SBA520AFC-AU / SBA530AFC-AU / SBA540AFC-AU

Surface Mount Extreme Low V_F Schottky Rectifier

Voltage	20-40 V	Current	5 A

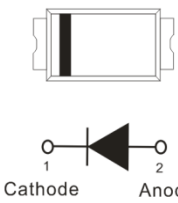
Features

- 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 : 0.034 grams

SMAF-C



Maximum Ratings (T_A = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	SBA520AFC-AU	SBA530AFC-AU	SBA540AFC-AU	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	20	30	40	V
Maximum RMS voltage		V_{RMS}	14	21	28	V
Maximum DC blocking voltage		V_R	20	30	40	V
Maximum average forward rectified current		$I_{F(AV)}$	5			A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load		I_{FSM}	80			A
Typical thermal resistance	(Note 1)	$R_{\theta JA}$	150			°C/W
	(Note 2)	$R_{\theta JC}$	15			
Operating junction temperature range		T_J	-55 to +150			°C
Storage temperature range		T_{STG}	-55 to +150			°C

Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION		SBA520AFC-AU		SBA530AFC-AU		SBA540AFC-AU		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	I_F = 10mA	T_J =25 °C	0.17	-	0.17	-	0.17	-	V
		I_F = 2A		0.34	-	0.35	-	0.36	-	
		I_F = 5A		-	0.45	-	0.46	-	0.49	
		I_F = 10mA	T_J =125 °C	0.04	-	0.04	-	0.05	-	V
		I_F = 2A		0.25	-	0.27	-	0.29	-	
Reverse current	I_R	V_R = 10V	T_J=25°C	47	-	33	-	25	-	μA
		V_R = 20V		-	300	51	-	32	-	
		V_R = 30V		-	-	-	300	55	-	
		V_R = 40V		-	-	-	-	-	250	
		V_R = 20V	T_J =125 °C	21	-	11	-	8	-	mA
		V_R = 30V		-	-	19	-	12	-	
		V_R = 40V		-	-	-	-	19	-	

NOTES : 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.

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TYPICAL CHARACTERISTIC CURVES

