




SPECIFICATION SHEET

| | |
|--------------------------------|---|
| SPECIFICATION SHEET NO. | N0310-MBF010F000S10A |
| DATE | Mar. 10, 2021 |
| REVISION | A0 |
| DESCRIPTION | SMD Single Phase Glass Passivated Bridge Rectifier, MBF series, MB10F Type, 4 Pins, Reverse Voltage 1000V Max. Forward Current 1.0A Max. Operating Temp. Range -55°C ~+150°C, Package in Tape/Reel, 5000pcs/Reel RoHS/RoHS III compliant |
| CUSTOMER | |
| CUSTOMER PART NUMBER | |
| CROSS REF. PART NUMBER | |
| ORIGINAL PART NUMBER | MDD MB10F |
| PART CODE | MBF010F000S10A |

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

| | |
|-------------------------|--|
| CUSTOMER APPROVE | |
| | |
| DATE: | |

SMD BRIDGE RECTIFER MBF SERIES



MAIN FEATURE

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material – UL flammability 94V-0

APPLICATION

- For SMD application

RFQ

[Request For Quotation](#)

PART CODE GUIDE

| MBF | 010F000 | S | 10A |
|-----|---------|---|-----|
| 1 | 2 | 3 | 4 |

- 1) **MBF**: SMD Single Phase Glass Passivated Bridge Rectifier, 4 pads, MBF serie
- 2) **010F000**: Type code for original part number MB10F
- 3) **S**: Package code, Tape/reel, 5000pcs/reel.
- 4) **10A**: Specification code for Reverse Voltage 1000V Max. Forward Current 1.0A Max.

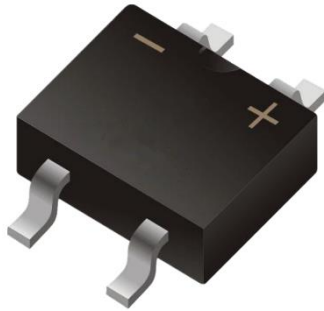
MORE ITEMS AVAILABLE

| | | | | |
|----------------|----------------|----------------|----------------|-----------------------|
| MBF002F000S120 | MBF004F000S140 | MBF006F000S160 | MBF008F000S180 | MBF010F000S10A |
| MBFE002F00S110 | MBFE004F00S120 | MBFE006F00S140 | MBFE008F00S160 | |
| MBFK14F000S104 | MBFK16F000S106 | MBFK18F000S108 | MBFK110F00S110 | MBFK120F00S120 |
| MBFK24F000S204 | MBFK26F000S206 | MBFK28F000S208 | MBFK210F00S210 | MBFK220F00S220 |
| MBFR002F00S120 | MBFR004F00S140 | MBFR006F00S160 | MBFR008F00S180 | MBFR010F00S10A |
| MBFU002F00S120 | MBFU004F00S140 | MBFU006F00S160 | MBFU008F00S180 | MBFU010F00S10A |
| | | | | |

SMD BRIDGE RECTIFIER MBF SERIES

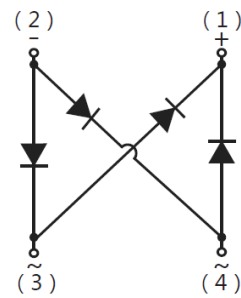
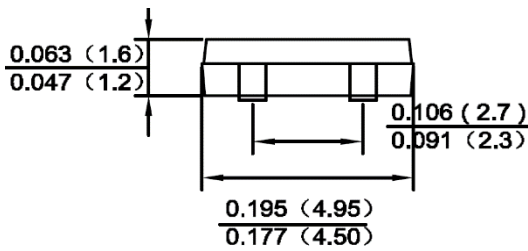
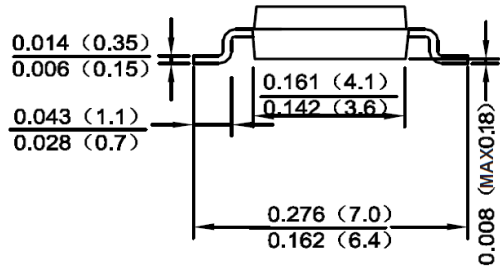
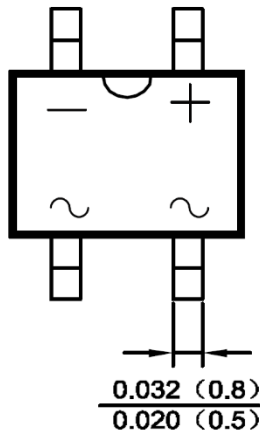
DIMENSION (Unit: Inch/mm)

