



### Surface Mount Extreme Low Vf Schottky Barrier Rectifier

Voltage 40 V Current 5 A

#### **Features**

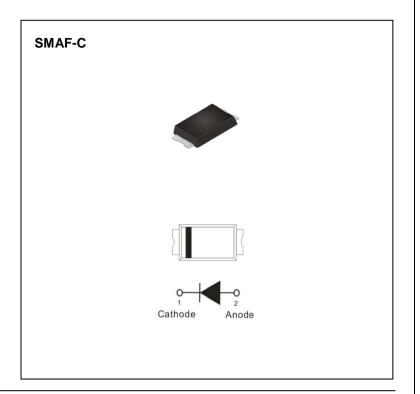
- Extreme low forward voltage drop
- Low power loss, high efficiency
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### **Mechanical Data**

• Case : Molded plastic, SMAF-C

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

• Approx. Weight: 0.0012 ounces, 0.034 grams



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

PARAMETER	SYMBOL	SBA540AFC-AU	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	40	V
Maximum RMS Voltage	V <sub>RMS</sub>	28	V
Maximum DC Blocking Voltage	VR	40	٧
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	5	А
Peak Forward Surge Current : 8.3 ms Single Half Sine- Wave Superimposed On Rated Load	I <sub>FSM</sub>	80	А
(Note 1)	$R_{\theta JA}$	150	°C/W
Typical Thermal Resistance (Note 2)	R <sub>θJC</sub>	15	
Operating Junction Temperature Range	TJ	-55 to +150	
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

### **Electrical Characteristics**

DADAMETER	SYMBOL	TEST CONDITION		SBA540AFC-AU		LINUTO
PARAMETER				TYP.	MAX.	UNITS
Forward Voltage		I <sub>F</sub> = 10mA	T <sub>J</sub> =25 °C	0.17	-	V
		I <sub>F</sub> = 2A		0.36	-	
	VF	I <sub>F</sub> = 5A		-	0.49	
		I <sub>F</sub> = 10mA	T <sub>J</sub> =125 °C	0.05	-	٧
		I <sub>F</sub> = 2A		0.29	-	
Reverse Current <sup>(Note 3)</sup>	I <sub>R</sub>	V <sub>R</sub> = 10V	T <sub>J</sub> =25°C	25	-	uA
		V <sub>R</sub> = 20V		32	-	
		V <sub>R</sub> = 30V		55	-	
		$V_R = 40V$		-	250	
		V <sub>R</sub> = 20V	T <sub>J</sub> =125 °C	8	-	mA
		$V_R = 30V$		12	-	
		$V_R = 40V$		19	-	

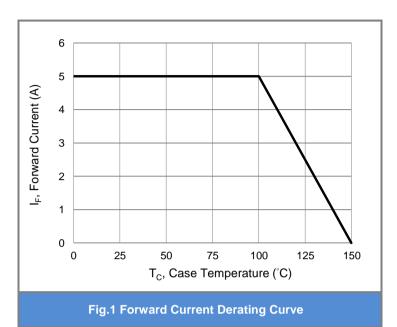
Note: 1. Mounted on a FR4 PCB, single-sided copper, standard footprint

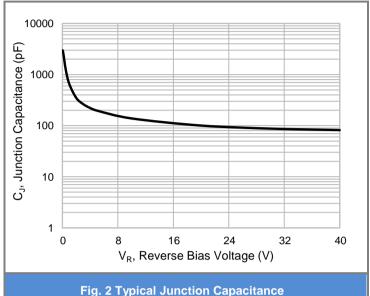
- 2. Mounted on a FR4 PCB, single-sided copper, with 100cm² copper pad area
- 3. Short duration pulse test used to minimize self-heating effect

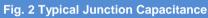




#### TYPICAL CHARACTERISTIC CURVES







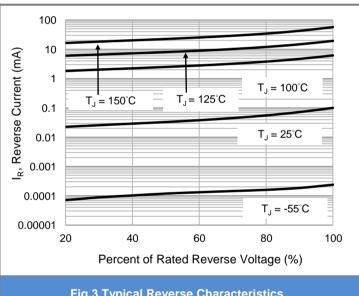
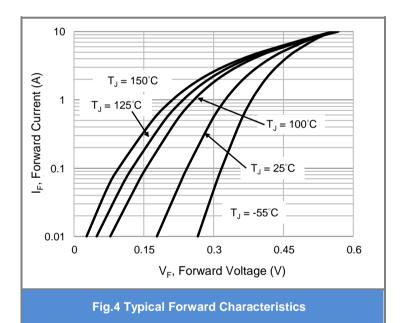


Fig.3 Typical Reverse Characteristics



120 Percent of Reverse Voltage (%) 100 80 60 40 20 0 0 25 50 75 100 125 150 T<sub>J</sub>, Junction Temperature (°C) **Fig.5 Operating Temperature Derating Curve** 

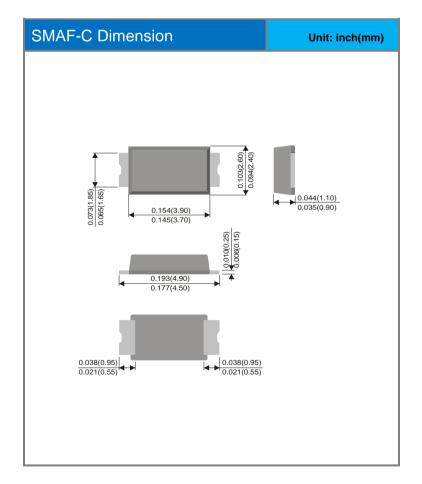


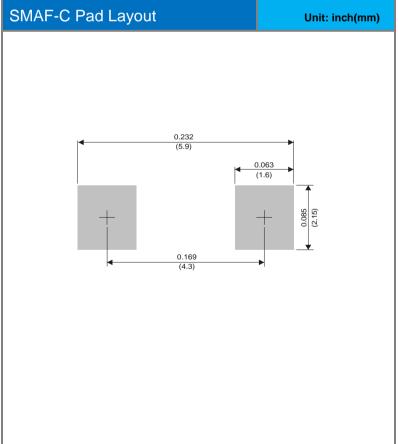


## Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBA540AFC-AU_R1_000A1	SMAF-C	3K pcs / 7" reel	SBA540	Halogen free

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









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