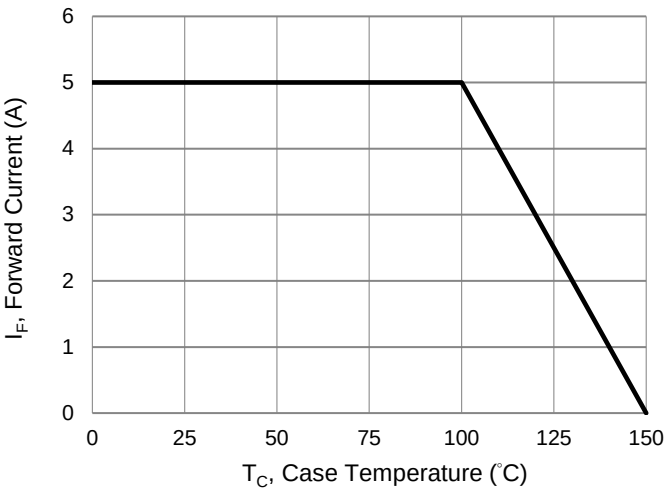

Fig.1 Forward Current Derating Curve

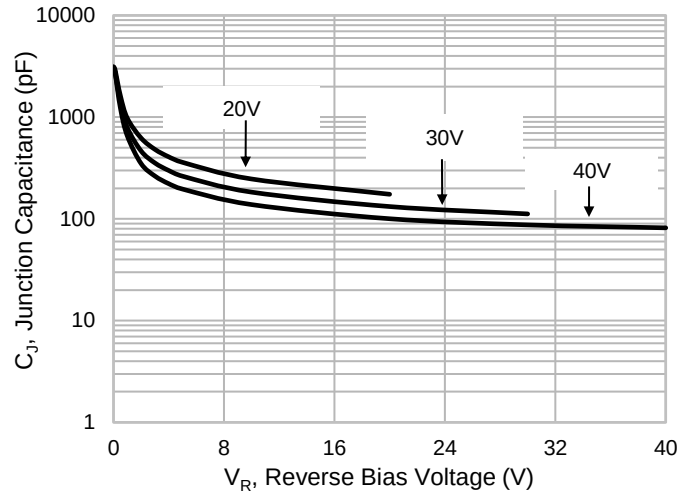

Fig. 2 Typical Junction Capacitance

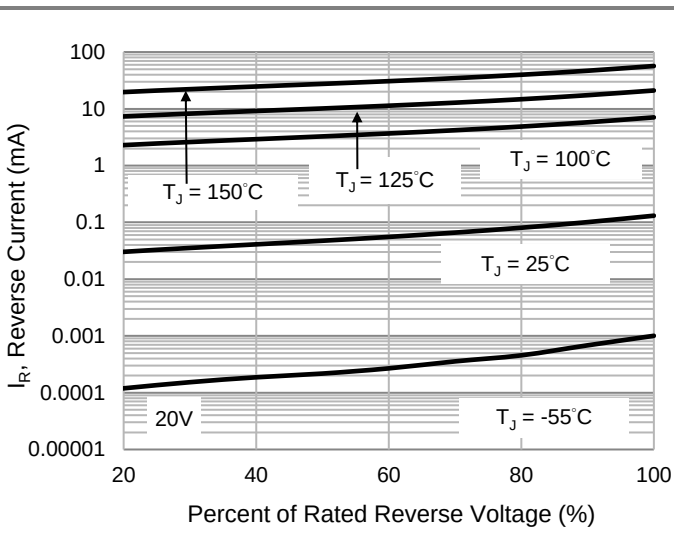

Fig.3 Typical Reverse Characteristics

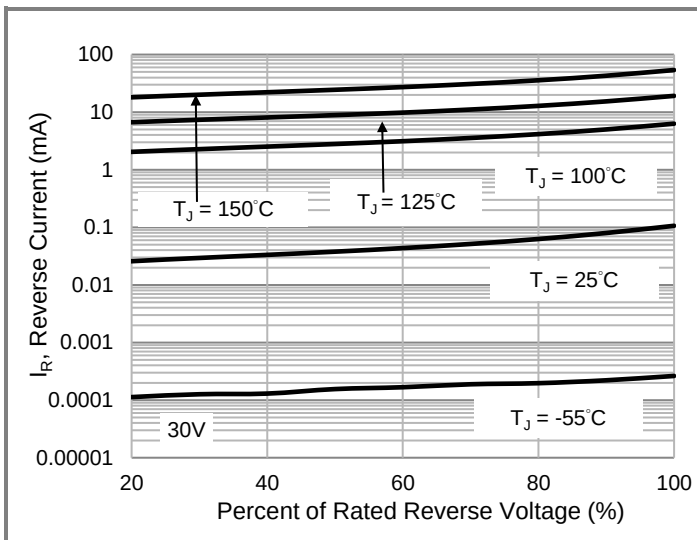

