

# Schottky Barrier Rectifiers

## MBRXF180--MBRXF1A0

### Features

- Metal silicon junction, majority carrier conduction
- High surge capability
- High temperature soldering guaranteed:  
260°C/10 seconds
- High current capability, low forward voltage drop
- Guarding for over voltage protection
- RoHS Compliant



### Mechanical Data

- Case: SOD-123F molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Characteristic                                             | Symbol             | MBRXF180 | MBRXF190 | MBRXF1A0 | Units |
|------------------------------------------------------------|--------------------|----------|----------|----------|-------|
| Peak repetitive reverse voltage                            | V <sub>RRM</sub>   | 80       | 90       | 100      | V     |
| RMS reverse voltage                                        | V <sub>RMS</sub>   | 56       | 63       | 70       | V     |
| DC blocking voltage                                        | V <sub>DC</sub>    | 80       | 90       | 100      | V     |
| Maximum average forward output current                     | I <sub>F(AV)</sub> | 1.0      |          |          | A     |
| Peak forward surge current,<br>8.3ms single half-sine-wave | I <sub>FSM</sub>   | 30       |          |          | A     |

### Thermal Characteristics

| Parameter                              | Symbol           | MBRXF180        | MBRXF190 | MBRXF1A0 | Units |
|----------------------------------------|------------------|-----------------|----------|----------|-------|
| Typical thermal resistance<br>(Note 1) | R <sub>θJA</sub> | 85              |          |          | °C /W |
|                                        | R <sub>θJC</sub> | 23              |          |          |       |
|                                        | R <sub>θJL</sub> | 15              |          |          |       |
| Operating junction temperature range   | T <sub>J</sub>   | - 55 ---- + 150 |          |          | °C    |
| Storage temperature range              | T <sub>STG</sub> | - 55 ---- + 150 |          |          | °C    |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

**Schottky Barrier Rectifiers****MBRXF180--MBRXF1A0****Electrical Characteristics** (@T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                                     | Symbol         | Test conditions        |                        | Typ. | Max. | Units |
|-----------------------------------------------|----------------|------------------------|------------------------|------|------|-------|
| Maximum instantaneous forward voltage(Note 1) | V <sub>F</sub> | I <sub>F</sub> =1.0A   | @T <sub>A</sub> =25°C  | --   | 0.85 | V     |
| Maximum Reverse current (Note 2)              | I <sub>R</sub> | Rated V <sub>R</sub> , | @T <sub>J</sub> =25°C  | --   | 250  | μ A   |
|                                               |                |                        | @T <sub>J</sub> =100°C | --   | 10   | m A   |

Note:

1.Pulse test: 300us pulse width, 1 % duty cycle

2.Pulse test: Pulse width 40ms

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### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

