



## SBA320AFC ~ SBA340AFC Series

### Surface Mount Extreme Low Vf Schottky Barrier Rectifier

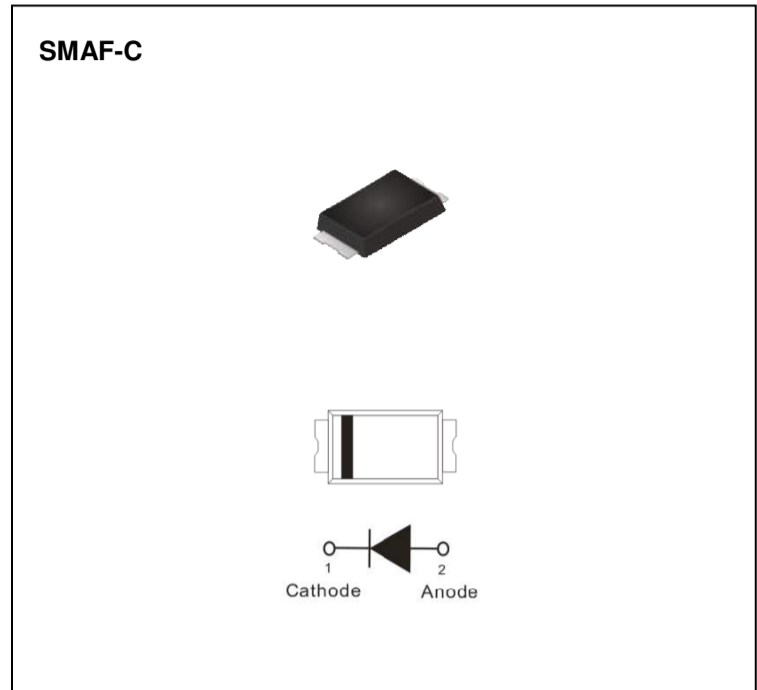
<b>Voltage</b>	<b>20~40 V</b>	<b>Current</b>	<b>3 A</b>
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#### Features

- 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



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

PARAMETER	SYMBOL	SBA320AFC	SBA330AFC	SBA340AFC	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	V
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	V
Maximum DC Blocking Voltage	V <sub>R</sub>	20	30	40	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	3			A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	50			A
Typical Thermal Resistance	(Note 2) R <sub>θJC</sub>	15			°C/W
	(Note 1) R <sub>θJA</sub>	150			
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150			°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150			°C

### Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	SBA320AFC		SBA330AFC		SBA340AFC		UNITS	
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.		
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	T <sub>J</sub> = 25 °C	0.19	-	0.19	-	0.21	-	V
		I <sub>F</sub> = 1A		0.32	-	0.33	-	0.35	-	
		I <sub>F</sub> = 3A		-	0.44	-	0.46	-	0.48	
		I <sub>F</sub> = 10mA	T <sub>J</sub> = 125 °C	0.05	-	0.06	-	0.06	-	V
I <sub>F</sub> = 1A	0.24	-		0.26	-	0.27	-			
Reverse Current <sup>(Note 3)</sup>	I <sub>R</sub>	V <sub>R</sub> = 10V	T <sub>J</sub> = 25 °C	31	-	18	-	16	-	μA
		V <sub>R</sub> = 20V		-	200	28	-	21	-	
		V <sub>R</sub> = 30V		-	-	-	200	35	-	
		V <sub>R</sub> = 40V		-	-	-	-	-	150	
		V <sub>R</sub> = 20V	T <sub>J</sub> = 125 °C	8.6	-	5.6	-	5.1	-	mA
V <sub>R</sub> = 30V	-	-		10.7	-	7.6	-			
V <sub>R</sub> = 40V	-	-		-	-	12	-			

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

2. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area

3. Short duration pulse test used to minimize self-heating effect



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## TYPICAL CHARACTERISTIC CURVES