Image for reference

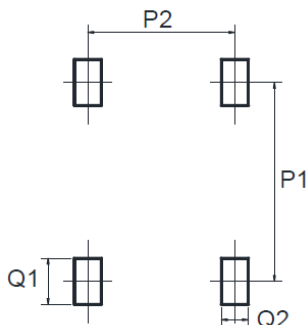


Marking: MB10F

MBF



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 MBF SERIES
MECHANICAL DATA

| Case | Terminals | Polarity | Mounting Position | Weight per piece |
|-------------------------------|--|---------------------------------|-------------------|--------------------------|
| JEDEC MBF molded plastic body | Solder plated, Solderable per MIL-STD-750, Method 2026 | Polarity symbol marking on case | Any | 0.026 Ounce, 0.808 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 = 125°C | 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 0.5A | V _F | | | 1.10 | Volts |
| DC reverse current at rated DC blocking voltage | I _R | | | 5 | μA |
| | | | | 0.5 | mA |
| Junction capacitance | C _J | | 13 | | pF |
| Thermal resistance (Note 4) | R _{QJA} | | 60 | | °C/W |
| Operating junction temperature range | T _J | -55 | | +150 | |
| Storage temperature range | T _{STG} | -55 | | +150 | °C |

Note

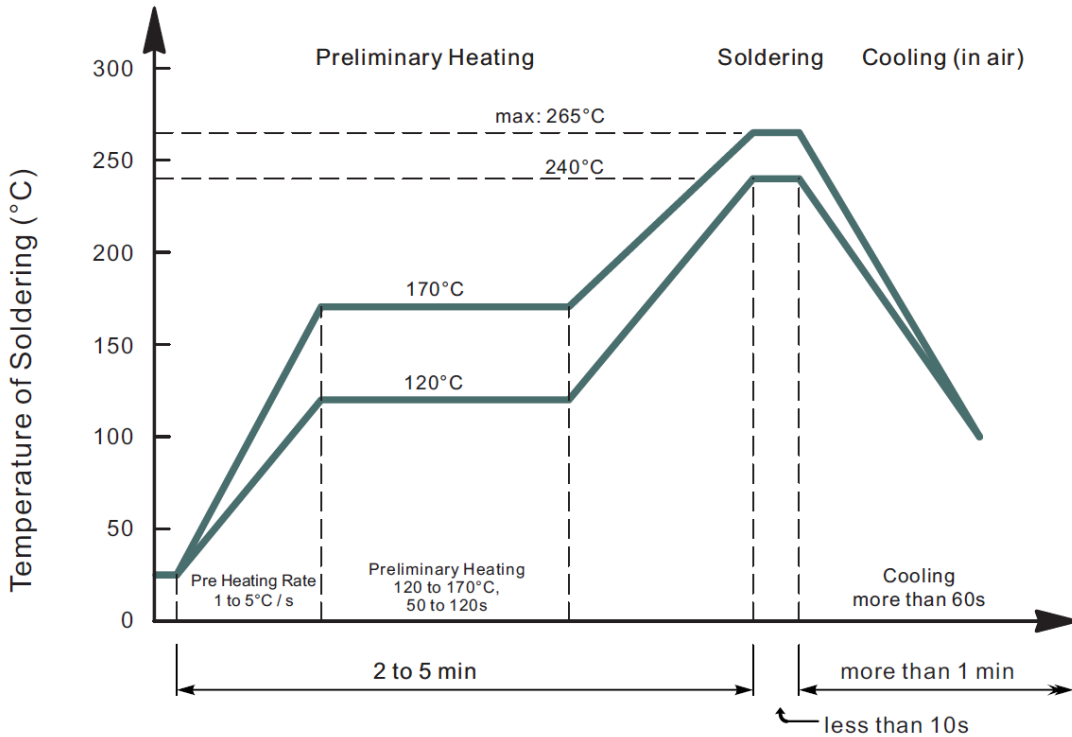
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- On glass epoxy PCB mounted on 0.05*0.05" (1.3*1.3mm) pads
- On aluminum substrate PCB with on area of 0.8*0.8" (20*20mm) mounted on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

