

SBA320AL-AU / SBA330AL-AU / SBA340AL-AU

Surface Mount Extreme Low V_F Schottky Barrier Rectifier

Voltage	20-40 V	Current	3 A
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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

Applications

- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

Mechanical Data

- Case : Molded plastic, SOD-123FL
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0173 grams

SOD-123FL



Cathode Anode

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	SBA320AL-AU	SBA330AL-AU	SBA340AL-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	$I_{F(AV)}$	3			A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50			A
Typical thermal resistance	(Note 2) $R_{\theta JC}$	32			$^\circ\text{C/W}$
	(Note 1) $R_{\theta JA}$	200			
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	SBA320AL-AU		SBA330AL-AU		SBA340AL-AU		UNIT					
			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
		$I_F = 3\text{A}$												
		$T_J = 25^\circ\text{C}$												
Reverse current	I_R	$V_R = 10\text{V}$	31	-	18	-	16	-	μA					
		$V_R = 20\text{V}$								200	28	21		
		$V_R = 30\text{V}$								-	200	35		
		$V_R = 40\text{V}$								-	-	150		
		$V_R = 20\text{V}$	8.6	-	5.6	-	5.1	-	mA					
		$V_R = 30\text{V}$								10.7	7.6			
		$V_R = 40\text{V}$								-	-	12		
		$T_J = 125^\circ\text{C}$												