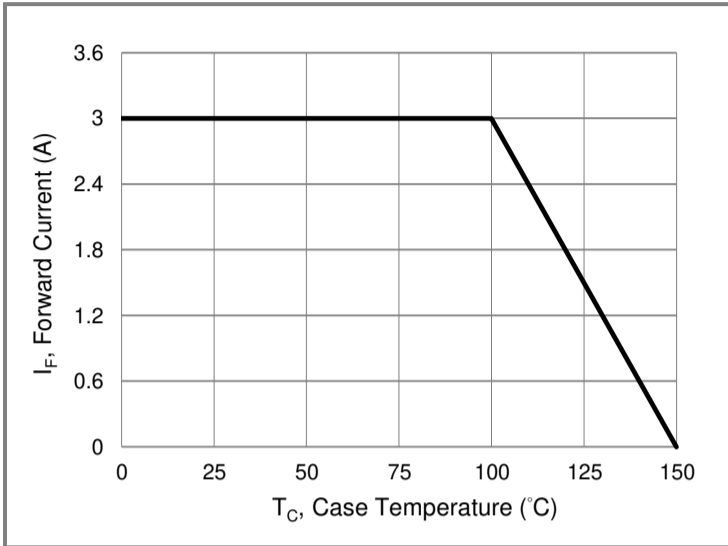


Fig.1 Forward Current Derating Curve

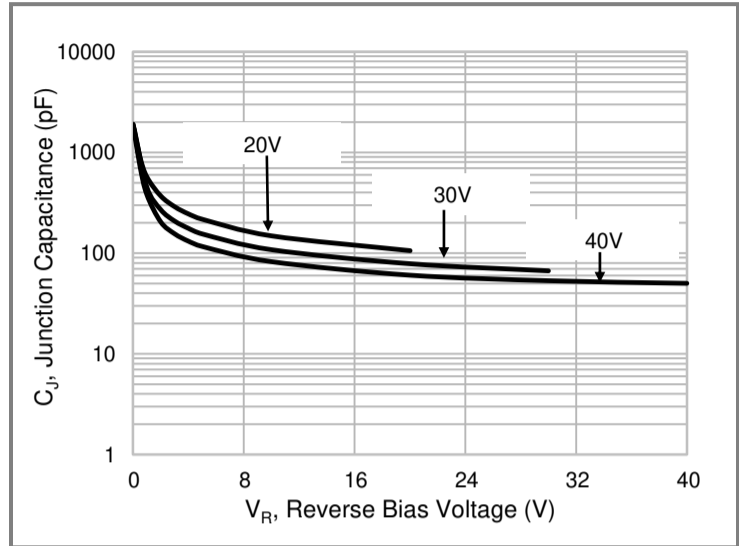


Fig. 2 Typical Junction Capacitance

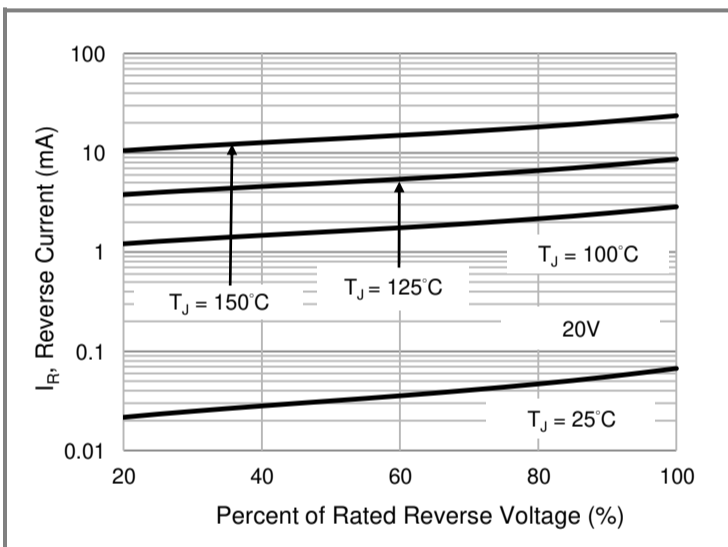


Fig.3 Typical Reverse Characteristics

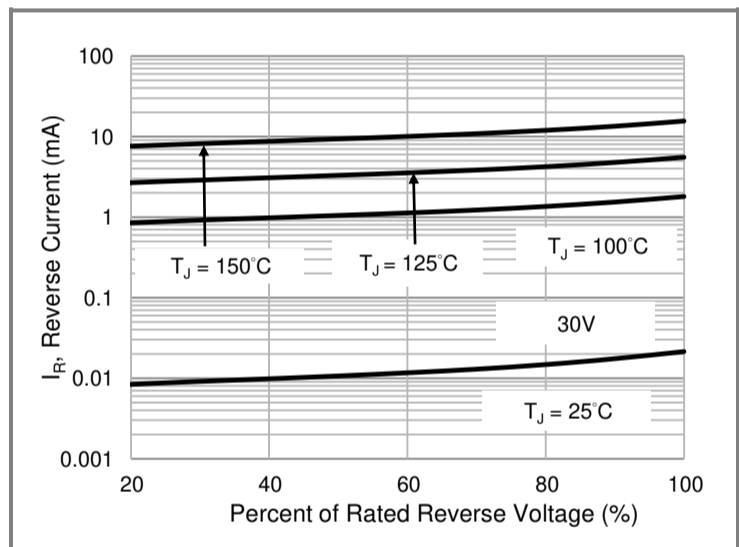


