

MBRA120 THRU MBRA100

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 100 V

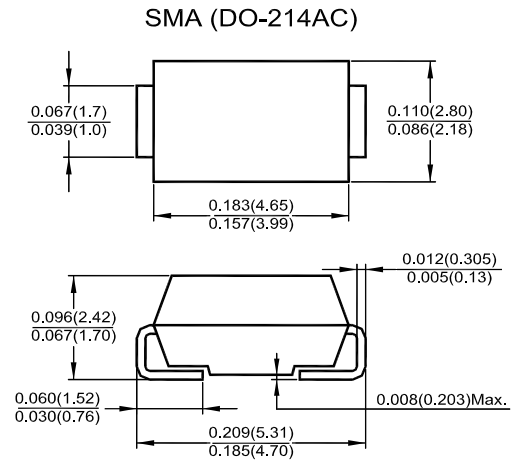
Forward Current - 1 A

Features

- Plastic package has Underwriters Laboratory flammability classification 94V-0
- Metal silicon junction, majority carrier conduction
- For surface mount applications
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability

Mechanical Characteristics

- **Case:** SMA (DO-214AC), molded plastic body
- **Terminals:** solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** color band denotes cathode end



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.

| Parameter | Symbols | MBRA120 | MBRA130 | MBRA140 | MBRA150 | MBRA160 | MBRA180 | MBRA100 | Units |
|---|------------------------------------|---------------|---------|---------|---------------|---------|---------|---------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 40 | | | | | | | A |
| Maximum Forward Voltage at 1 A ¹⁾ | V_F | 0.55 | | 0.75 | | 0.85 | | V | |
| Maximum DC Reverse Current at $T_a = 25\text{ °C}$ Rated DC Blocking Voltage ¹⁾ $T_a = 100\text{ °C}$ | I_R | 0.2 | | | | | | | mA |
| | | 10 | | | | | | | |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ $R_{\theta JL}$ | 88 | | | | | 28 | | °C/W |
| Operating Junction Temperature Range | T_J | - 65 to + 125 | | | - 65 to + 150 | | | °C | |
| Storage Temperature Range | T_S | - 65 to + 150 | | | | | | | °C |

¹⁾ Pulse test: 300 μ s pulse width, 1% duty cycle

²⁾ P.C.B mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas