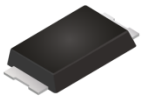
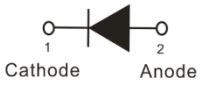
MBR310AFC-AU

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

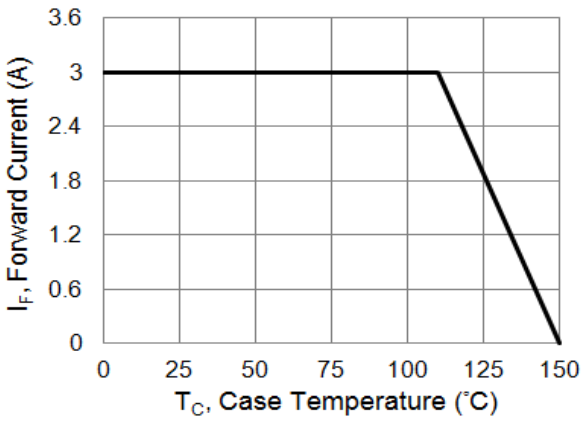


Fig.1 Forward Current Derating Curve

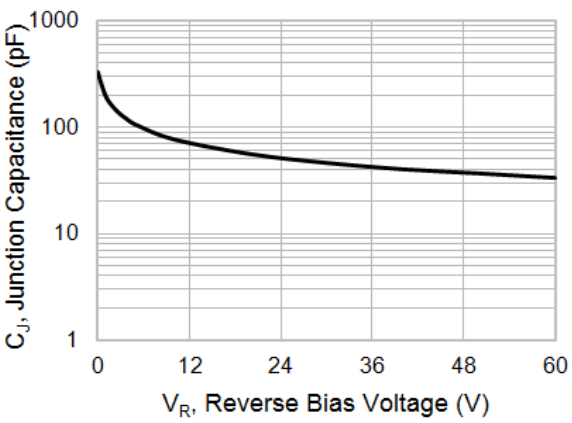


Fig.2 Typical Junction Capacitance

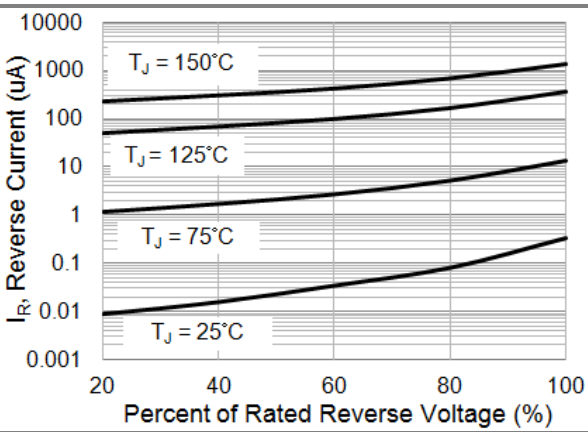


Fig.3 Typical Reverse Characteristics

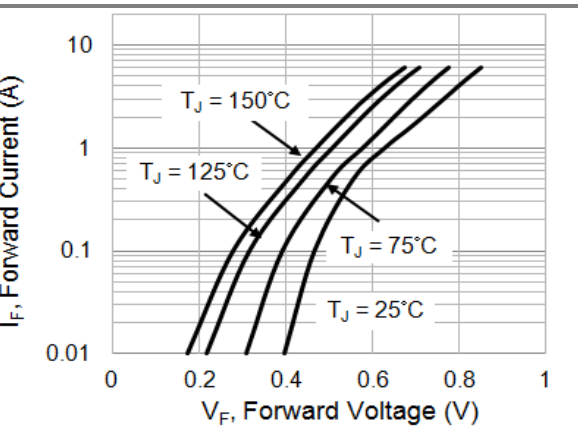


Fig.4 Typical Forward Characteristics

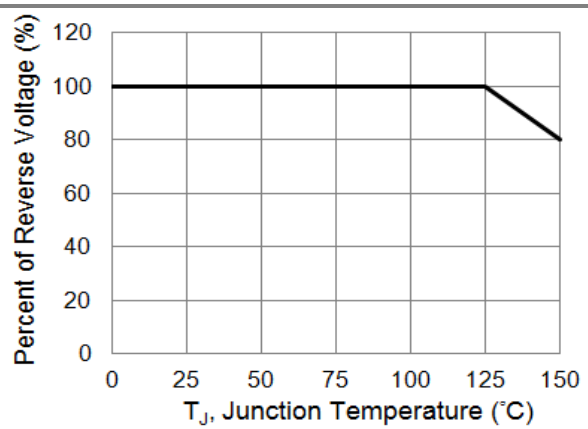


Fig.5 Operating Temperature Derating Curve

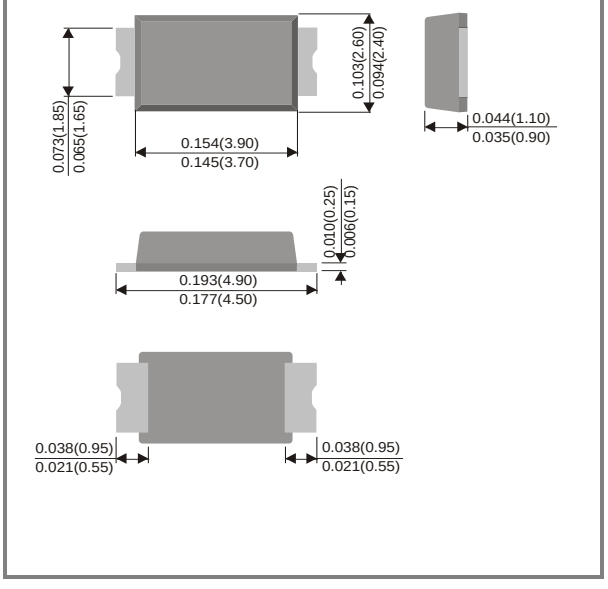
MBR310AFC-AU

Product and Packing Information

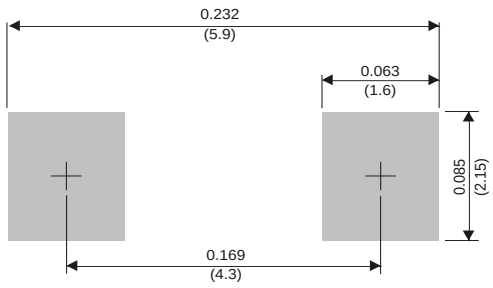
Part No.	Package Type	Packing Type	Marking
MBR310AFC-AU	SMAF-C	3K / 7” reel	MBR310

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



MBR310AFC-AU

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.