

SBA320AFC ~ SBA340AFC Series

Surface Mount Extreme Low V_F Schottky Barrier Rectifier

Voltage

20~40 V

Current

3 A

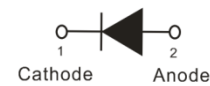
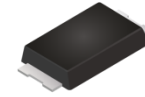
Features

- 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 ($T_A = 25^\circ\text{C}$ 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) (Note 1)	$R_{\theta JC}$	15			$^\circ\text{C/W}$
	$R_{\theta JA}$	150			
Operating Junction Temperature Range	T_J	-55 to +150			$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150			$^\circ\text{C}$

Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	SBA320AFC		SBA330AFC		SBA340AFC		UNITS								
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.									
Forward Voltage	V_F	$I_F = 10\text{mA}$	0.19	-	0.19	-	0.21	-	V								
		$I_F = 1\text{A}$								0.32	-	0.33	-	0.35			
		$I_F = 3\text{A}$													0.44	0.46	0.48
		$T_J = 25^\circ\text{C}$															
Reverse Current ^(Note 3)	I_R	$V_R = 10\text{V}$	8.6	-	5.6	-	5.1	-	μA								
		$V_R = 20\text{V}$								-	-	10.7	-	7.6			
		$V_R = 30\text{V}$													-	-	12
		$V_R = 40\text{V}$															
$T_J = 125^\circ\text{C}$																	

