




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	N0310-MBS010S000S10A
<b>DATE</b>	Mar. 10, 2021
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	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
<b>CUSTOMER</b>	
<b>CUSTOMER PART NUMBER</b>	
<b>CROSS REF. PART NUMBER</b>	
<b>ORIGINAL PART NUMBER</b>	MDD MB10S
<b>PART CODE</b>	MBS010S000S10A

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

<b>CUSTOMER APPROVE</b>	
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	<b>MBS010S000S10A</b>
MBS014S000S104	MBS016S000S106	MBS0110S000S110	MBS0120S000S210	
MBS024S000S204	MBS026S000S206	MBS028S000S208	MBS0210S000S210	MBS0220S000S220
MBSE02S000S110	MBSE004S000S120	MBSE006S000S140	MBSE008S000S160	
MBSR002S000S120	MBSR004S000S140	MBSR006S000S160	MBSR008S000S180	MBSR010S000S10A
MBSU002S000S120	MBSU004S000S140	MBSU006S000S160	MBSU008S000S180	MBSU010S000S10A

**SMD BRIDGE RECTIFIER MBS SERIES**

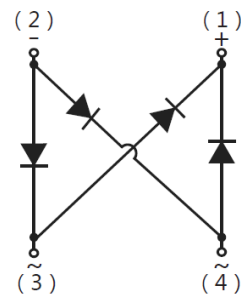
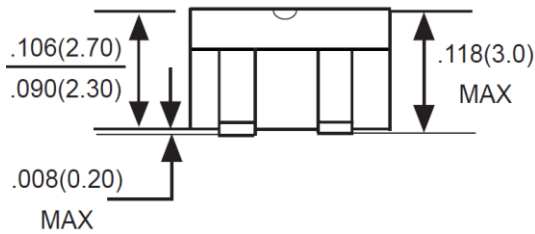
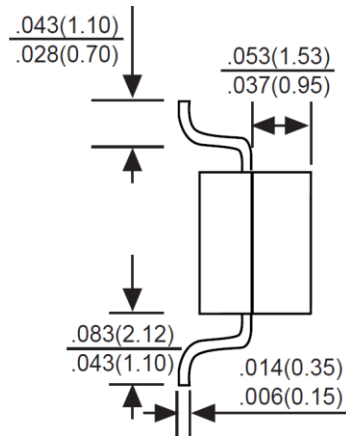
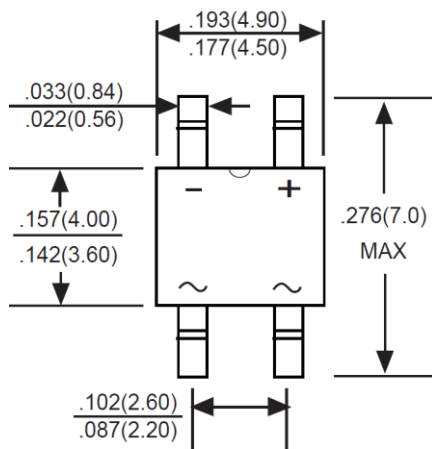
**DIMENSION (Unit: Inch/mm)**

Image for reference

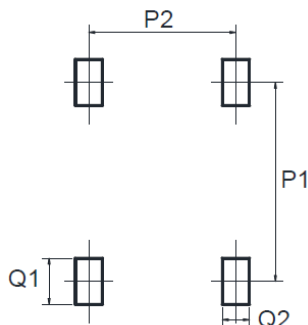


Marking: MB10S

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 <sub>RRM</sub>			1000	Volts
RMS voltage	V <sub>RMS</sub>			700	Volts
DC blocking voltage	V <sub>DC</sub>			1000	Volts
Average forward output rectified current at T <sub>c</sub> = 30°C On glass-epoxy PCB On aluminum substrate	I <sub>AV</sub>			1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>		35		A
Instantaneous forward voltage at 0.4A	V <sub>F</sub>			1.10	Volts
DC reverse current at rated DC blocking voltage	I <sub>R</sub>			5	μA
				500	μA
Junction capacitance	C <sub>J</sub>		13		pF
Thermal resistance (Note 4)	R <sub>QJA</sub>		70		°C/W
Operating junction temperature range	T <sub>J</sub>	-55		+150	
Storage temperature range	T <sub>STG</sub>	-55		+150	°C

