



### SCHOTTKY BARRIER RECTIFIER

Voltage

100 V

Current

20 A

#### **Features**

- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Low power loss, high efficiency
- High surge current capability
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### **Mechanical Data**

• Case: TO-263 Package

• Terminals: Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 0.049 ounces, 1.38 grams







### **Maximum Ratings and Thermal Characteristics** (T<sub>A</sub> = 25 °C unless otherwise noted)

| PARAMETER   | SYMBOL     | LIMIT                           | UNITS   |      |
|---|------------|---------------------------------|---------|------|
| Maximum Repetitive Peak Reverse Voltage               |            | $V_{RRM}$                       | 100     | V    |
| Maximum Rms Voltage                                   |            | $V_{RMS}$                       | 70      | V    |
| Maximum Dc Blocking Voltage                           |            | $V_{DC}$                        | 100     | V    |
| Maximum Average Forward Current                       | per device | I <sub>F(AV)</sub>              | 20      | А    |
|   | per diode  |                                 | 10      |      |
| Peak Forward Surge Current : 8.3 ms Single Half Sine- |            | I <sub>FSM</sub>                | 200     | А    |
| Wave Superimposed On Rated Load                       |            |                                 | 200     |      |
| Typical Junction Capacitance                          |            | CJ                              | 200     | pF   |
| Measured at 1 MHZ And Applied V <sub>R</sub> = 4 V    |            |                                 | 380     |      |
| Typical Thermal Resistance                            |            | R <sub>θJC</sub> <sup>(1)</sup> | 2       | °C/W |
| Operating Junction Temperature Range                  |            | T <sub>J</sub>                  | -55~150 | °C   |
| Storage Temperature Range                             |            | T <sub>STG</sub>                | -55~150 | °C   |





# **Electrical Characteristics** (T<sub>A</sub> = 25°C unless otherwise noted)

| PARAMETER       | SYMBOL                        | TEST CONDITION                                   | MIN. | TYP. | MAX. | UNITS |
|-----------------|-------------------------------|--|------|------|------|-------|
| Forward Voltage | V <sub>F</sub>                | I <sub>F</sub> = 1 A, T <sub>J</sub> = 25 °C     | -    | 0.51 | -    | V     |
|                 |                               | $I_F = 3 \text{ A}, T_J = 25 ^{\circ}\text{C}$   | -    | 0.61 | -    |       |
|                 |                               | $I_F = 10 \text{ A}, T_J = 25 ^{\circ}\text{C}$  | -    | -    | 0.80 |       |
|                 |                               | I <sub>F</sub> = 1 A, T <sub>J</sub> = 125 °C    | -    | 0.4  | -    |       |
|                 |                               | $I_F = 3 \text{ A}, T_J = 125 ^{\circ}\text{C}$  | -    | 0.51 | -    |       |
|                 |                               | I <sub>F</sub> = 10 A, T <sub>J</sub> = 125 °C   | -    | 0.64 | -    |       |
| Reverse Current | I <sub>R</sub> <sup>(2)</sup> | $V_R = 80 \text{ V}, T_J = 25 ^{\circ}\text{C}$  | -    | 1    | -    | uA    |
|                 |                               | $V_R = 100 \text{ V}, T_J = 25 ^{\circ}\text{C}$ | -    | 1    | 50   |       |
|                 |                               | V <sub>R</sub> = 100V,T <sub>J</sub> = 125 °C    | -    | 1.2  | -    | mA    |

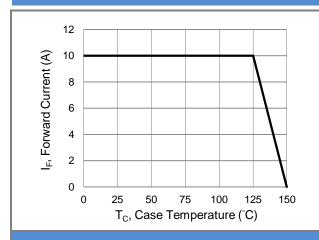
### NOTES:

- 1. Mounted on infinite heatsink.
- 2. Short duration pulse test used to minimize self-heating effect.

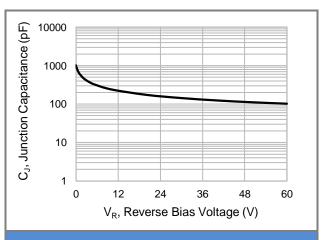




#### **TYPICAL CHARACTERISTIC CURVES**



**Fig.1 Forward Current Derating Curve** 



**Fig.2 Typical Junction Capacitance** 

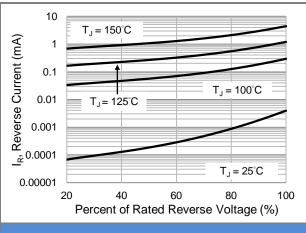


Fig.3 Typical Reverse Characteristics

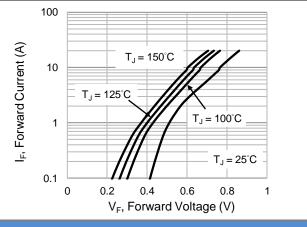


Fig.4 Typical Forward Characteristics

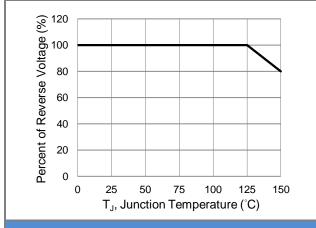


Fig.5 Operating Temperature Derating Curve

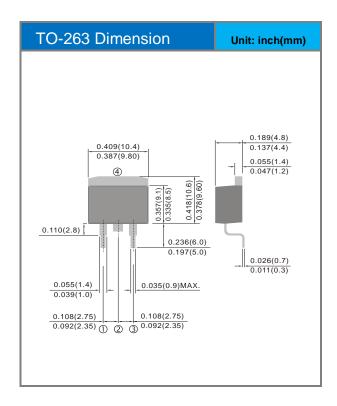


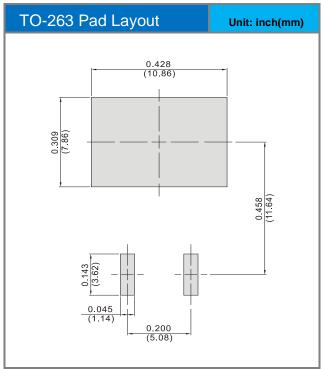


### **Part No Packing Code Version**

| Part No Packing Code   | Package Type | Packing Type       | Marking    | Version      |  |
|------------------------|--------------|--------------------|------------|--------------|--|
| MBR20100DC-AU_R2_000A1 | TO-263       | 800 pcs / 13" reel | MBR20100DC | Halogen free |  |

### **Packaging Information & Mounting Pad Layout**





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