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

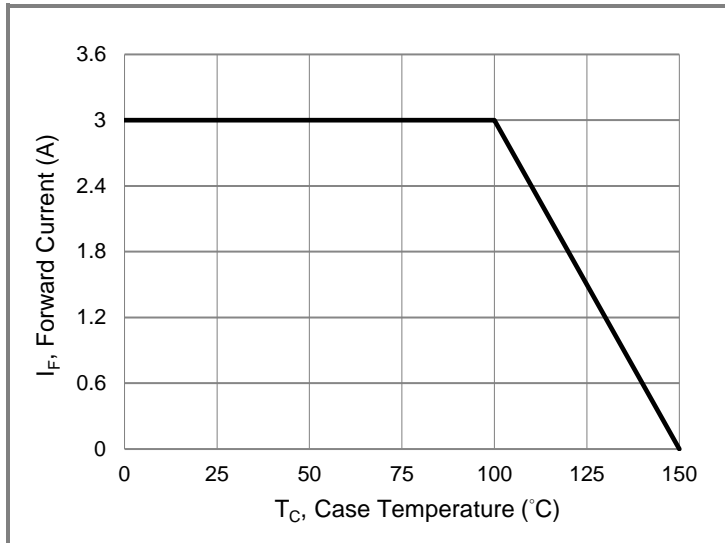


Fig.1 Forward Current Derating Curve

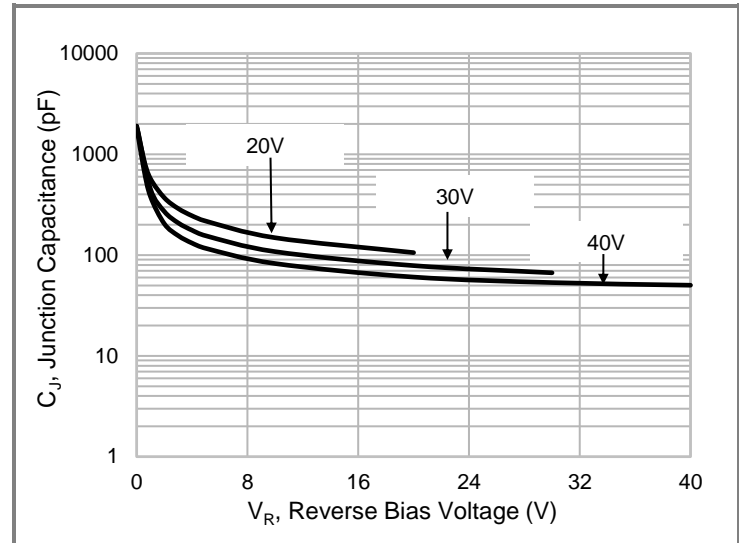


Fig. 2 Typical Junction Capacitance

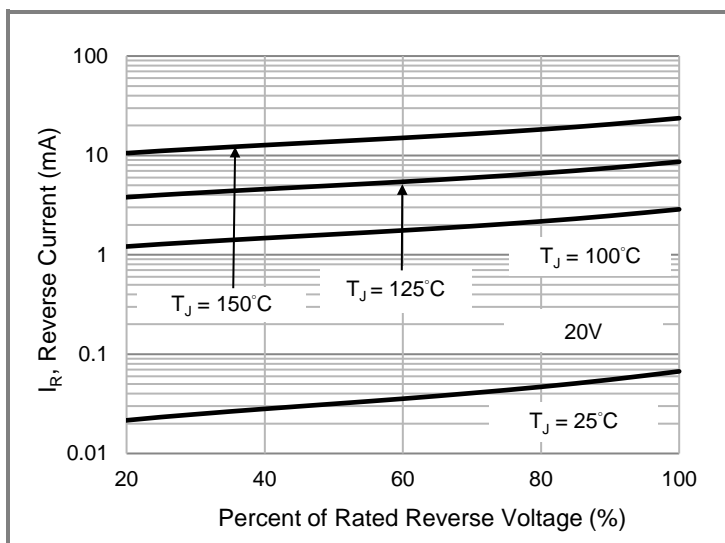


Fig.3 Typical Reverse Characteristics

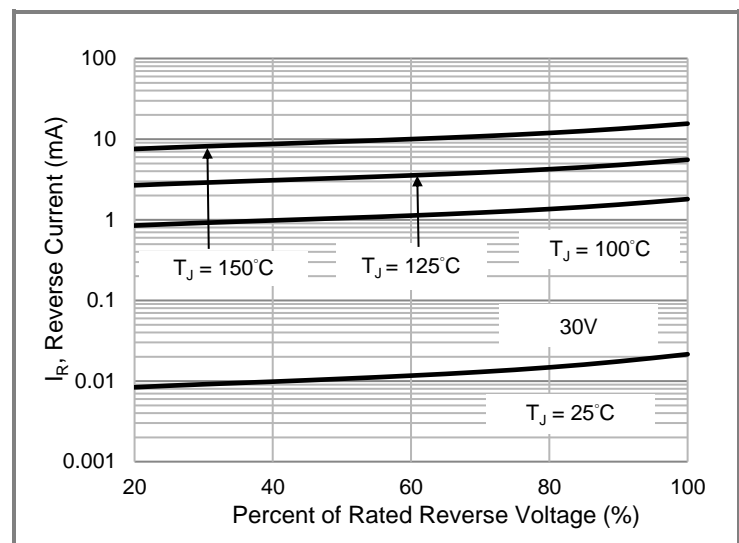


Fig.4 Typical Reverse Characteristics

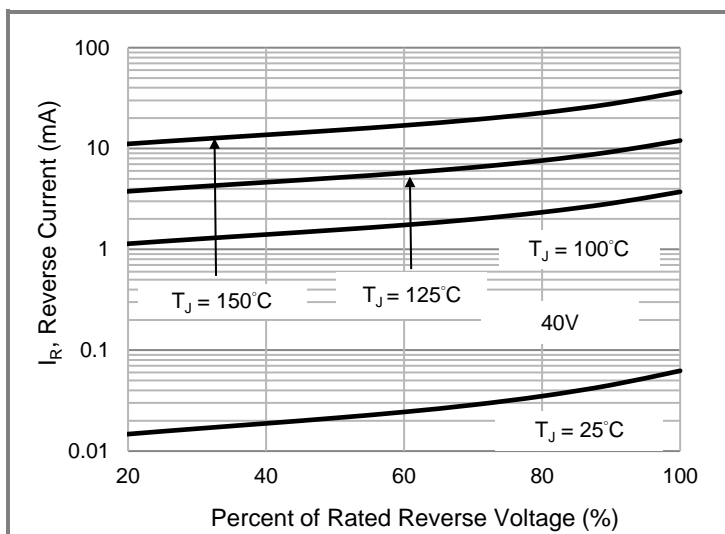


Fig.5 Typical Reverse Characteristics

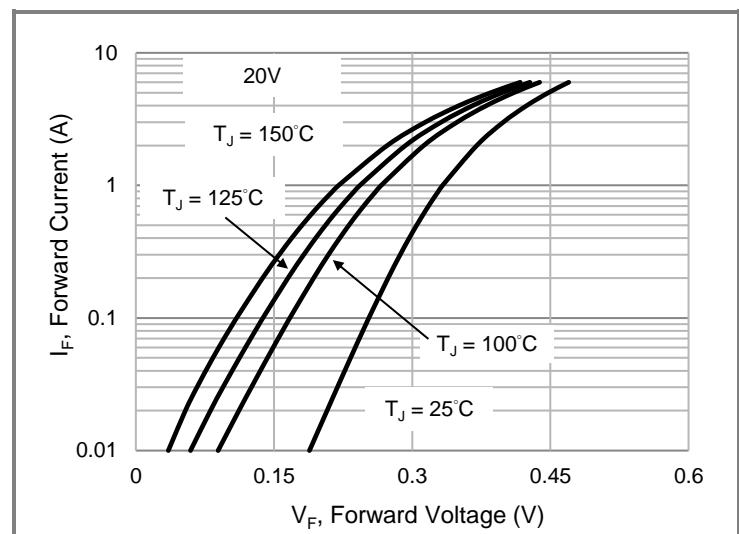


Fig.6 Typical Forward Characteristics

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TYPICAL CHARACTERISTIC CURVES