**Note**

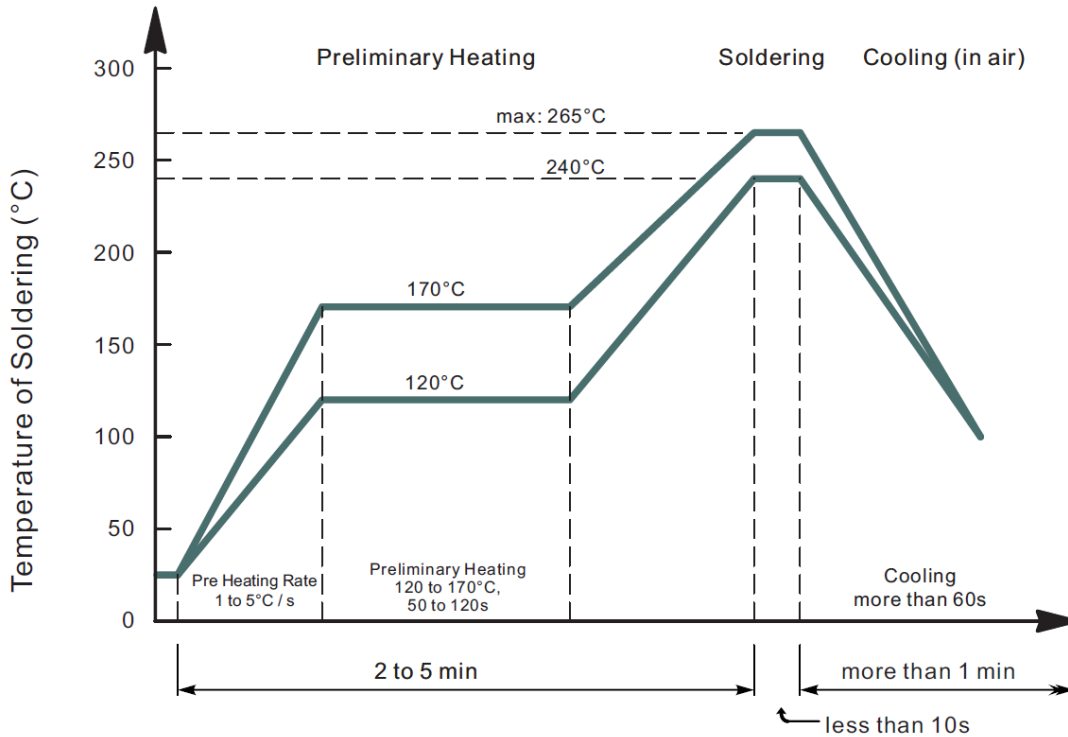
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- On glass epoxy PCB mounted on 0.05\*0.05" (1.3\*1.3mm) pads
- On aluminum substrate PCB with on area of 0.8\*0.8" (20\*20mm) mounted 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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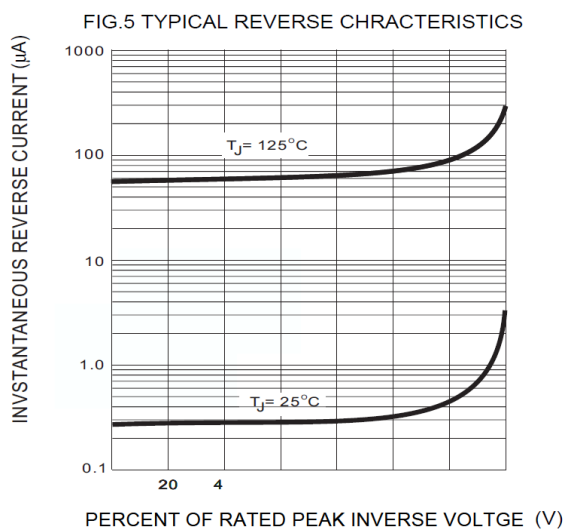
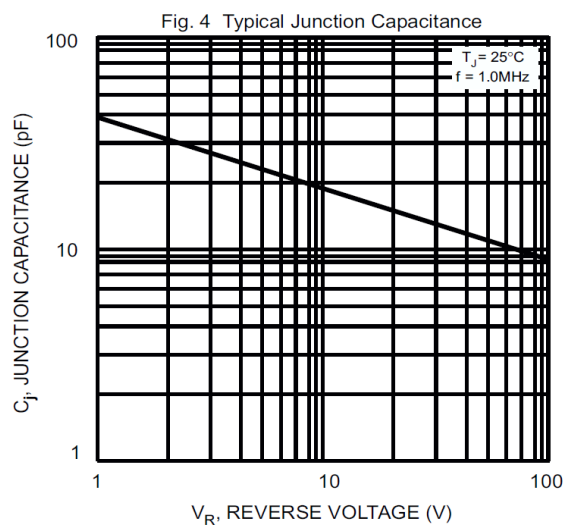
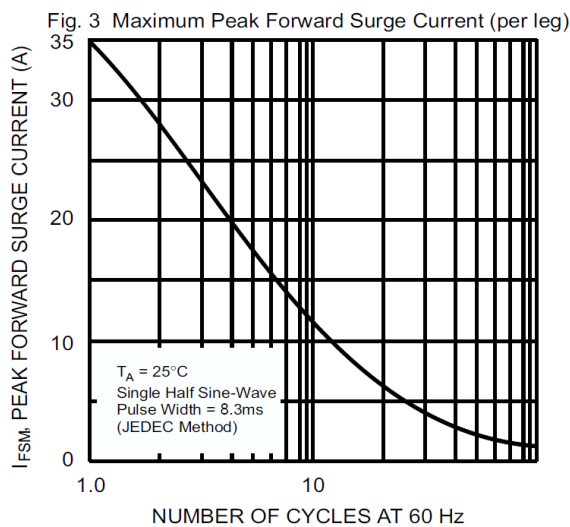
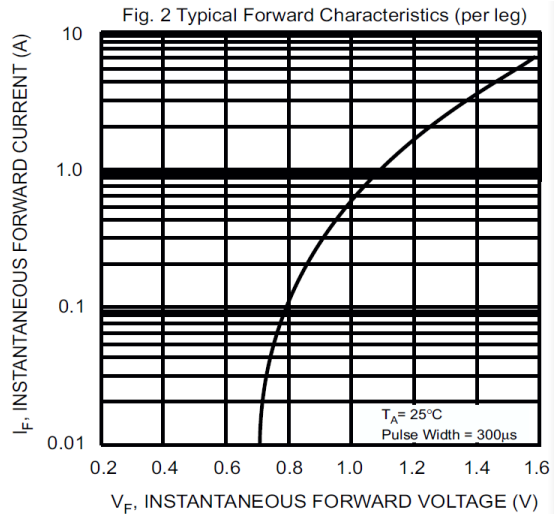
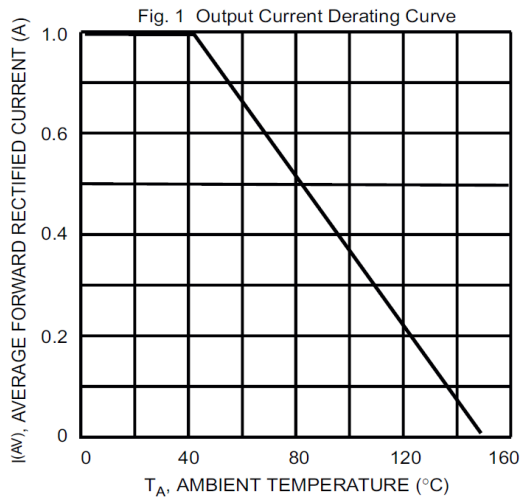
**SUGGESTED REFLOW PROFILE (For Reference Only)**