Fig.4 Typical Reverse Characteristics

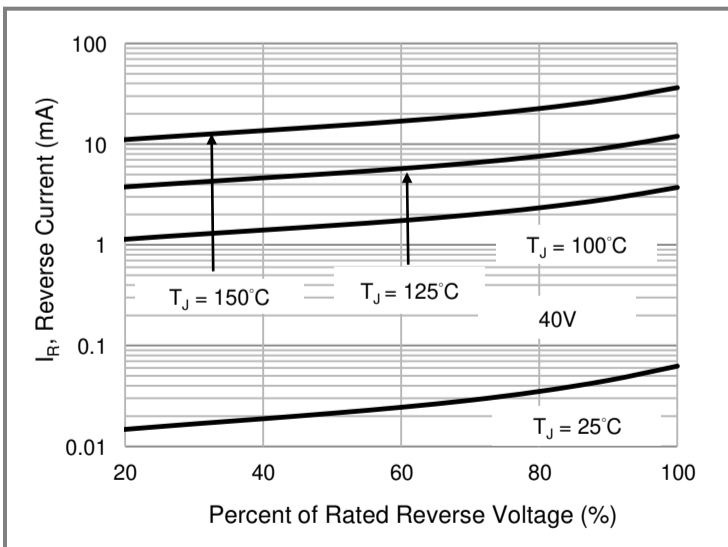


Fig.5 Typical Reverse Characteristics

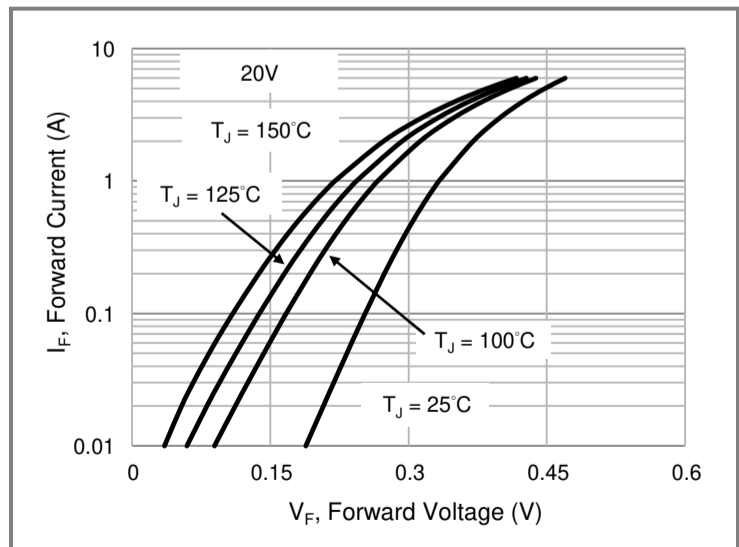


Fig.6 Typical Forward Characteristics



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## TYPICAL CHARACTERISTIC CURVES

