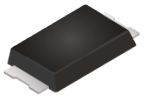
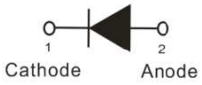
# MBR310AFC-AU

## Surface Mount Schottky Barrier Rectifier

| Voltage | 100 V | Current | 3 A |
|---|---|---|---|

SMAF-C






## Features

- 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 : SMAF-C plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams

## Maximum Ratings and Thermal Characteristics ($T_A$ = 25°C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|---|---|---|
| Maximum Recurrent 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 Rectified Current | $I_{F(AV)}$ | 3 | A |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load | $I_{FSM}$ | 80 | A |
| Typical Junction Capacitance Measured at 1 MHz And Applied $V_R$ = 4V | $C_J$ | 120 | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ | 150 | °C/W |
| (Note 2) | $R_{\theta JC}$ | 22 | |
| (Note 3) | $R_{\theta JL}$ | 20 | |
| Operating Junction Temperature Range | $T_J$ | -55 to +150 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | °C |

# MBR310AFC-AU

## Electrical Characteristics ($T_A$ = 25°C unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$ = 1 A, $T_J$ = 25 °C | - | 0.63 | - | V |
| | | $I_F$ = 3 A, $T_J$ = 25 °C | - | - | 0.8 | |
| | | $I_F$ = 1 A, $T_J$ = 125 °C | - | 0.47 | - | |
| | | $I_F$ = 3 A, $T_J$ = 125 °C | - | 0.59 | - | |
| Reverse Current(Note 4) | $I_R$ | $V_R$ = 80 V, $T_J$ = 25 °C | - | 0.1 | - | uA |
| | | $V_R$ = 100 V, $T_J$ = 25 °C | - | - | 50 | |
| | | $V_R$ = 100 V, $T_J$ = 125 °C | - | 0.3 | - | mA |

NOTES:

1. Mounted on a FR4 PCB, single-sided copper, standard footprint
2. Mounted on a FR4 PCB, single-sided copper, with 100 $cm^2$ copper pad area
3. Mounted on a FR4 PCB, single-sided copper, with 48 $cm^2$ copper pad area
4. Short duration pulse test used to minimize self-heating effect