- 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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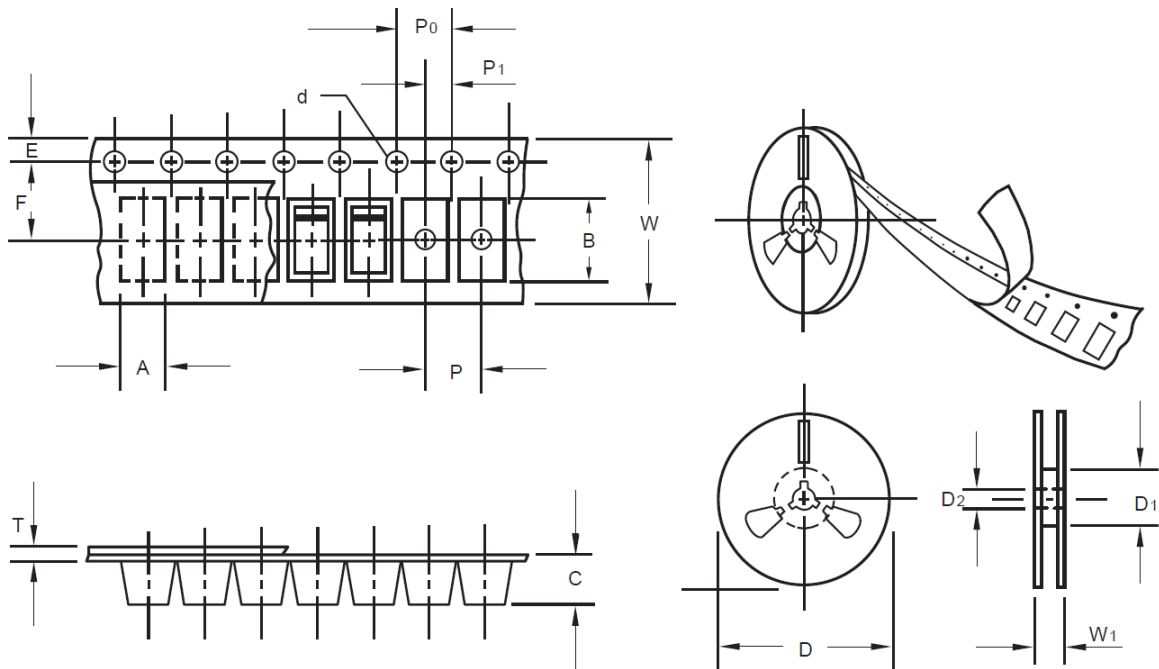
**RATINGS AND CHARACTERISTIC CURVES (For Reference Only)**



