



# MBR310AFC-AU

## Surface Mount Schottky Barrier Rectifier

**Voltage** 100 V **Current** 3 A

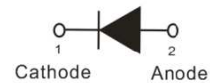
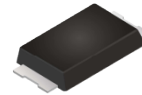
### Features

- 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

### SMAF-C



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

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum RMS Voltage	V <sub>RMS</sub>	70	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	100	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	3	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	80	A
Typical Junction Capacitance Measured at 1 MHz And Applied V <sub>R</sub> = 4V	C <sub>J</sub>	120	pF
Typical Thermal Resistance	(Note 1) R <sub>θJA</sub>	150	°C/W
	(Note 2) R <sub>θJC</sub>	22	
	(Note 3) R <sub>θJL</sub>	20	
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C



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## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	$V_F$	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.63	-	V
		$I_F = 3\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.8	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.47	-	
		$I_F = 3\text{ A}, T_J = 125^\circ\text{C}$	-	0.59	-	
Reverse Current <sup>(Note 4)</sup>	$I_R$	$V_R = 80\text{ V}, T_J = 25^\circ\text{C}$	-	0.1	-	uA
		$V_R = 100\text{ V}, T_J = 25^\circ\text{C}$	-	-	50	
		$V_R = 100\text{ V}, T_J = 125^\circ\text{C}$	-	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<sup>2</sup> copper pad area
3. Mounted on a FR4 PCB, single-sided copper, with 48 cm<sup>2</sup> copper pad area
4. Short duration pulse test used to minimize self-heating effect



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## TYPICAL CHARACTERISTIC CURVES