SMD BRIDGE RECTIFER MBF 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 |

SMD BRIDGE RECTIFIER MBF SERIES

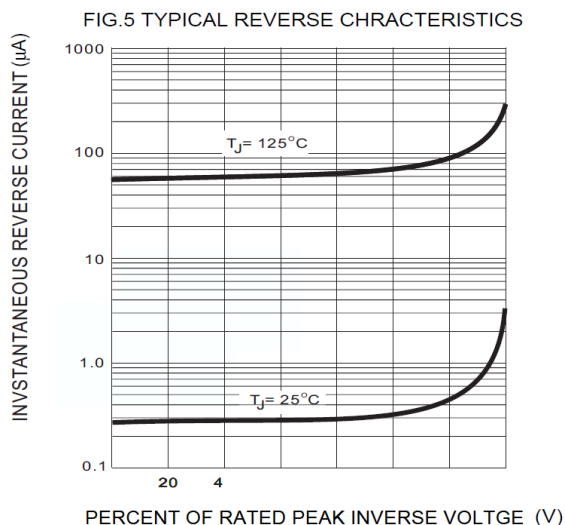
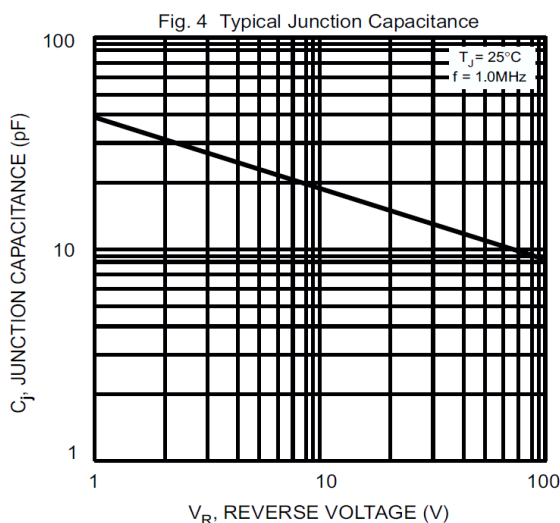
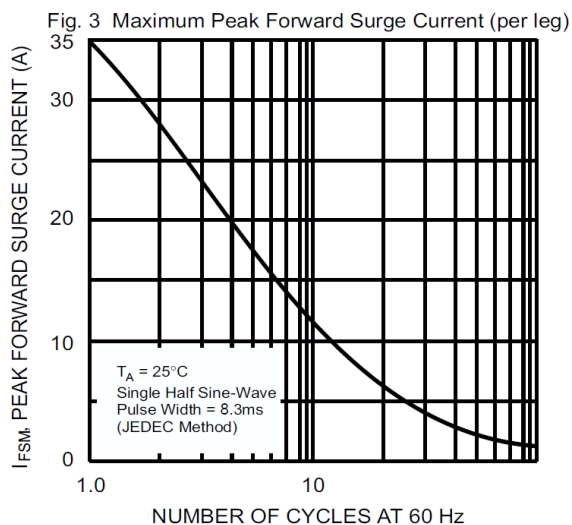
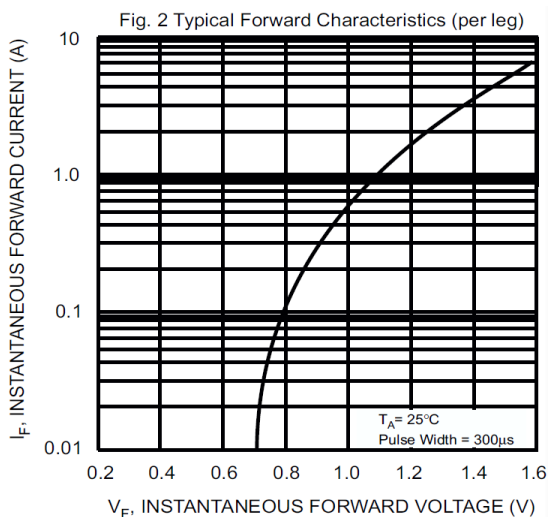
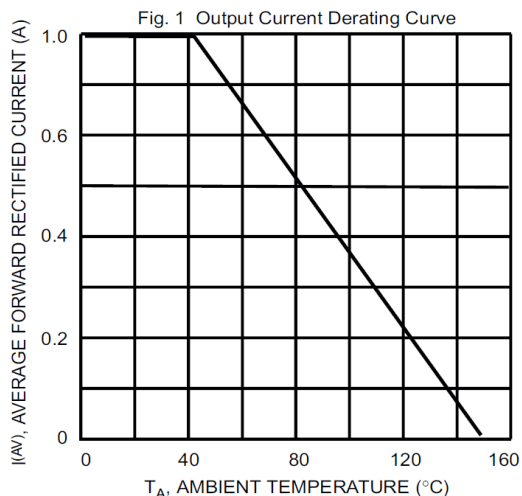
SUGGESTED REFLOW PROFILE (For Reference Only)



- 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)