Fig.4 Typical Reverse Characteristics

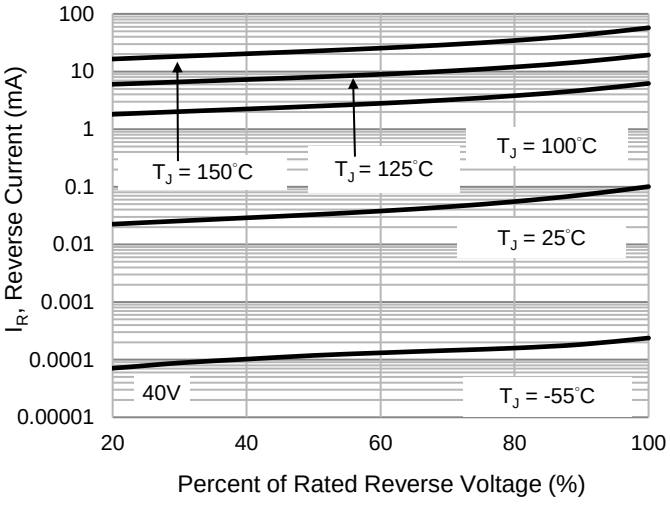

Fig.5 Typical Forward Characteristics

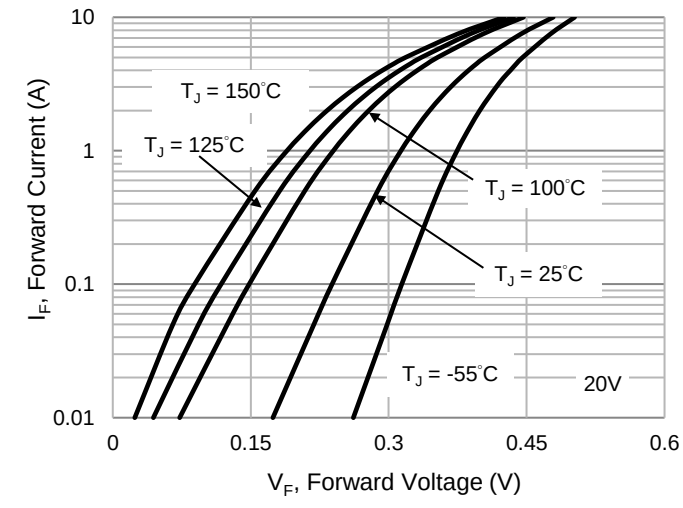

Fig.6 Typical Forward Characteristics

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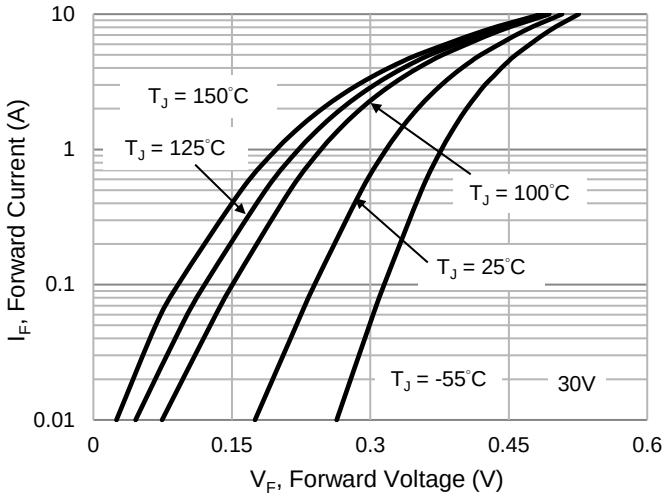

