




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0310-MBS010S000S10A
DATE	Mar. 10, 2021
REVISION	A0
DESCRIPTION	SMD Single Phase Glass Passivated Bridge Rectifier, MBS Series, MB10S Type 4 Pins, Reverse Voltage 1000V Max. Forward Current 1.0A Max. Operating Temp. Range -55°C ~+150°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD MB10S
PART CODE	MBS010S000S10A

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: March 10, 2021			

CUSTOMER APPROVE	
DATE:	

SMD BRIDGE RECTIFER 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	010S000	S	10A
1	2	3	4

- 1) **MBS**: SMD Single Phase Glass Passivated Bridge Rectifier, 4 pins, MBS Series
- 2) **010S000**: Type code for original part number MBS10S
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **10A**: Specification code for Reverse Voltage 1000V Max. Forward Current 1.0A Max.

MORE ITEMS AVAILABLE

MBS002S000S120	MBS004S000S140	MBS006S000S160	MBS008S000S180	MBS010S000S10A
MBS014S000S104	MBS016S000S106	MBS0110S000S110	MBS0120S000S210	
MBS024S000S204	MBS026S000S206	MBS028S000S208	MBS0210S000S210	MBS0220S000S220
MBSE02S000S110	MBSE004S000S120	MBSE006S000S140	MBSE008S000S160	
MBSR002S000S120	MBSR004S000S140	MBSR006S000S160	MBSR008S000S180	MBSR010S000S10A
MBSU002S000S120	MBSU004S000S140	MBSU006S000S160	MBSU008S000S180	MBSU010S000S10A

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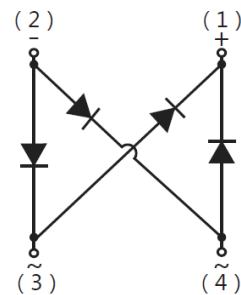
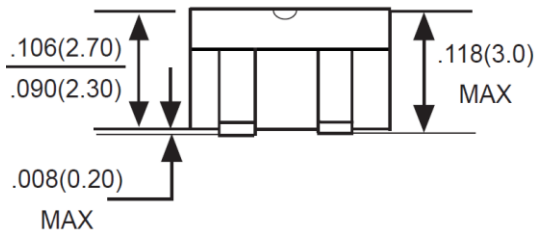
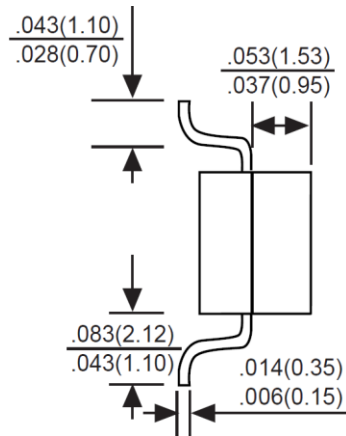
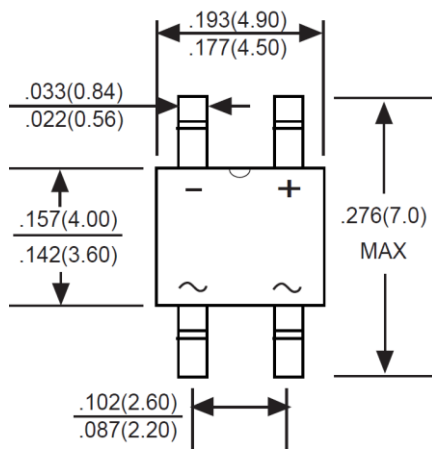
DIMENSION (Unit: Inch/mm)

Image for reference

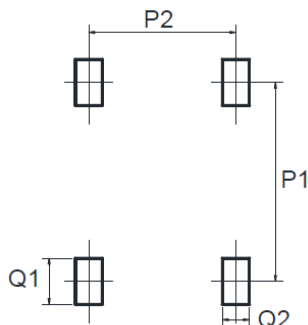


Marking: MB10S

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	0.0035 Ounce, 0.1080 grams

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 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}		35		A
Instantaneous forward voltage at 0.4A	V _F			1.10	Volts
DC reverse current at rated DC blocking voltage	I _R			5	μA
				500	μA
Junction capacitance	C _J		13		pF
Thermal resistance (Note 4)	R _{QJA}		70		°C/W
Operating junction temperature range	T _J	-55		+150	
Storage temperature range	T _{STG}	-55		+150	°C