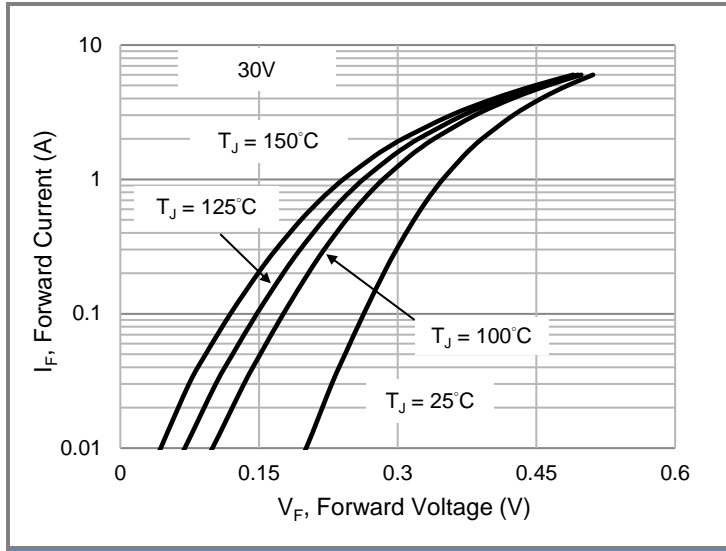


Fig.7 Typical Forward Characteristics

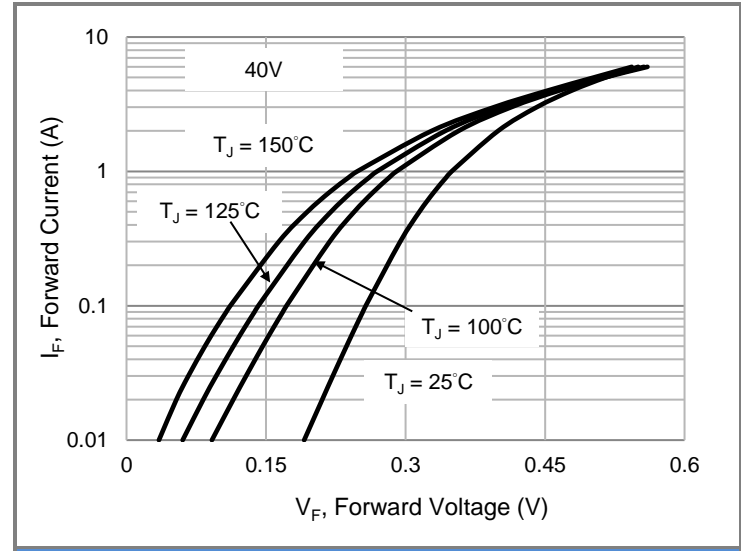


Fig.8 Typical Forward Characteristics

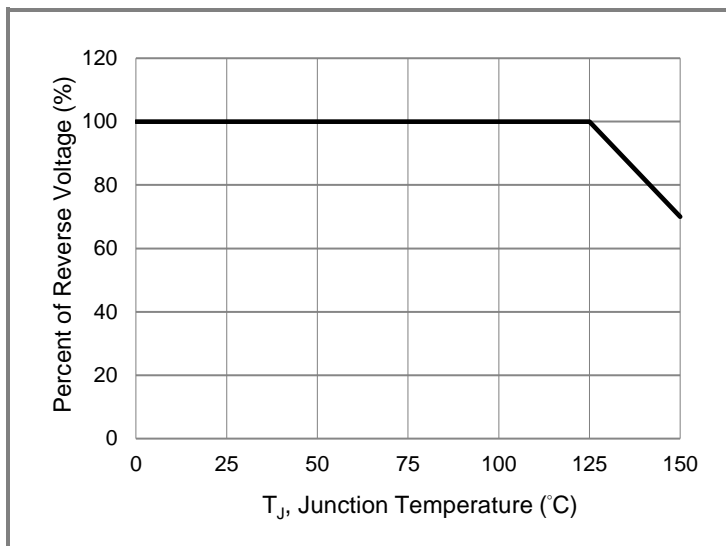


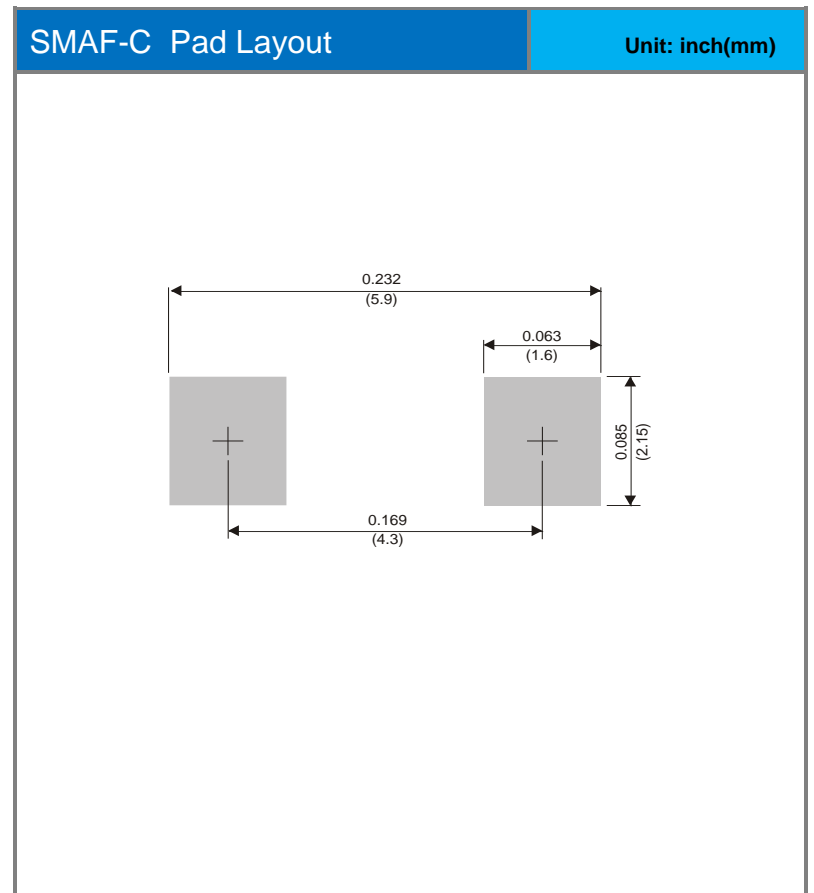
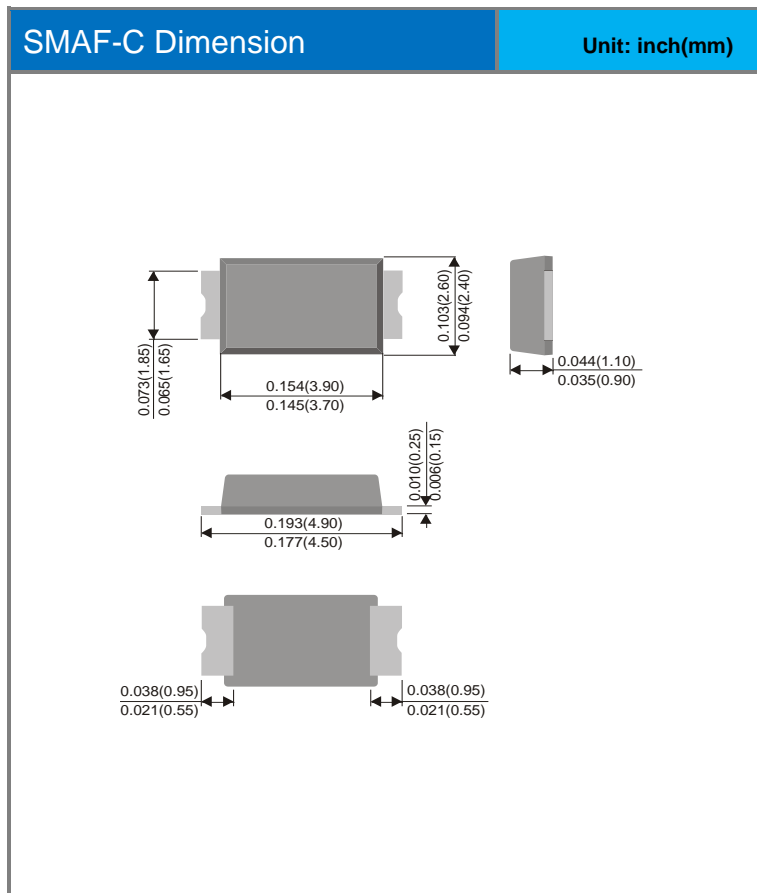
Fig.9 Operating Temperature Derating Curve

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBA320AFC	SMAF-C	3K pcs / 7" reel	SBA320
SBA330AFC	SMAF-C	3K pcs / 7" reel	SBA330
SBA340AFC	SMAF-C	3K pcs / 7" reel	SBA340

Packaging Information & Mounting Pad Layout



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