Fig.7 Typical Forward Characteristics

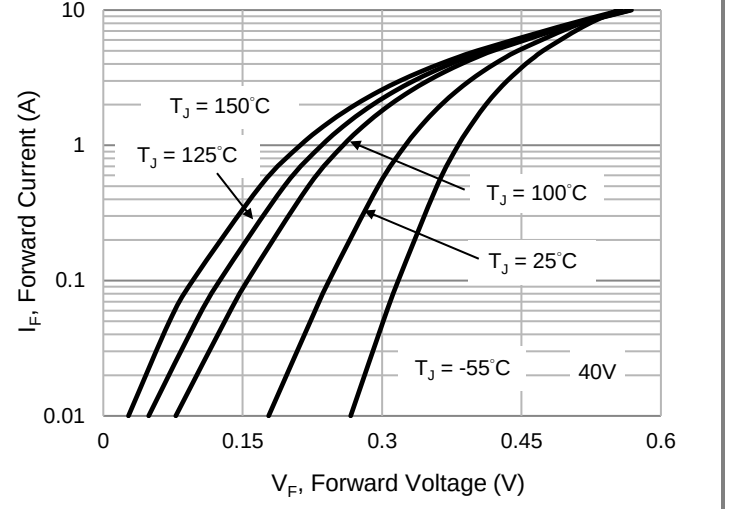

Fig.8 Typical Forward Characteristics

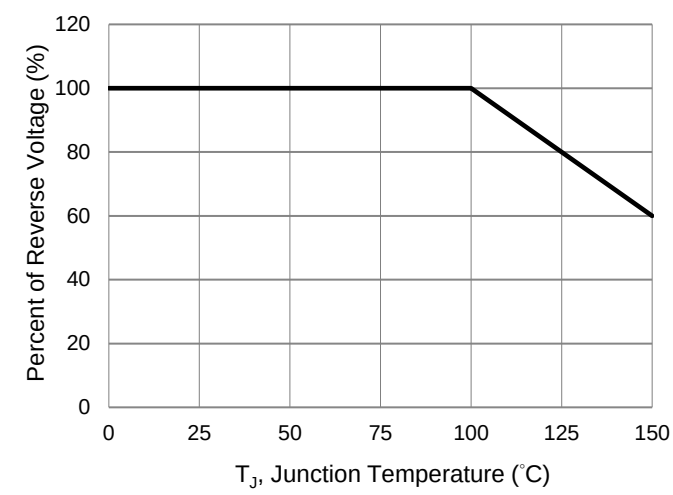

Fig.9 Operating Temperature Derating Curve

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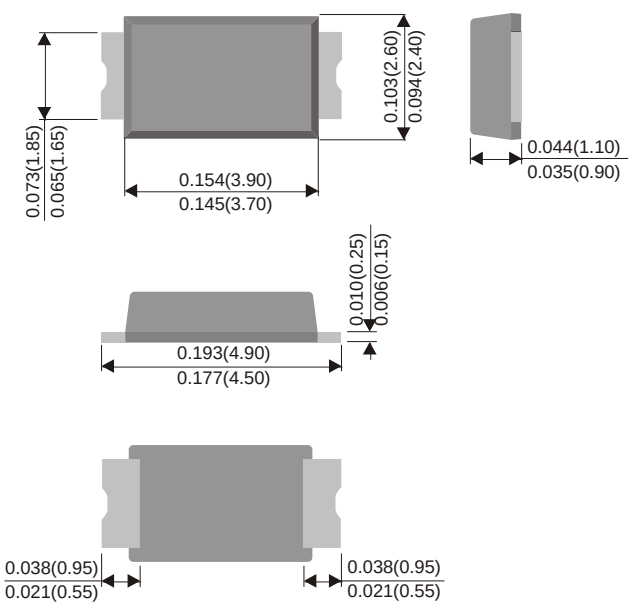
Product and Packing Information

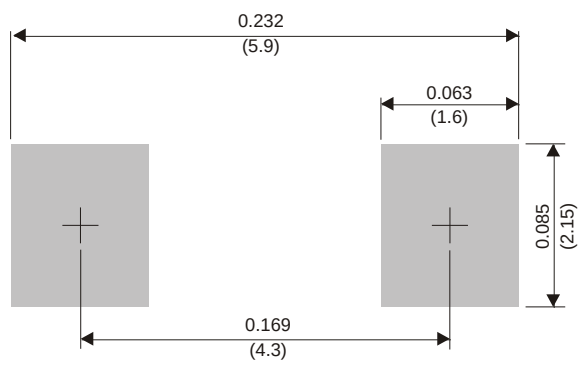
Part No.	Package Type	Packing Type	Marking
SBA520AFC-AU	SMAF-C	3K pcs / 7” reel	SBA520
SBA530AFC-AU	SMAF-C	3K pcs / 7” reel	SBA530
SBA540AFC-AU	SMAF-C	3K pcs / 7” reel	SBA540

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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