SMD BRIDGE RECTIFIER MBF SERIES

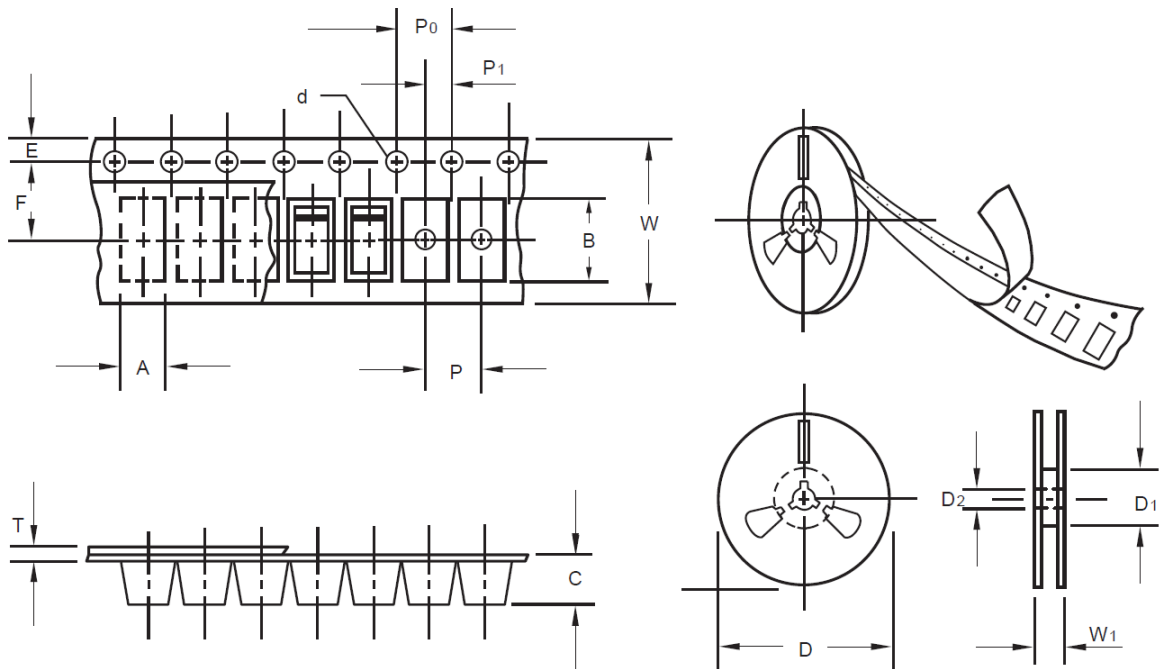
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



SMD BRIDGE RECTIFIER MBF SERIES

TAPE/REEL (Unit: mm)

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

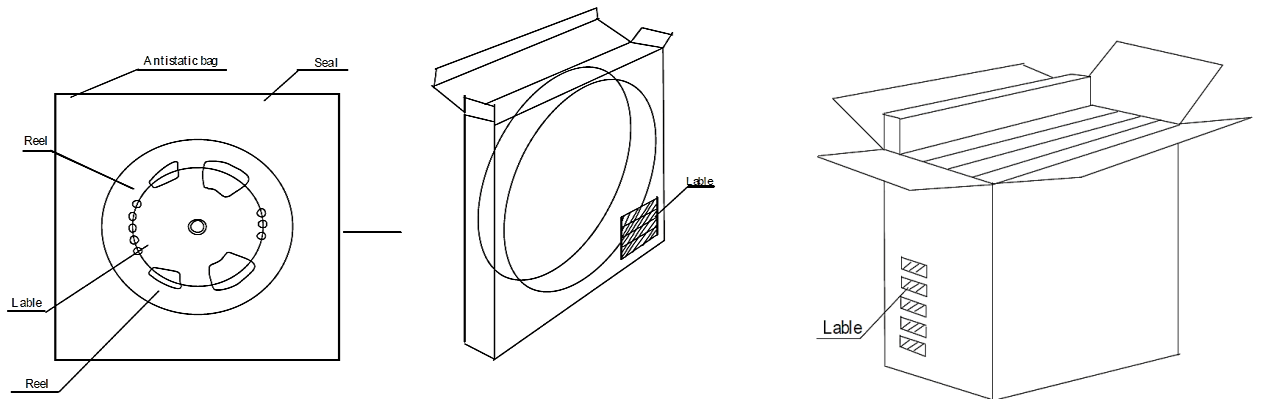


| Item | Symbol | Tolerance | MBF |
|---------------------------|--------|-----------|--------|
| Carrier width | A | 0.1 | 2.8 |
| Carrier Length | B | 0.1 | 5.33 |
| Carrier Depth | C | 0.1 | 2.36 |
| Sprocket hole | d | 0.05 | 1.50 |
| 13" Reel outside diameter | D | 2.0 | 330.00 |
| 13" Reel inner 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 |

SMD BRIDGE RECTIFIER MBF SERIES

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) |
|-----------|-----------|-----------|------------------------|--------------------|----------------------|----------------|------------------------|-----------------------|-----------|
| MBF | 13" | 5,000 | - | 10,000 | 190*190*41 | 330 | 370*370*380 | 80,000 | 14.4 |
| | | | | | | | | | |
| | | | | | | | | | |



DISCLAIMER

NextGen Component, Inc. reserves the right to make changes to the product(s) and or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information