# MBR310AFC-AU

## TYPICAL CHARACTERISTIC CURVES

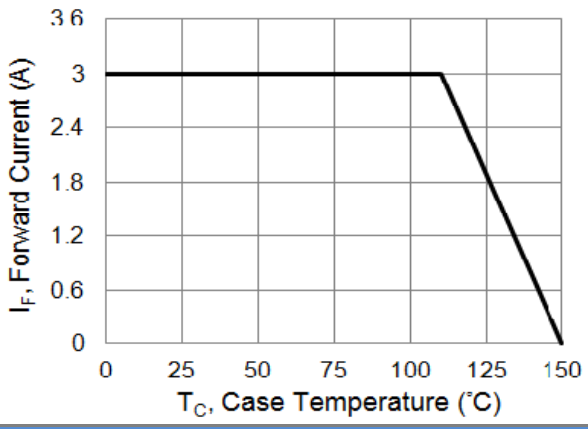



Fig.1 Forward Current Derating Curve

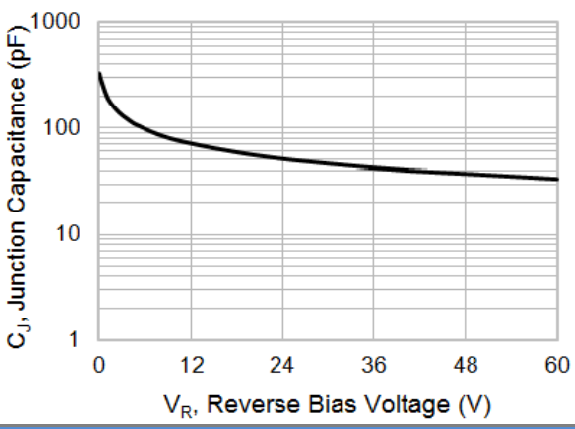



Fig.2 Typical Junction Capacitance

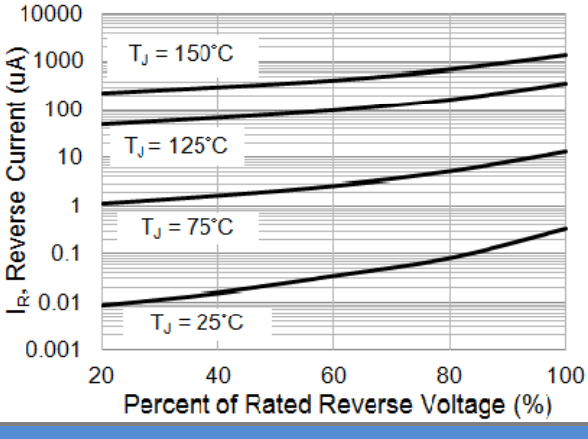



Fig.3 Typical Reverse Characteristics

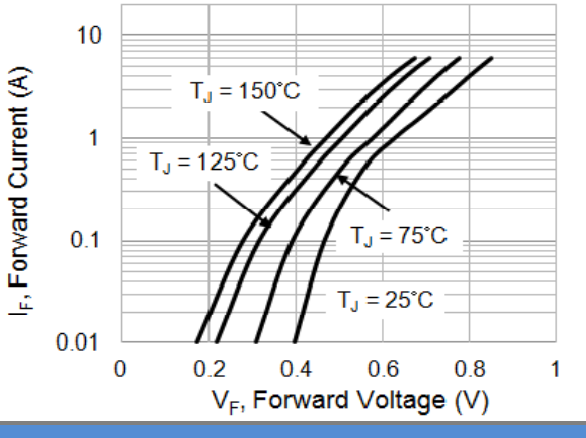



Fig.4 Typical Forward Characteristics

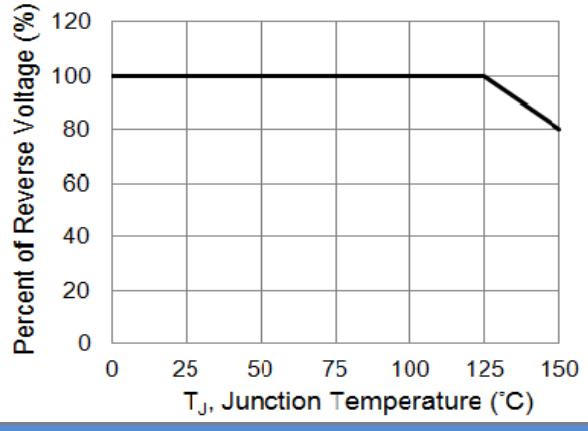



Fig.5 Operating Temperature Derating Curve

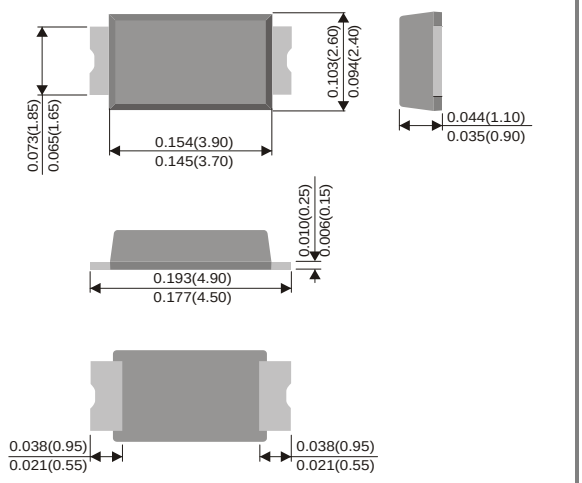
# MBR310AFC-AU

## Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|---|---|---|---|---|
| MBR310AFC-AU_R1_000A1 | SMAF-C | 3K / 7” reel | MBR310 | Halogen free |

## Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)




SMAF-C Pad Layout — Unit: inch(mm)