**SMD BRIDGE RECTIFIER MBS SERIES**

**TAPE/REEL (Unit: mm)**

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



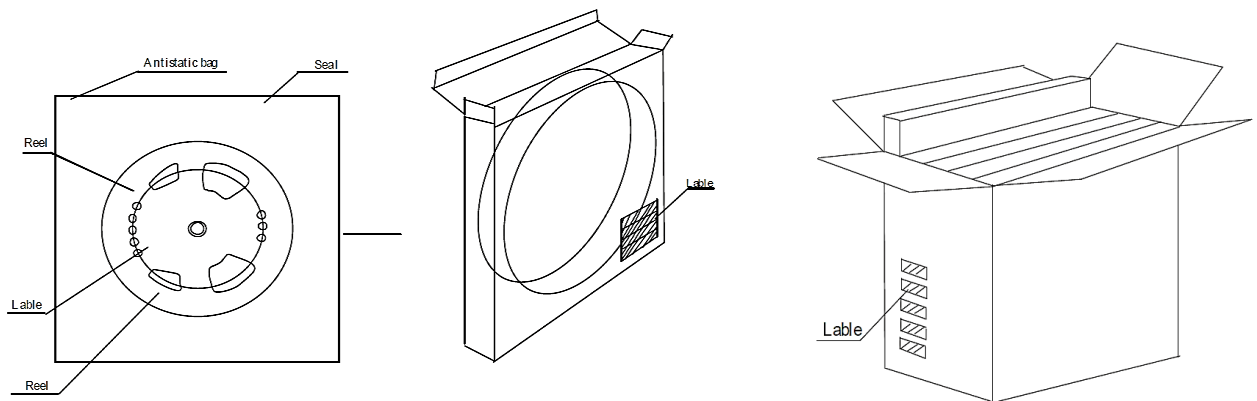
Item	Symbol	Tolerance	MBS
Carrier width	A	0.1	2.8
Carrier Length	B	0.1	5.33
Carrier Depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	Min.	50.00
7" Reel outside diameter	D	-	-
7" Reel inner diameter	D1	-	-
Feed hole diameter	D2	0.5	13.00
Sprocket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