



**THE DATASHEET OF
SBA540AFC_R1_00001**





SBA520AFC ~ SBA540AFC Series

Surface Mount Extreme Low Vf Schottky Barrier Rectifier

Voltage

20~40 V

Current

5 A

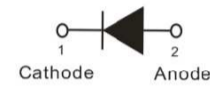
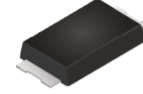
Features

- 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 : Molded plastic, SMAF-C
- 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	SBA520AFC	SBA530AFC	SBA540AFC	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)}	5			A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I _{FSM}	80			A
Typical Thermal Resistance (Note 2)	R _{θJC}	15			°C/W
	R _{θJA}	150			
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		SBA530AFC		SBA540AFC		UNITS								
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.									
Forward Voltage	V _F	I _F = 10mA	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	0.04	-	0.04	-	0.05										
I _F = 2A	0.25	0.27						0.29									
Reverse Current (Note 3)	I _R	V _R = 10V	47	-	33	-	25	-	μA								
		V _R = 20V								-	300	51	-	32			
		V _R = 30V													-	300	55
		V _R = 40V															
		V _R = 20V	21	-	11	-	8										
		V _R = 30V						-		19	12						
V _R = 40V	-	-							19								
									mA								

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



SBA520AFC ~ SBA540AFC Series

TYPICAL CHARACTERISTIC CURVES

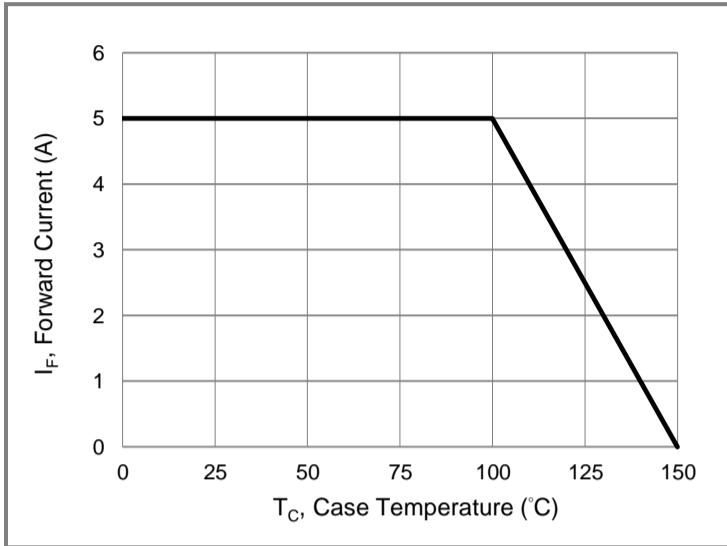


Fig.1 Forward Current Derating Curve

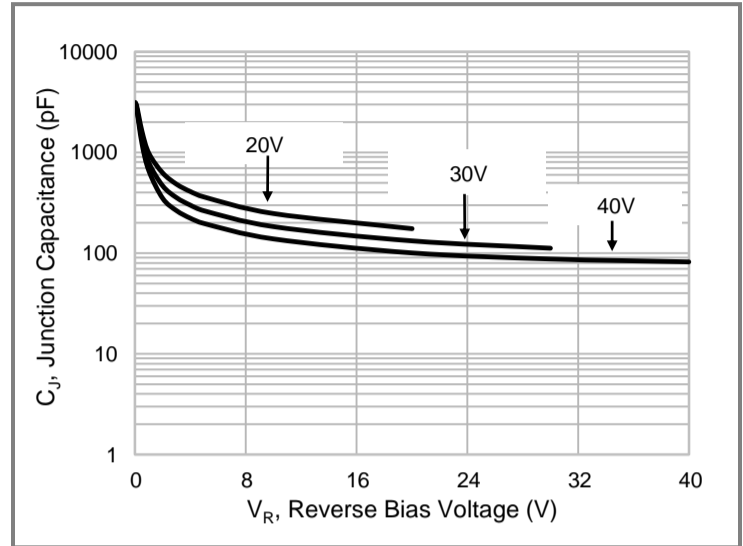


Fig. 2 Typical Junction Capacitance

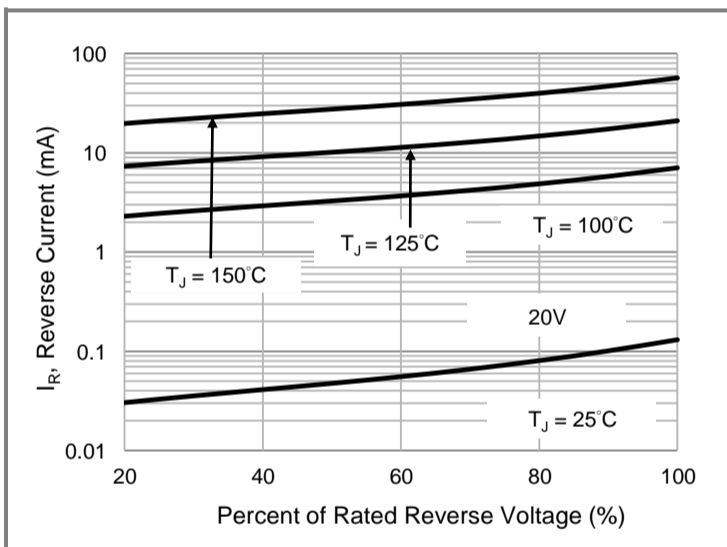


Fig.3 Typical Reverse Characteristics

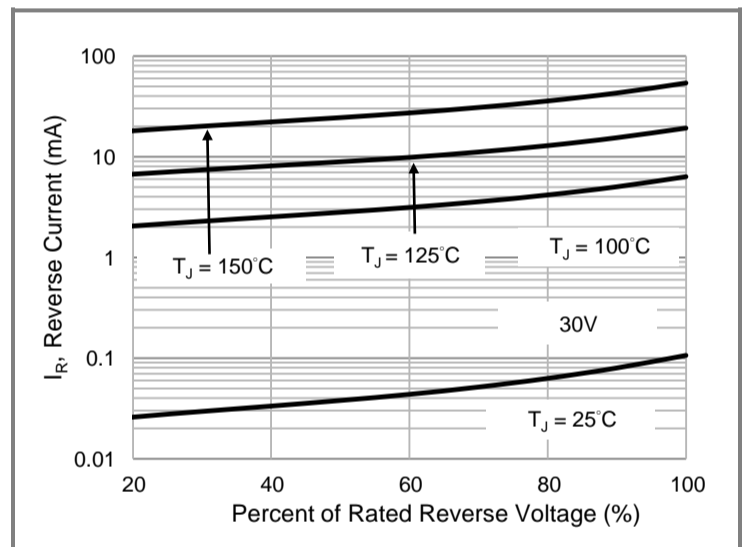


Fig.4 Typical Reverse Characteristics

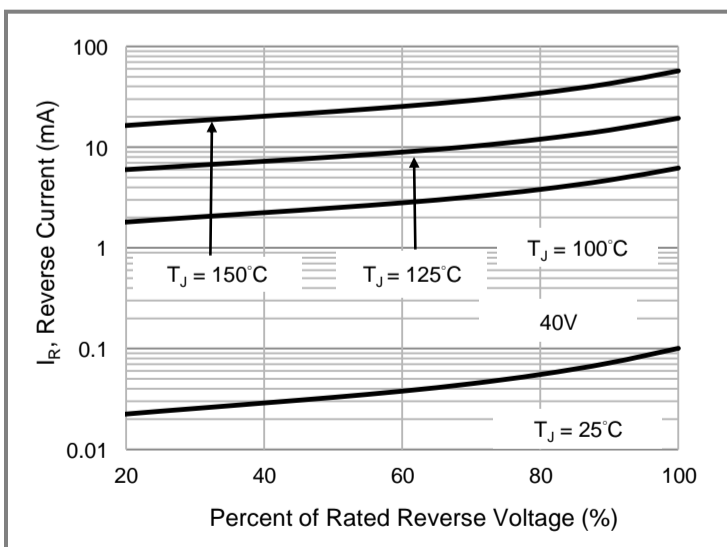


Fig.5 Typical Reverse Characteristics

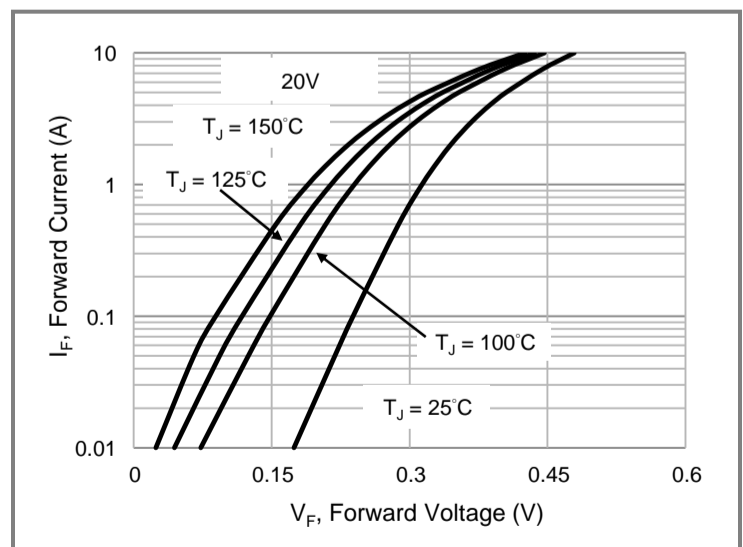


Fig.6 Typical Forward Characteristics



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TYPICAL CHARACTERISTIC CURVES