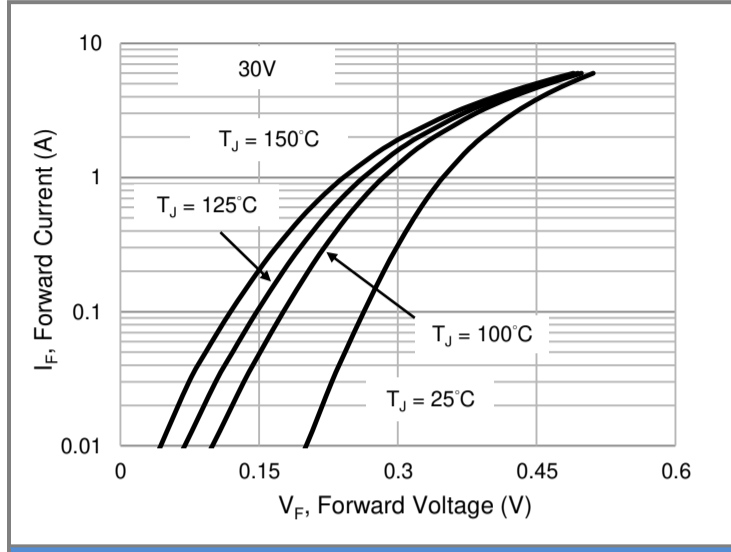


Fig.7 Typical Forward Characteristics

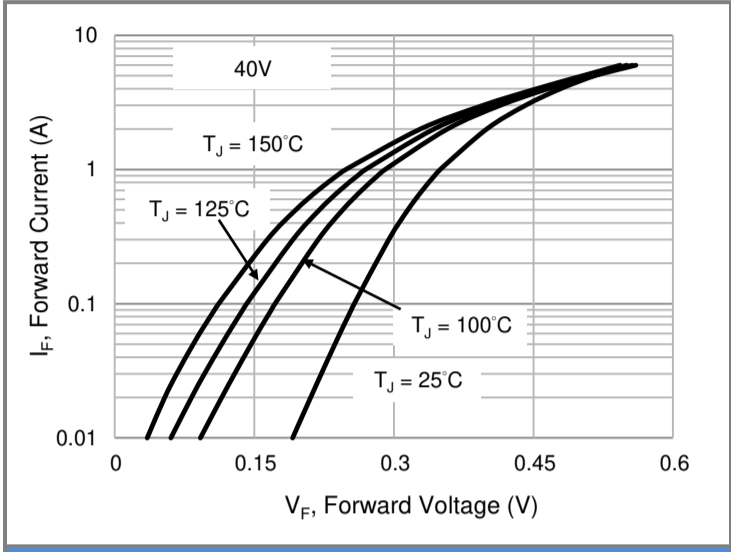


Fig.8 Typical Forward Characteristics

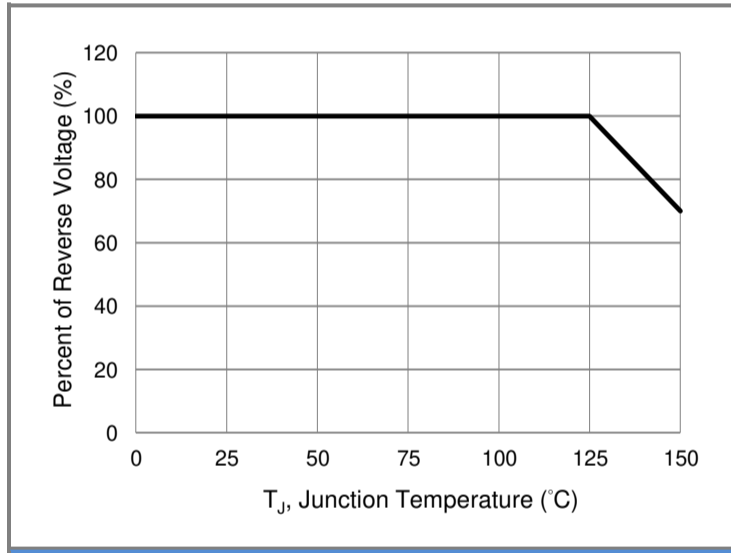


Fig.9 Operating Temperature Derating Curve

