SBA320AFC ~ SBA340AFC Series

Surface Mount Extreme Low Vf Schottky Barrier Rectifier

Voltage 20~40 V **Current** 3 A

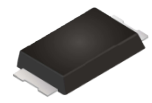
Features

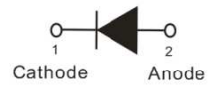
- Extreme low forward voltage drop
- Low power loss, high efficiency
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

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 (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SBA320AFC	SBA330AFC	SBA340AFC	UNITS
Maximum Recurrent 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	$I_{F(AV)}$	3			A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	50			A
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	15			°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	150			°C/W
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		SBA320AFC		SBA330AFC		SBA340AFC		UNITS
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward Voltage	V_F	I_F = 10mA	T_J =25 °C	0.19	-	0.19	-	0.21	-	V
		I_F = 1A		0.32	-	0.33	-	0.35	-	
		I_F = 3A		-	0.44	-	0.46	-	0.48	
		I_F = 10mA	T_J =125 °C	0.05	-	0.06	-	0.06	-	V
		I_F = 1A		0.24	-	0.26	-	0.27	-	
Reverse Current (Note 3)	I_R	V_R = 10V	T_J=25°C	31	-	18	-	16	-	μA
		V_R = 20V		-	200	28	-	21	-	
		V_R = 30V		-	-	-	200	35	-	
		V_R = 40V		-	-	-	-	-	150	
		V_R = 20V	T_J =125 °C	8.6	-	5.6	-	5.1	-	mA
		V_R = 30V		-	-	10.7	-	7.6	-	
		V_R = 40V		-	-	-	-	12	-	

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

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TYPICAL CHARACTERISTIC CURVES