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

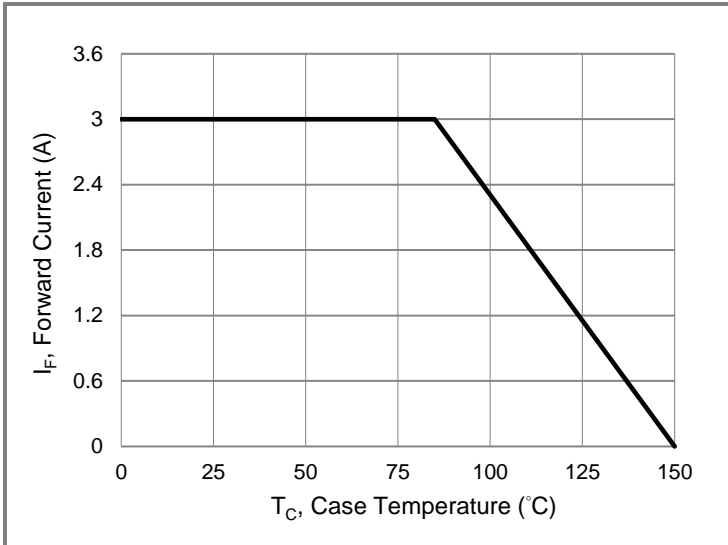


Fig.1 Forward Current Derating Curve

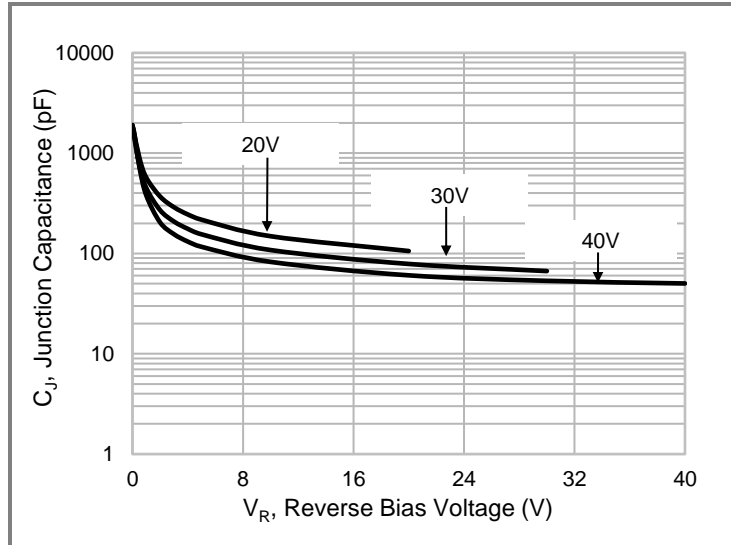


Fig. 2 Typical Junction Capacitance

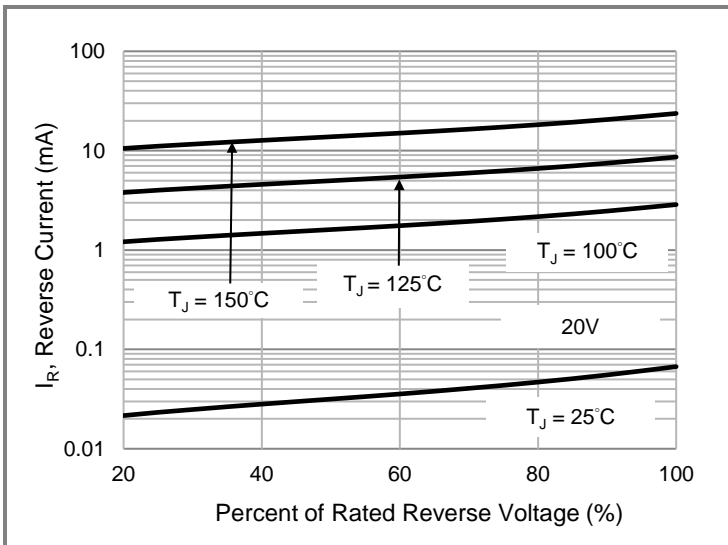


Fig.3 Typical Reverse Characteristics

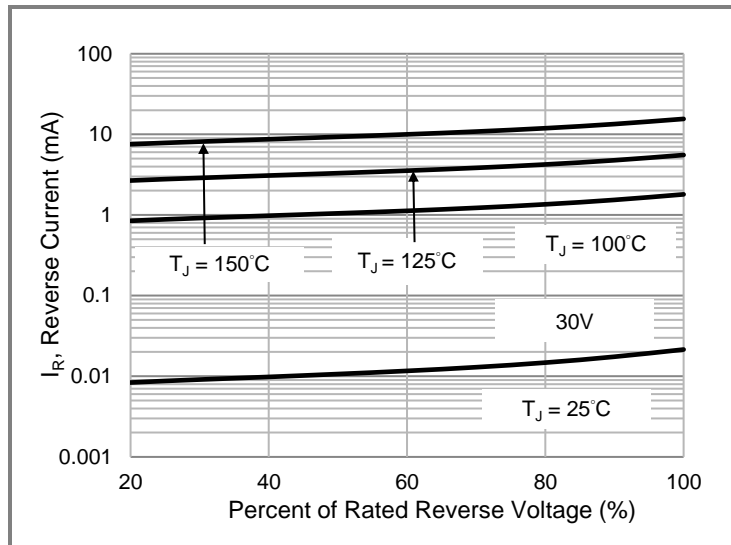