Note

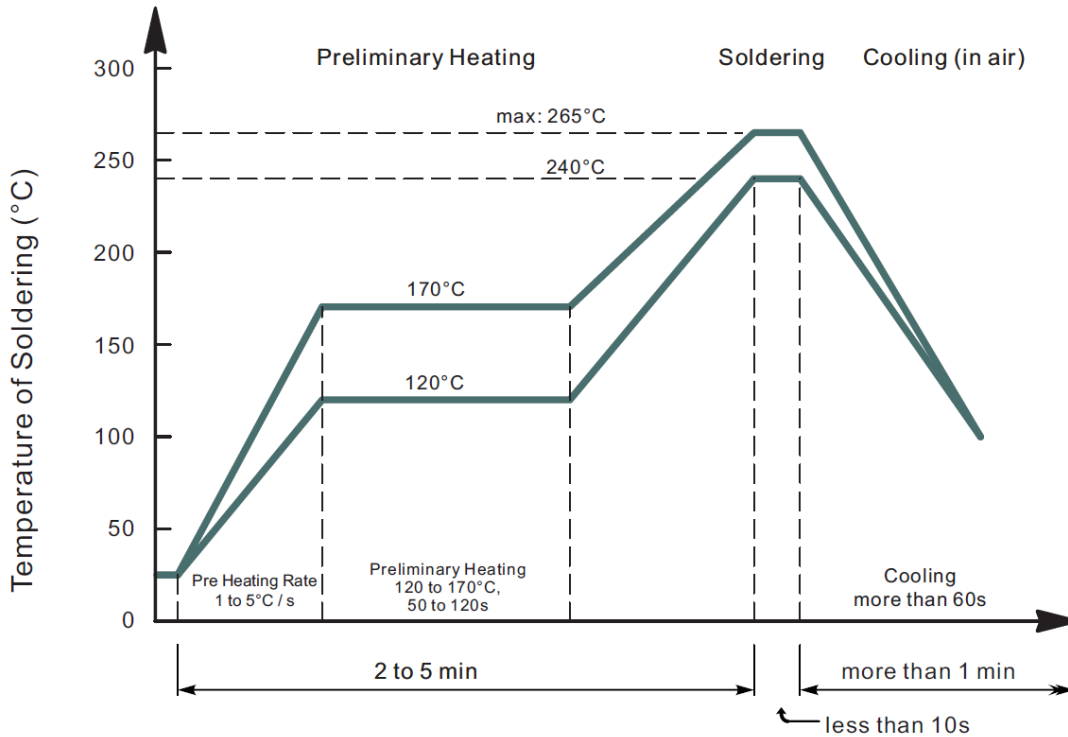
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- On glass epoxy PCB mounted on 0.05*0.05" (1.3*1.3mm) pads
- On aluminum substrate PCB with on area of 0.8*0.8" (20*20mm) mounted on 0.05*0.05" (1.3*1.3mm) solder pads
- Measured at 1.0MHz and applied reverse voltage of 4.0V

