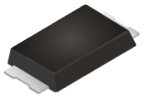
MBR310AFC-AU

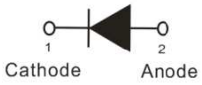
Surface Mount Schottky Barrier Rectifier

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

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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

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TYPICAL CHARACTERISTIC CURVES

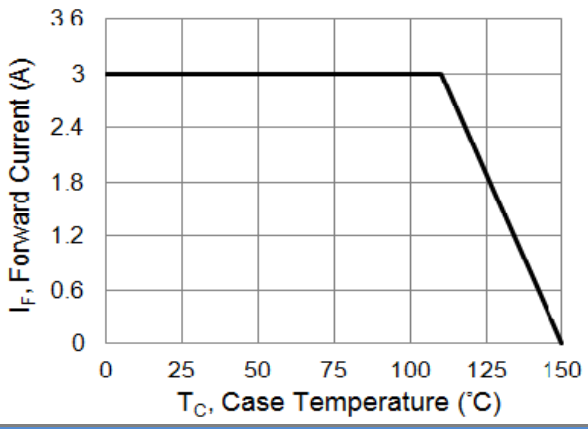


Fig.1 Forward Current Derating Curve

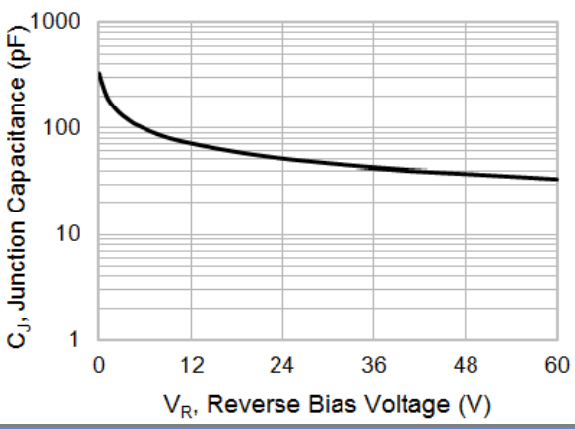


Fig.2 Typical Junction Capacitance

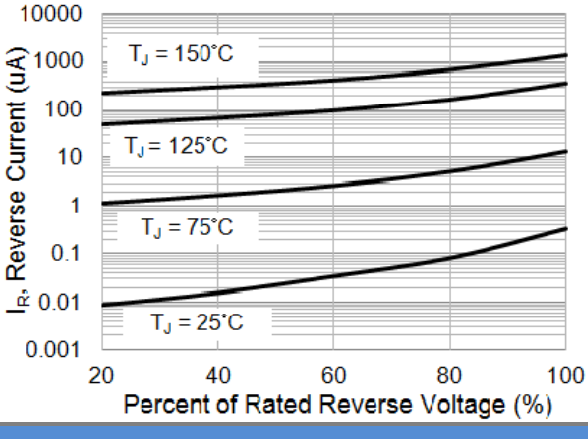


Fig.3 Typical Reverse Characteristics

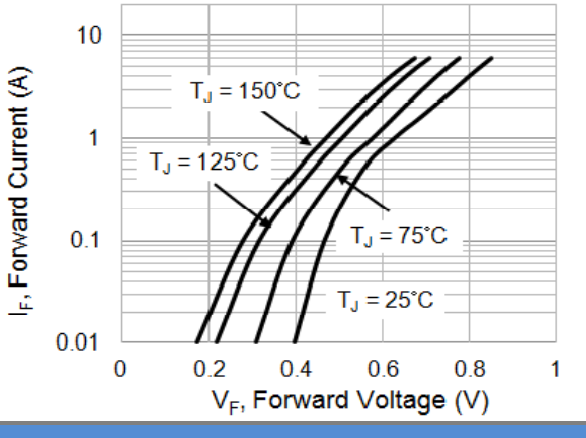


Fig.4 Typical Forward Characteristics

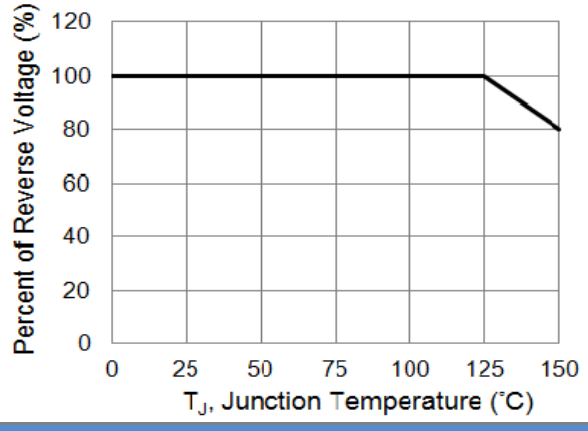


Fig.5 Operating Temperature Derating Curve

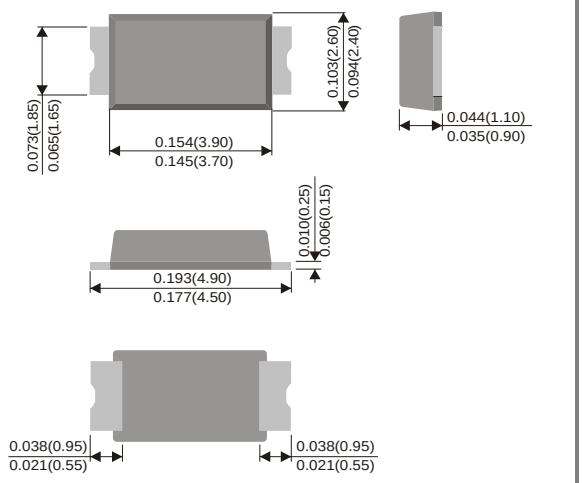
MBR310AFC-AU

Part No. Packing Code Version

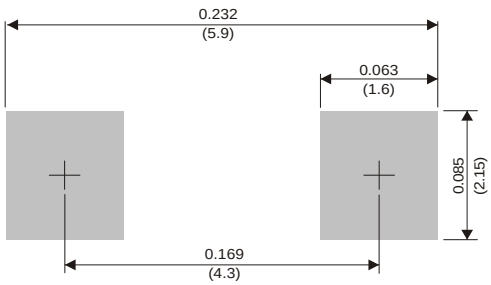
Part No. Packing Code	Package Type	Packing Type	Marking	Version
MBR310AFC-AU_R1_000A1	SMAF-C	3K / 7” reel	MBR310	Halogen free

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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