Fig.4 Typical Reverse Characteristics

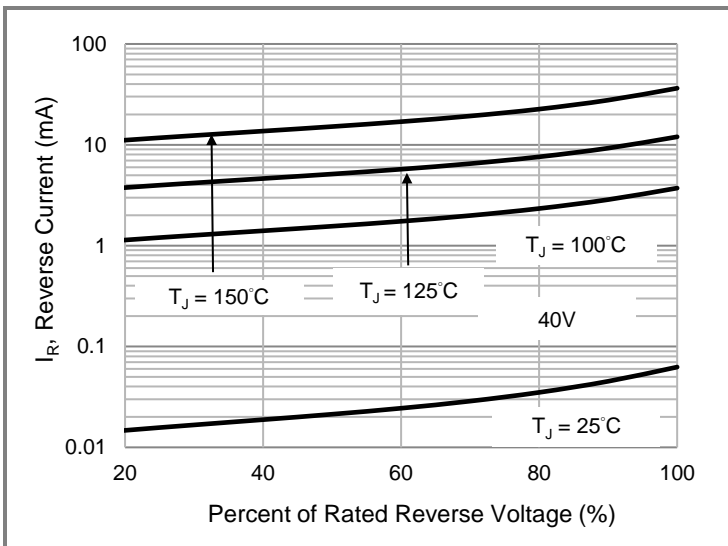


Fig.5 Typical Reverse Characteristics

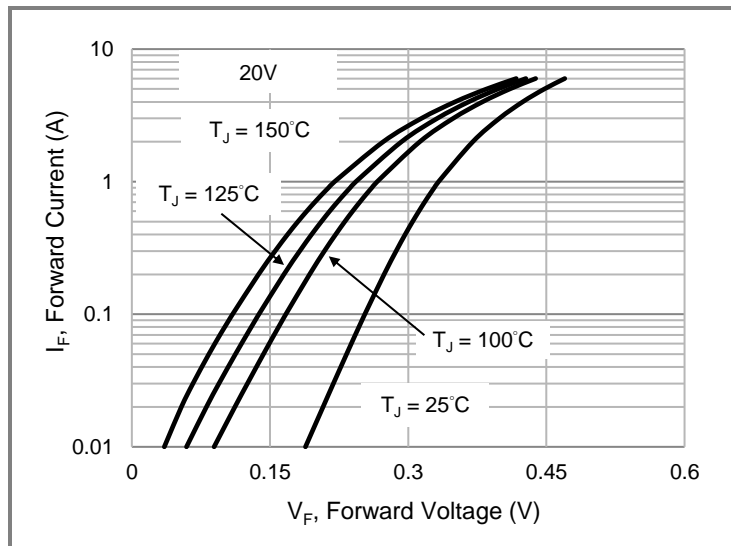


Fig.6 Typical Forward Characteristics

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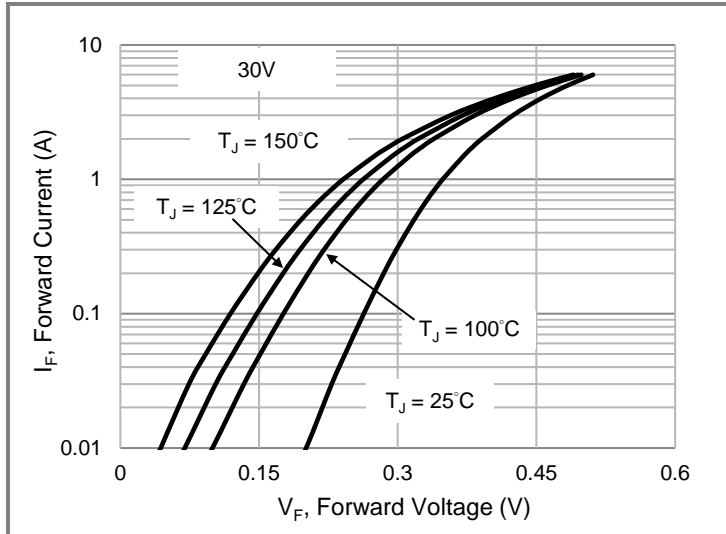