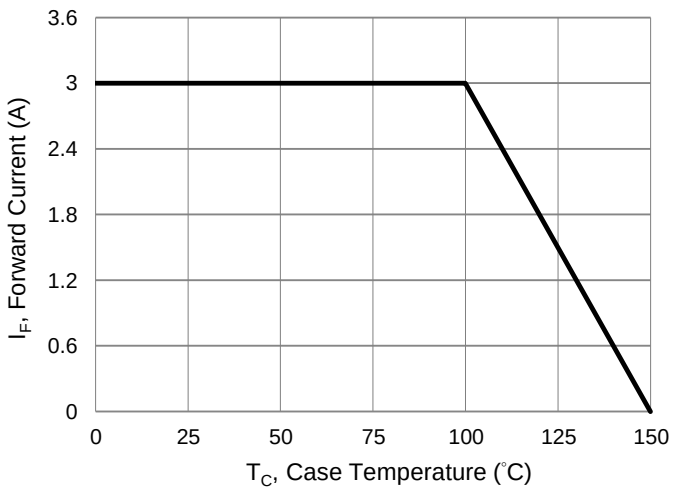

Fig.1 Forward Current Derating Curve

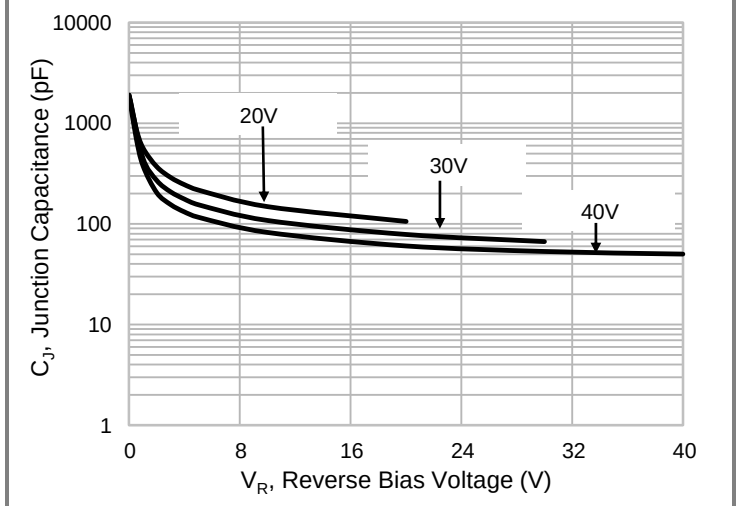

Fig. 2 Typical Junction Capacitance

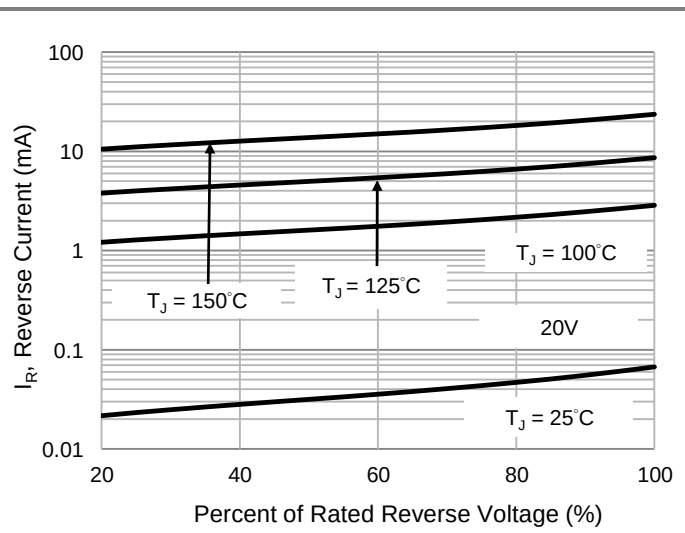

Fig.3 Typical Reverse Characteristics

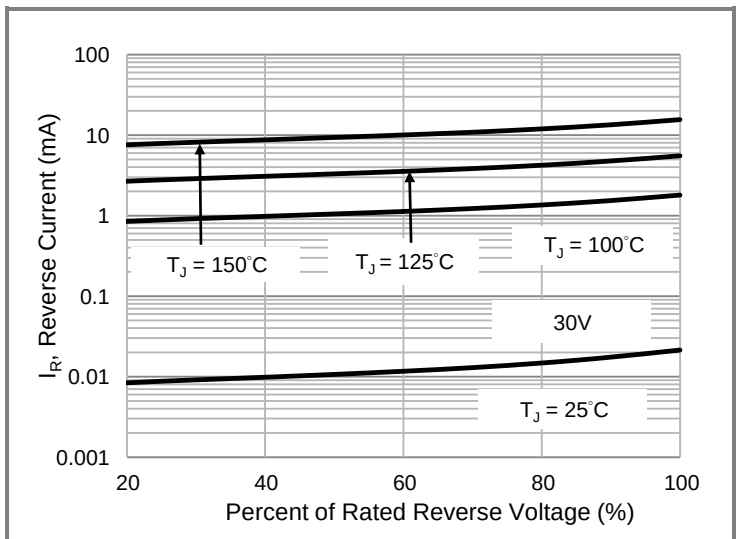

Fig.4 Typical Reverse Characteristics

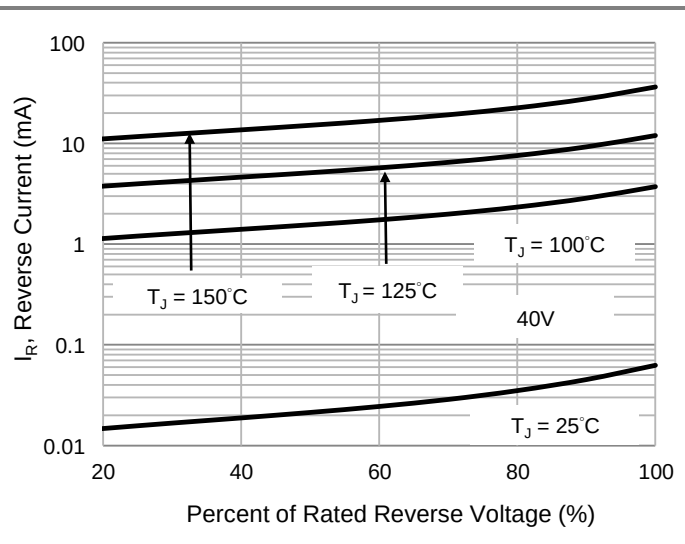

Fig.5 Typical Reverse Characteristics

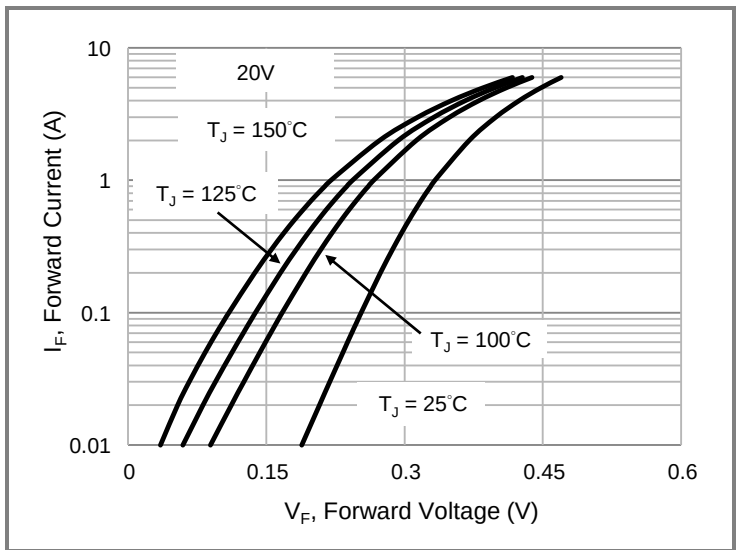

Fig.6 Typical Forward Characteristics

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TYPICAL CHARACTERISTIC CURVES

