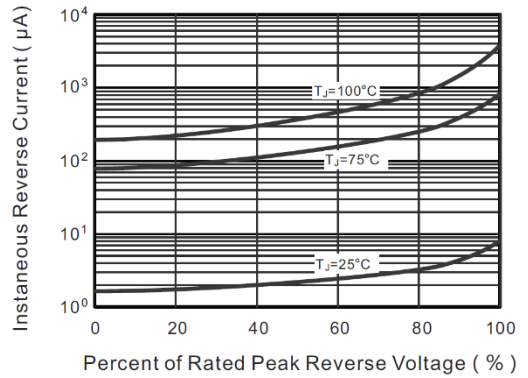


Fig. 3 Typical Forward Characteristics (per leg)

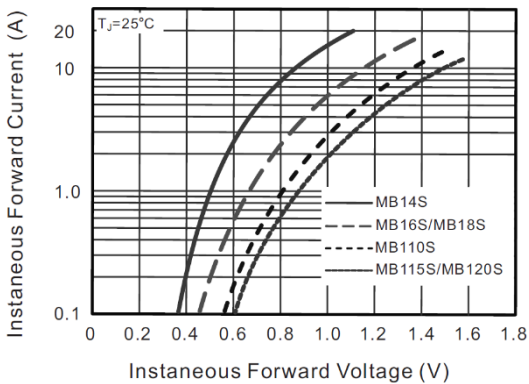


Fig.4 Typical Junction Capacitance

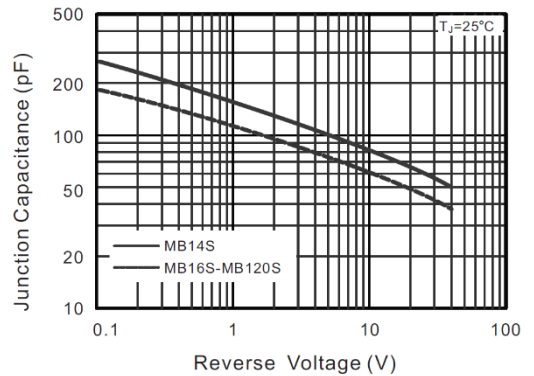


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

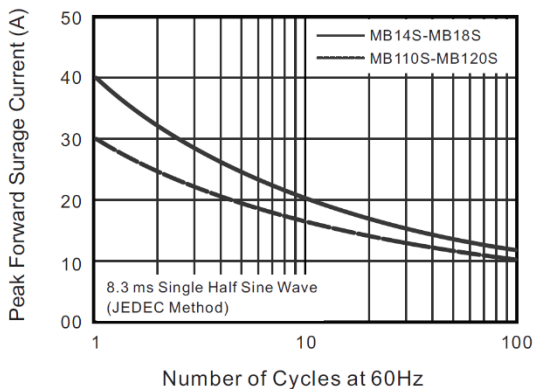
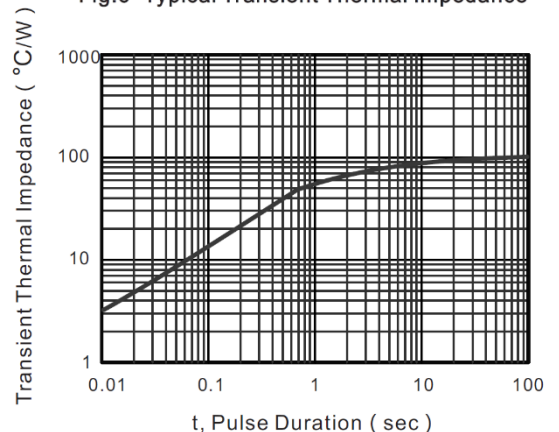