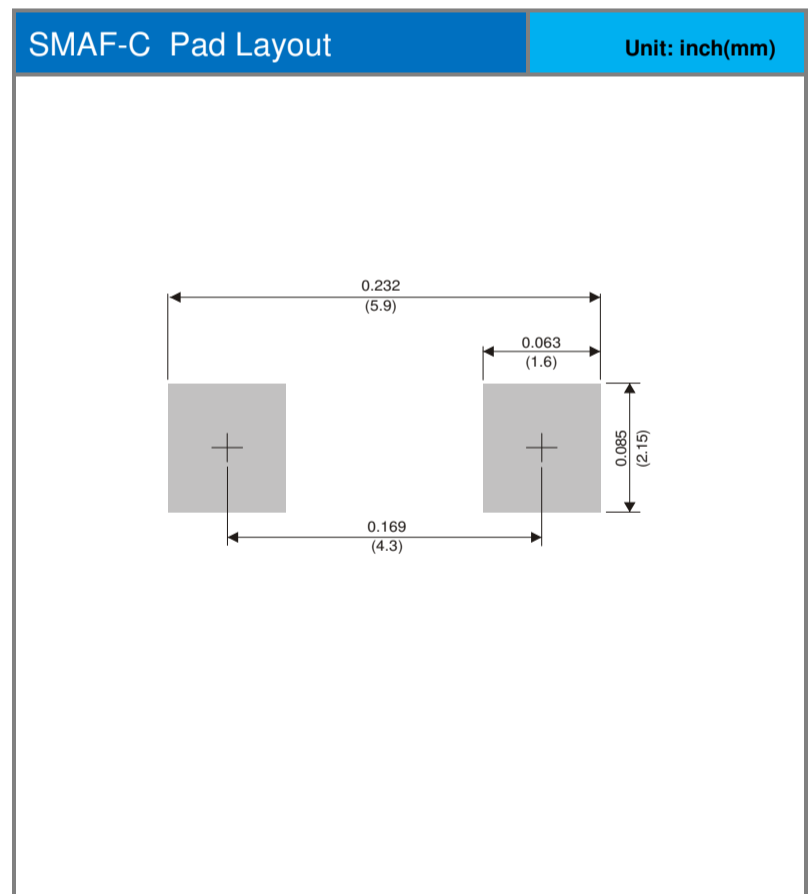
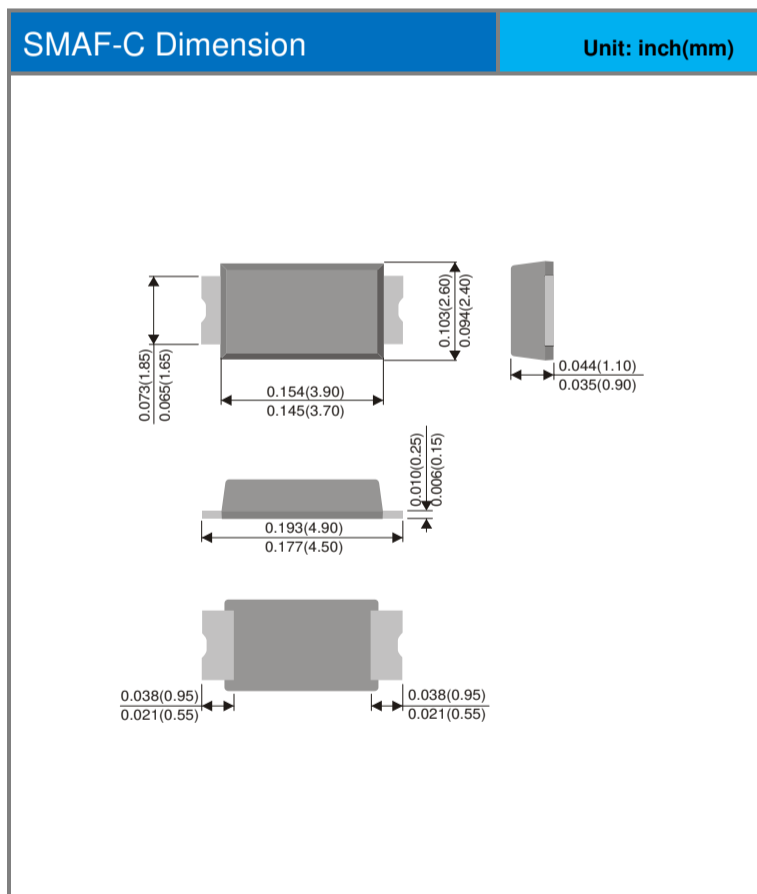


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## Part No. Packing Code Version

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





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