SMD BRIDGE RECTIFIER MBS 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

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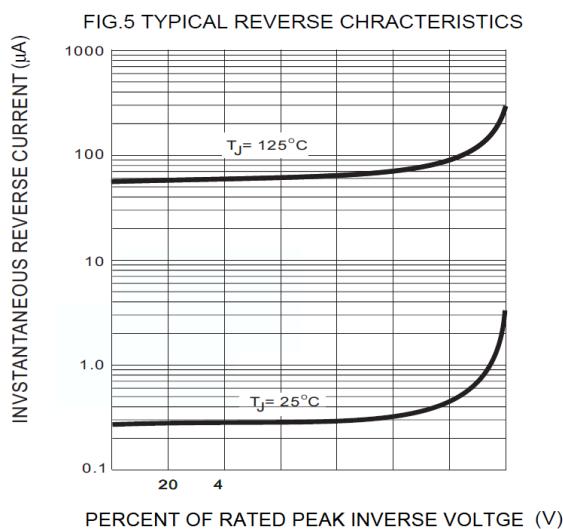
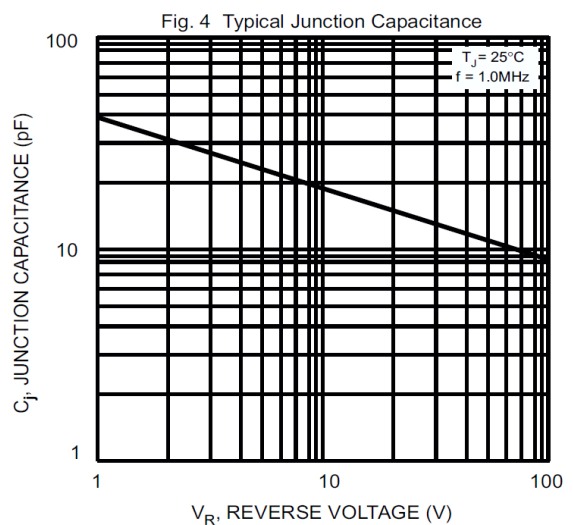
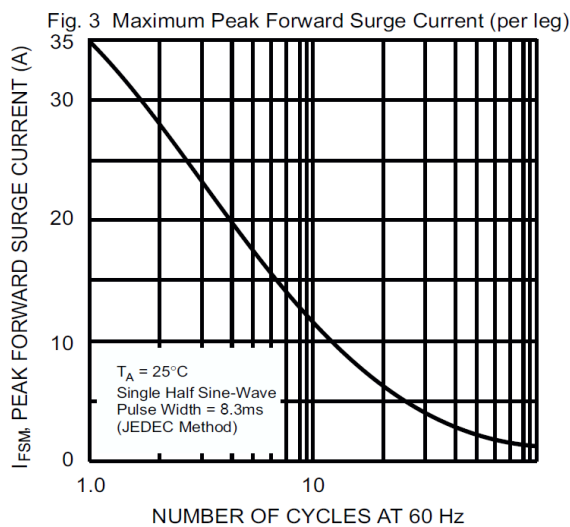
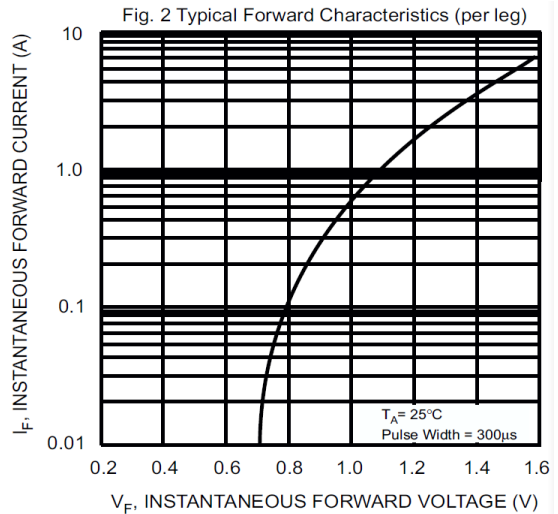
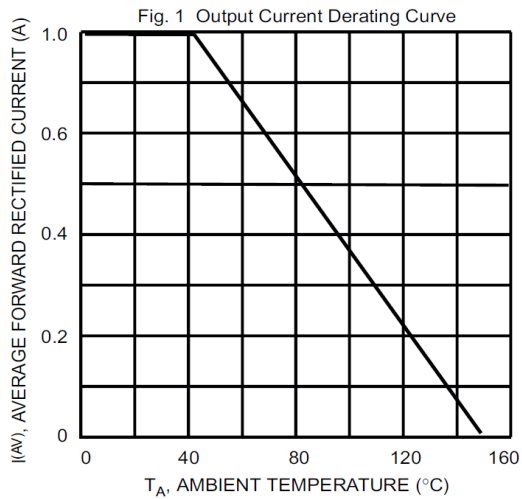
SUGGESTED REFLOW PROFILE (For Reference Only)



- 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)