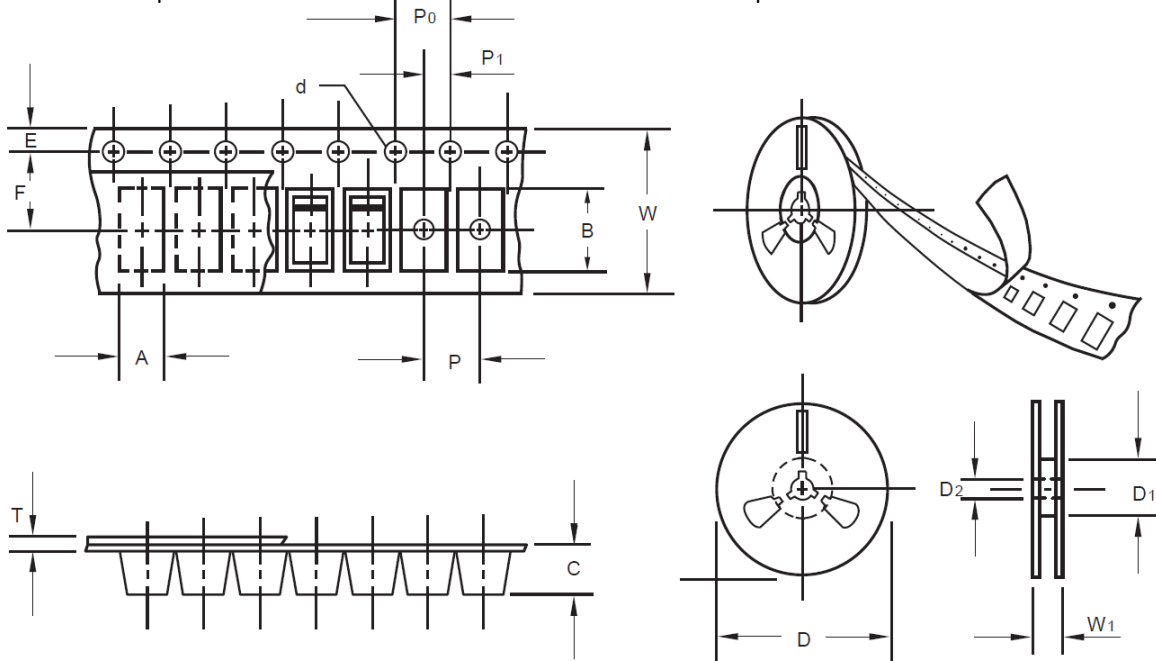
Fig.6- Typical Transient Thermal Impedance



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TAPE/REEL (Unit: mm)

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

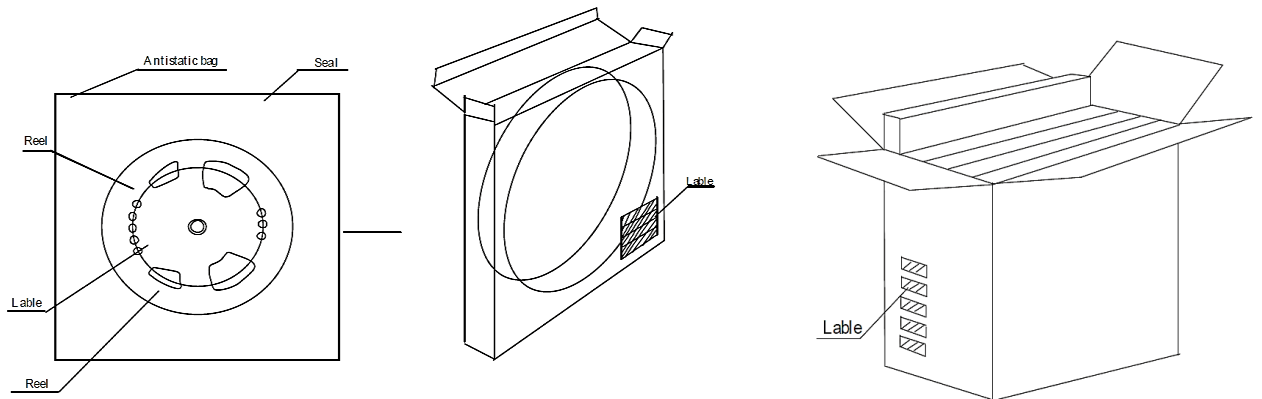


Item	Symbol	Tolerance	MBS
Carrier width	A	0.1	2.8
Carrier Length	B	0.1	5.33
Carrier Depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13"Reel outside diameter	D	2.0	330.00
13"Reel inner diameter	D1	Min.	50.00
7"Reel outside diameter	D	-	-
7"Reel inner diameter	D1	-	-
Feed hole diameter	D2	0.5	13.00
Sprocket 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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