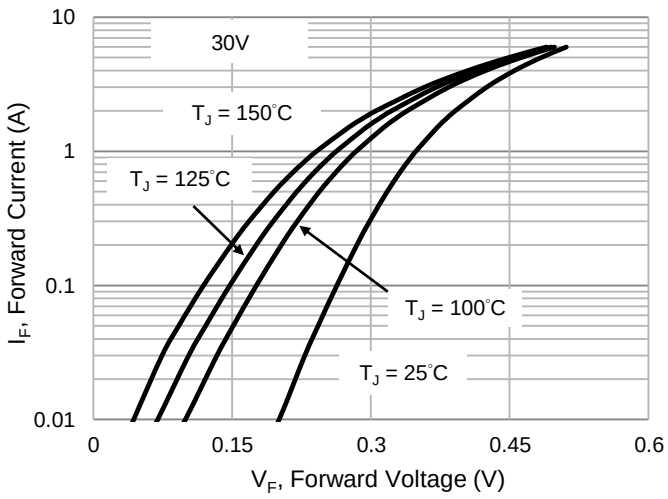

Fig.7 Typical Forward Characteristics

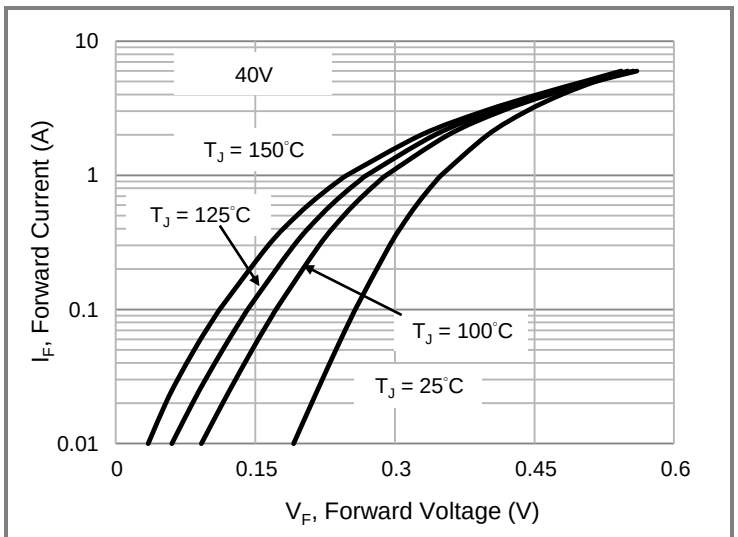

Fig.8 Typical Forward Characteristics

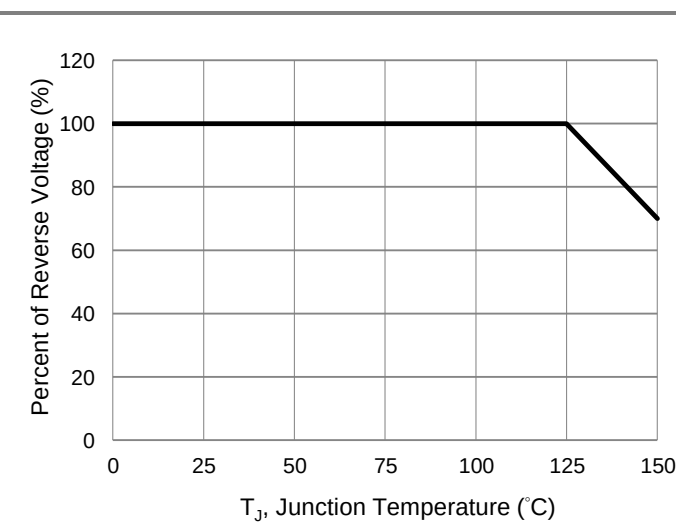

Fig.9 Operating Temperature Derating Curve

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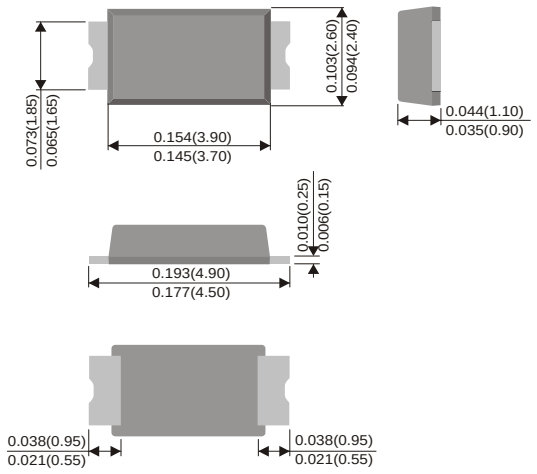
Part No. Packing Code Version

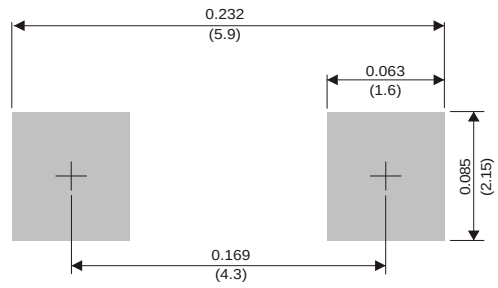
Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBA320AFC_R1_00001	SMAF-C	3K pcs / 7” reel	SBA320	Halogen free
SBA330AFC_R1_00001	SMAF-C	3K pcs / 7” reel	SBA330	Halogen free
SBA340AFC_R1_00001	SMAF-C	3K pcs / 7” reel	SBA340	Halogen free

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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