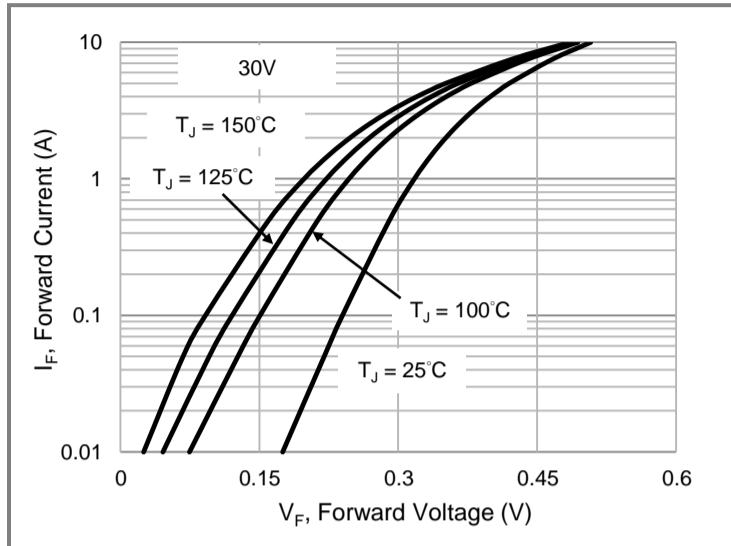


Fig.7 Typical Forward Characteristics

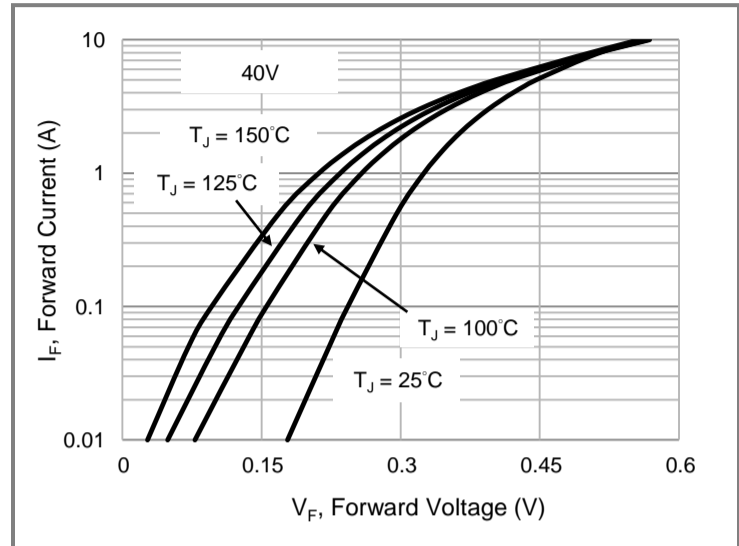


Fig.8 Typical Forward Characteristics

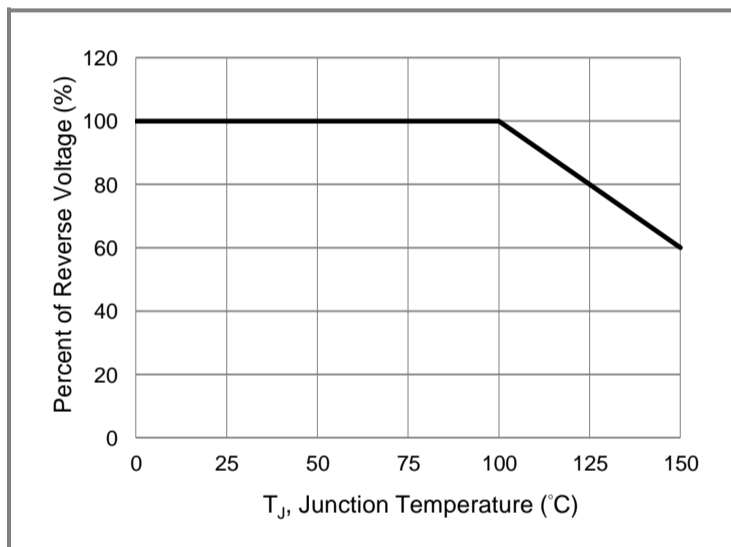


Fig.9 Operating Temperature Derating Curve

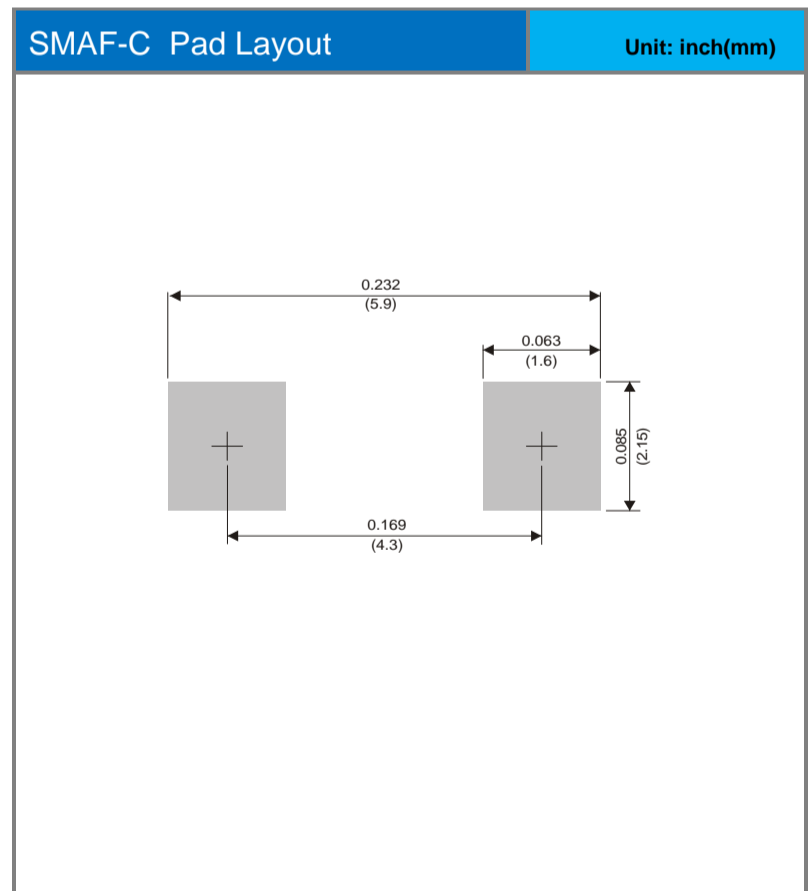
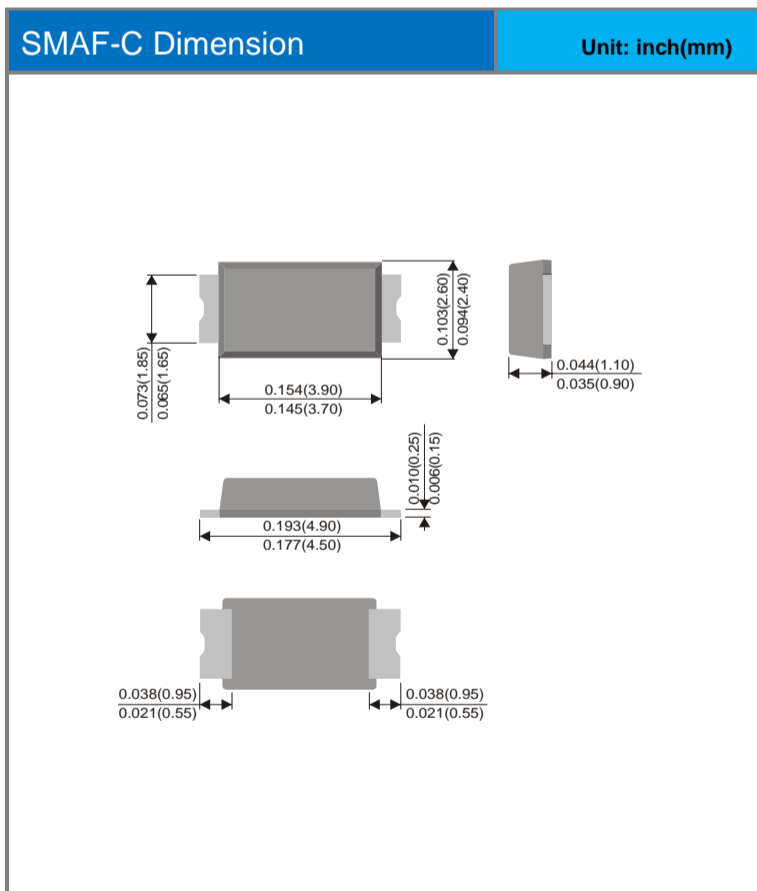


SBA520AFC ~ SBA540AFC Series

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBA520AFC_R1_00001	SMAF-C	3K pcs / 7" reel	SBA520	Halogen free
SBA530AFC_R1_00001	SMAF-C	3K pcs / 7" reel	SBA530	Halogen free
SBA540AFC_R1_00001	SMAF-C	3K pcs / 7" reel	SBA540	Halogen free

Packaging Information & Mounting Pad Layout





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