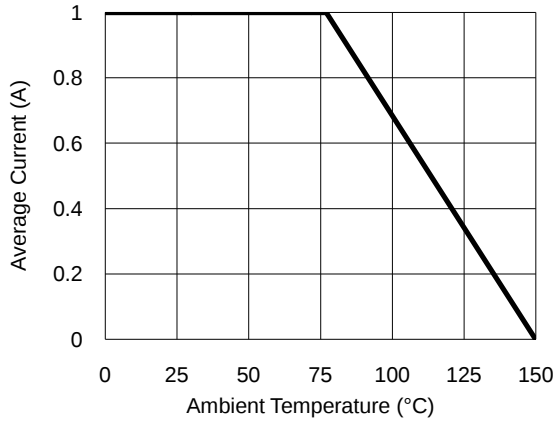


Fig.2- Surge Current Derating Curve

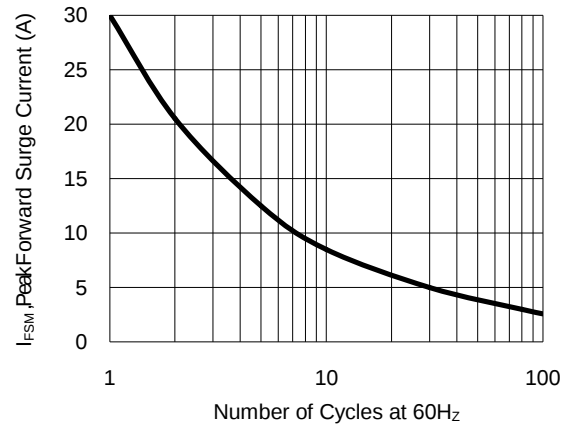


Fig.3- Typical Forward Voltage Characteristic

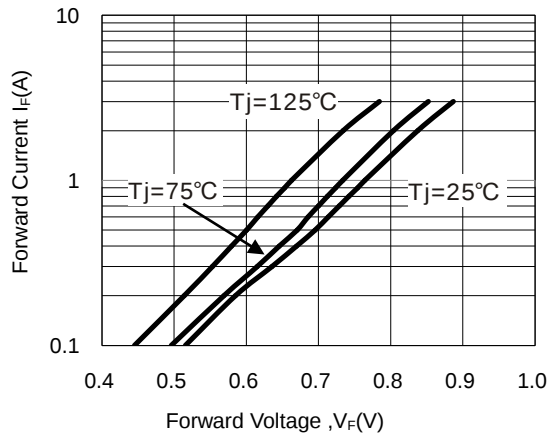
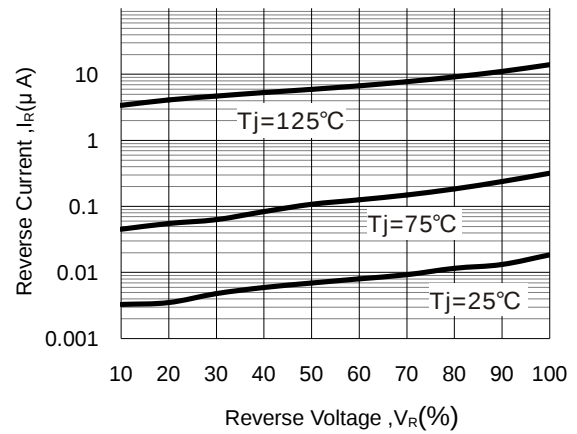


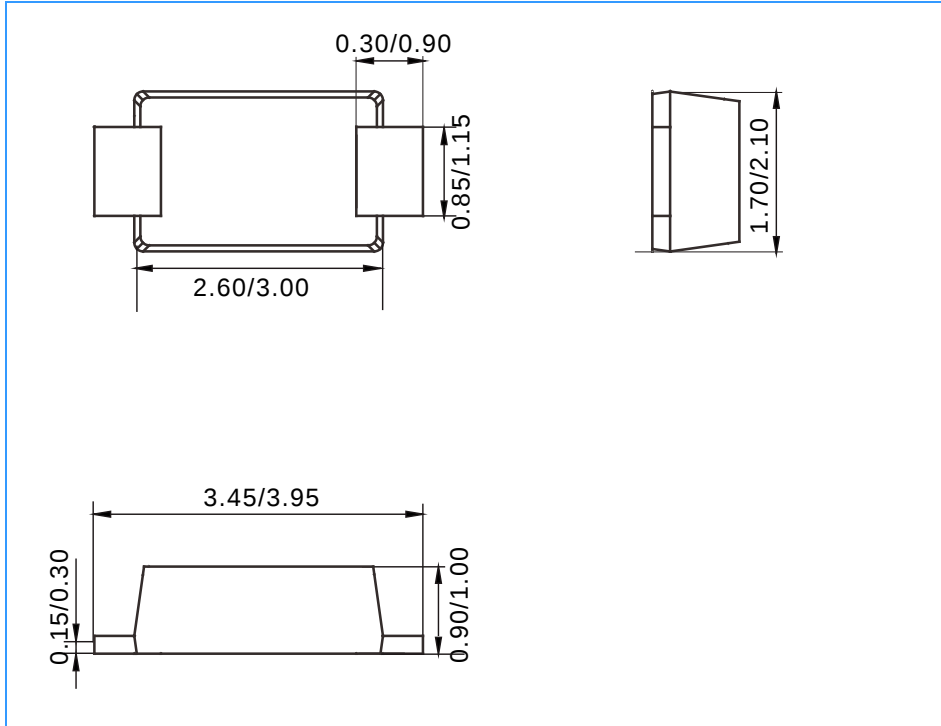
Fig.4- Typical Reverse Characteristic



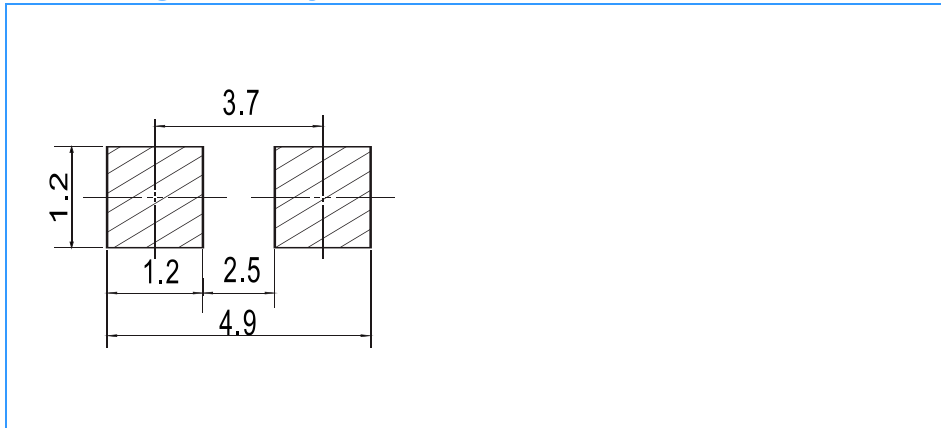
## Schottky Barrier Rectifiers

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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

| Part No. | Marking | Package  | Shipping        |
|----------|---------|----------|-----------------|
| MBRXF180 | F18     | SOD-123F | 10000/Tape&Reel |
| MBRXF190 | F19     | SOD-123F | 10000/Tape&Reel |
| MBRXF1A0 | F1A     | SOD-123F | 10000/Tape&Reel |