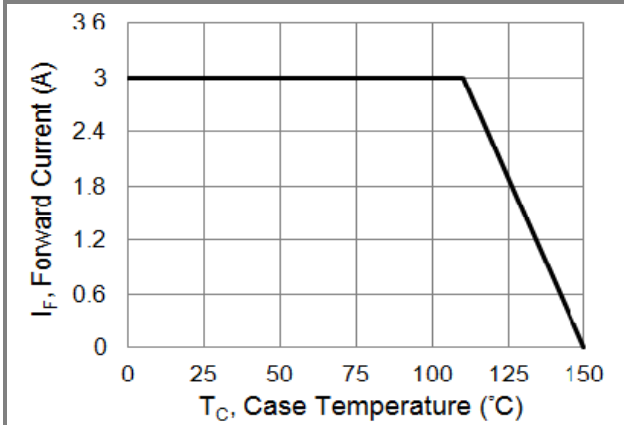


Fig.1 Forward Current Derating Curve

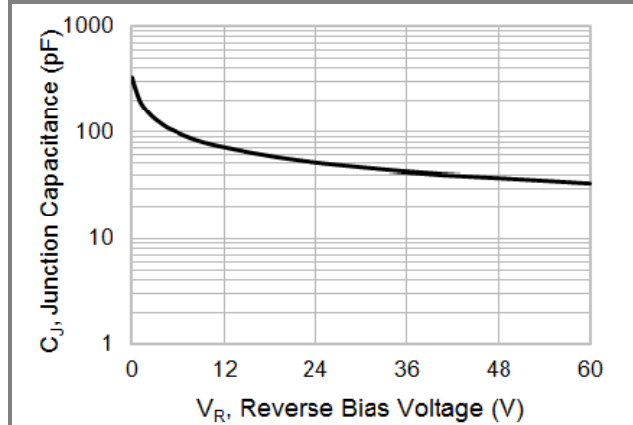


Fig.2 Typical Junction Capacitance

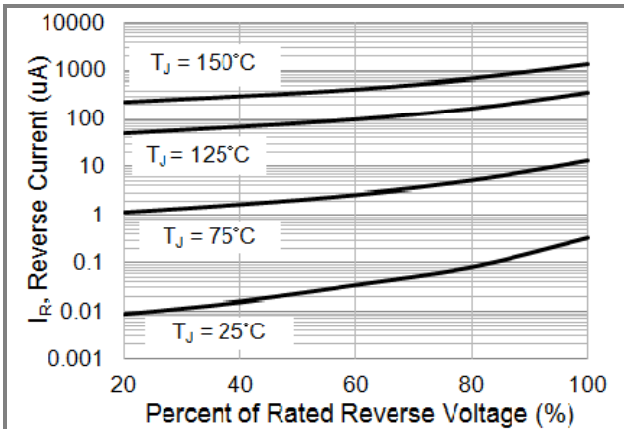


Fig.3 Typical Reverse Characteristics

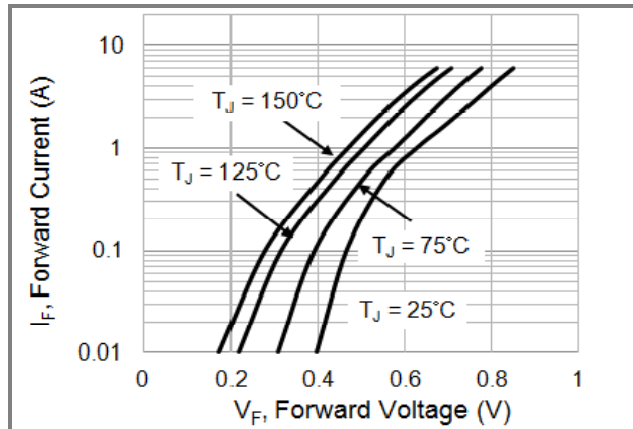


Fig.4 Typical Forward Characteristics

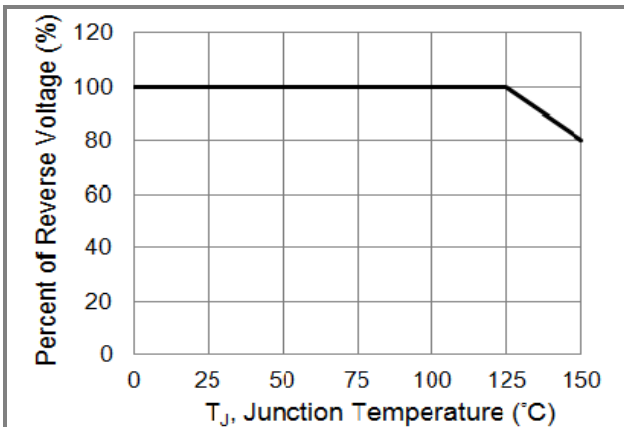


Fig.5 Operating Temperature Derating Curve

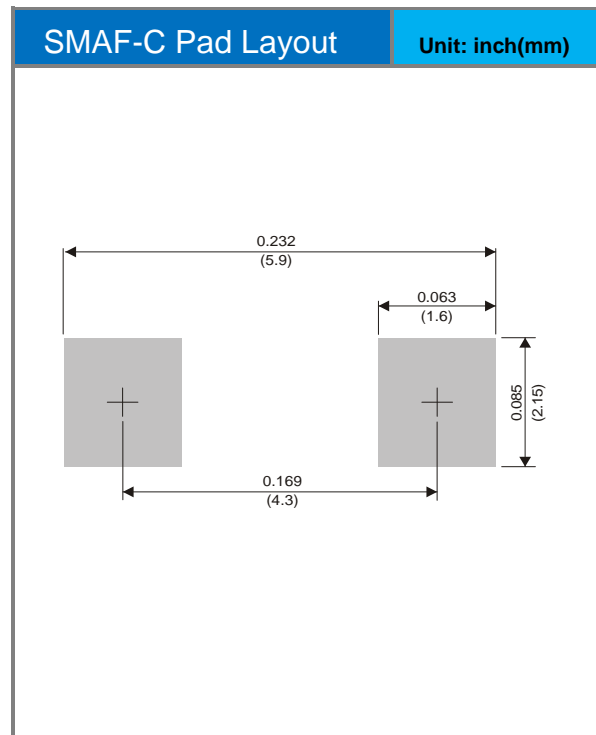
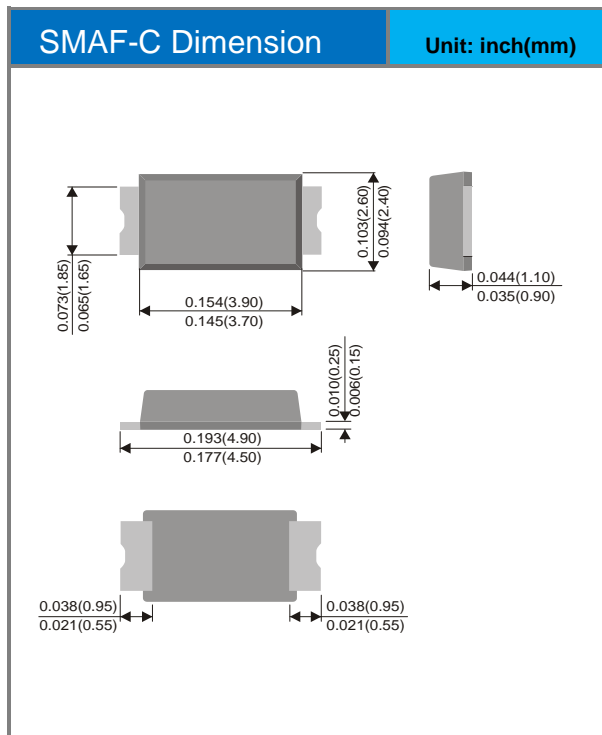


# MBR310AFC-AU

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





## MBR310AFC-AU

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