Fig.7 Typical Forward Characteristics

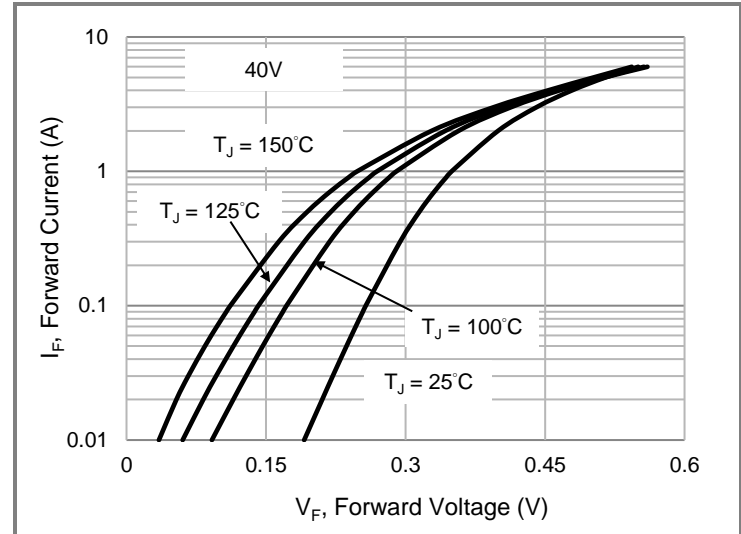


Fig.8 Typical Forward Characteristics

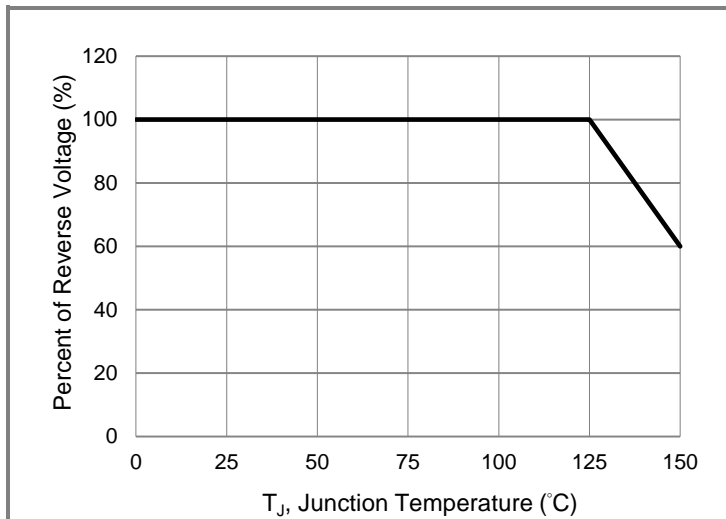


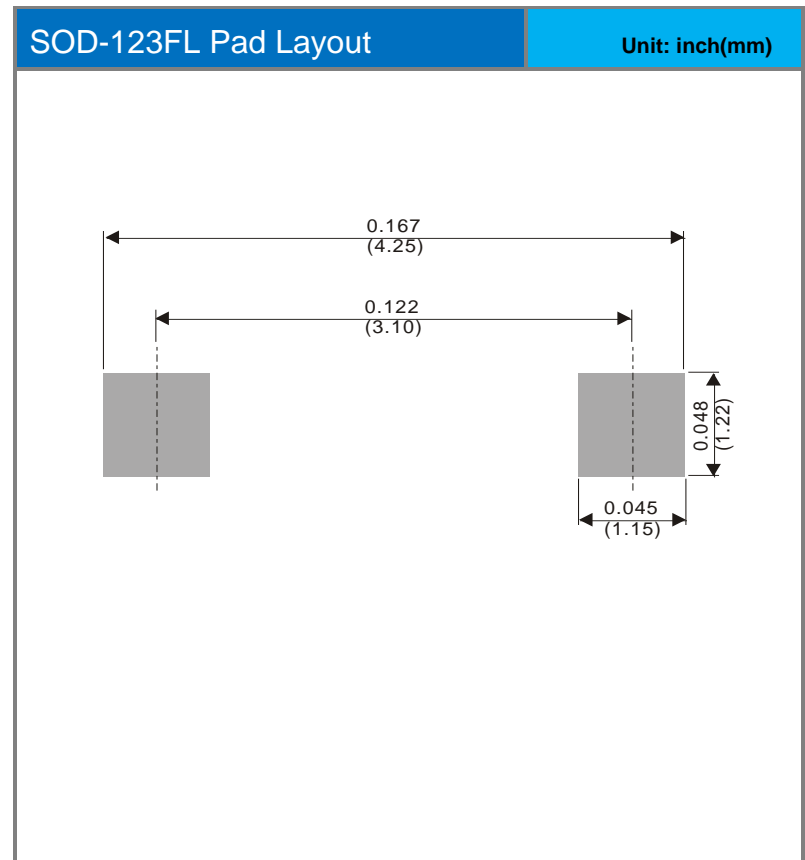
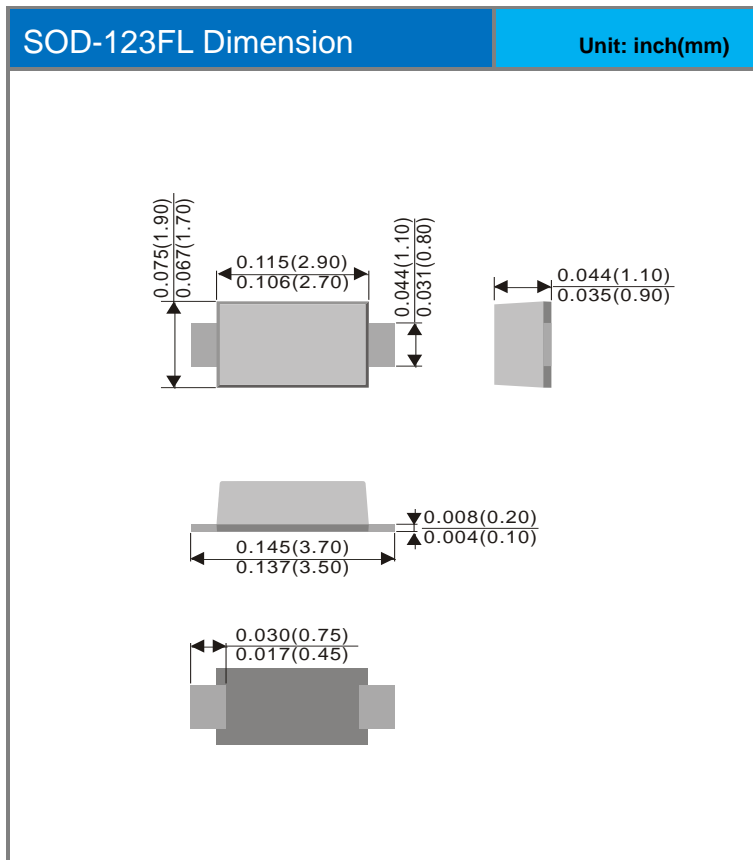
Fig.9 Operating Temperature Derating Curve

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBA320AL-AU	SOD-123FL	3K pcs / 7" reel	E7
SBA330AL-AU	SOD-123FL	3K pcs / 7" reel	F7
SBA340AL-AU	SOD-123FL	3K pcs / 7" reel	G7

Packaging Information & Mounting Pad Layout



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