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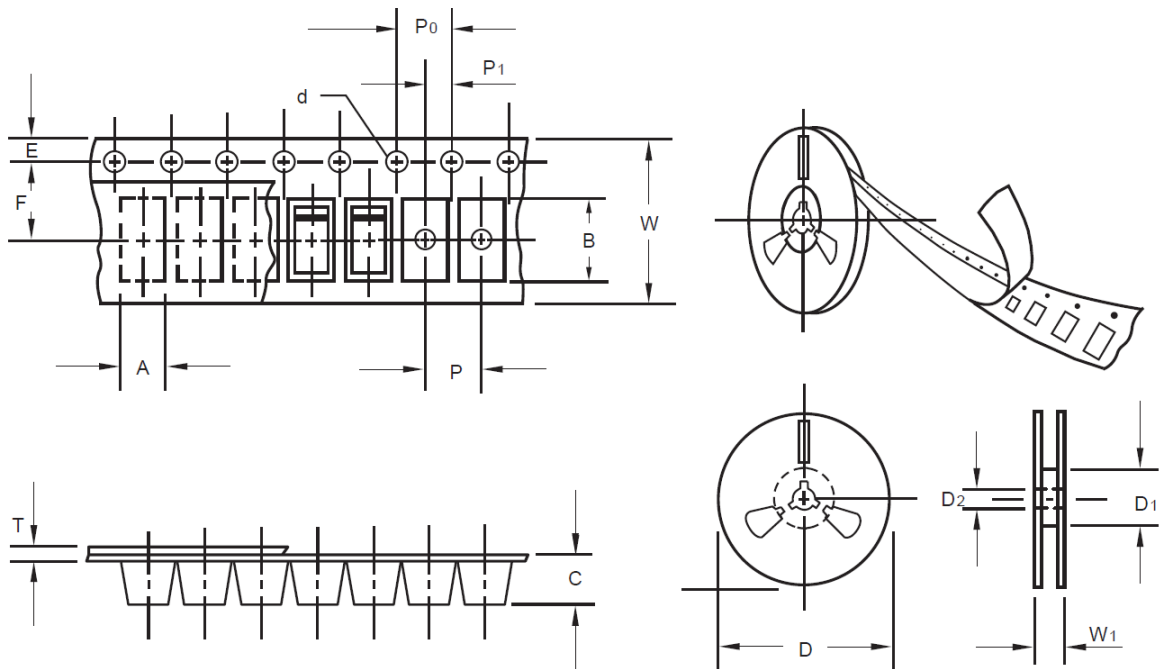
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



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TAPE/REEL (Unit: mm)

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

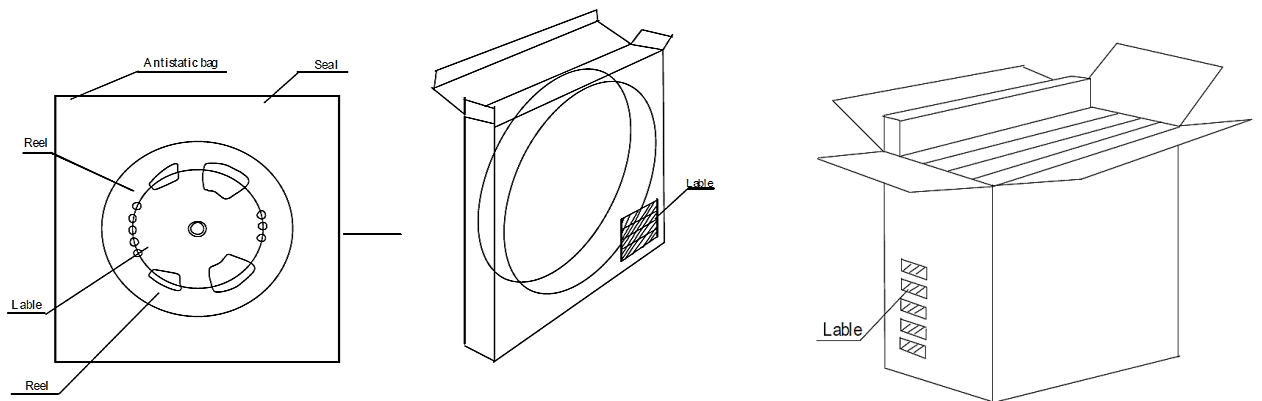


Item	Symbol	Tolerance	MBS
Carrier width	A	0.1	2.8
Carrier Length	B	0.1	5.33
Carrier Depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	Min.	50.00
7" Reel outside diameter	D	-	-
7" Reel inner diameter	D1	-	-
Feed hole diameter	D2	0.5	13.00
Sprocket 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	370*370*380	48,000	12.0



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