

SBA320AL SERIES

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage	20-40 V	Current	3 A
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Features

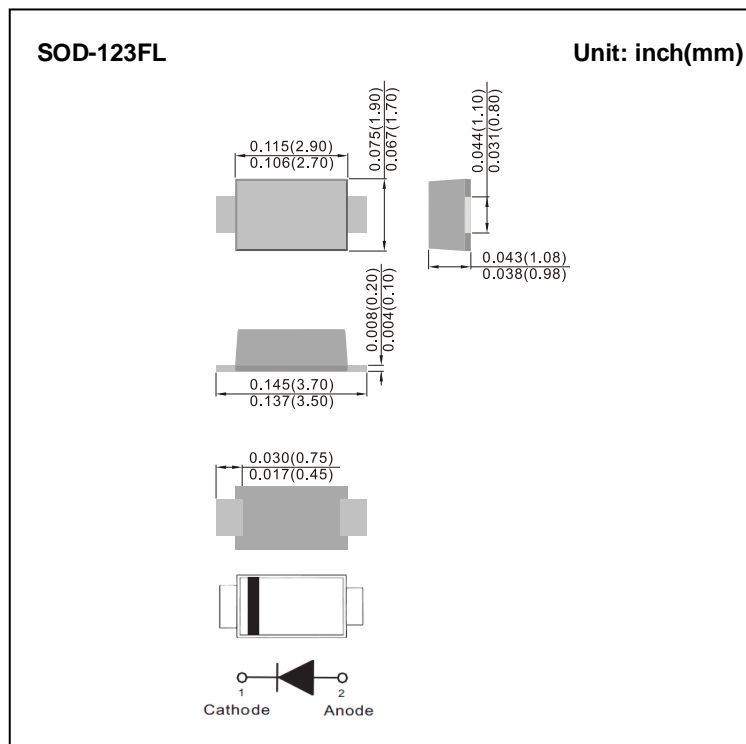
- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Ultra thin profile package for space constrained utilization
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

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: 0.00061 ounces, 0.017 grams



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

PARAMETER	SYMBOL	SBA320AL	SBA330AL	SBA340AL	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		SBA330AL		SBA340AL		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	-	
		$I_F = 3\text{A}$	-	0.44	-	0.46	-	0.48	
		$I_F = 10\text{mA}$	0.05	-	0.06	-	0.06	-	V
$I_F = 1\text{A}$	0.24	-	0.26	-	0.27	-			
Reverse current (Note 3)	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	-			

- Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.
 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

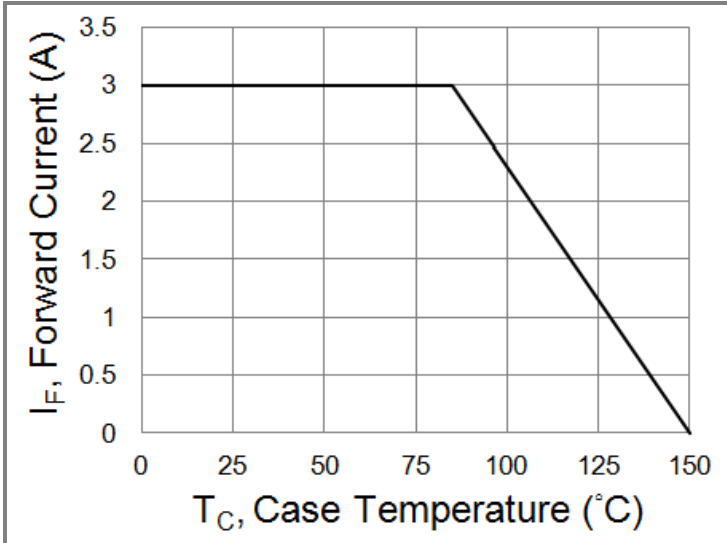


Fig.1 Forward Current Derating Curve

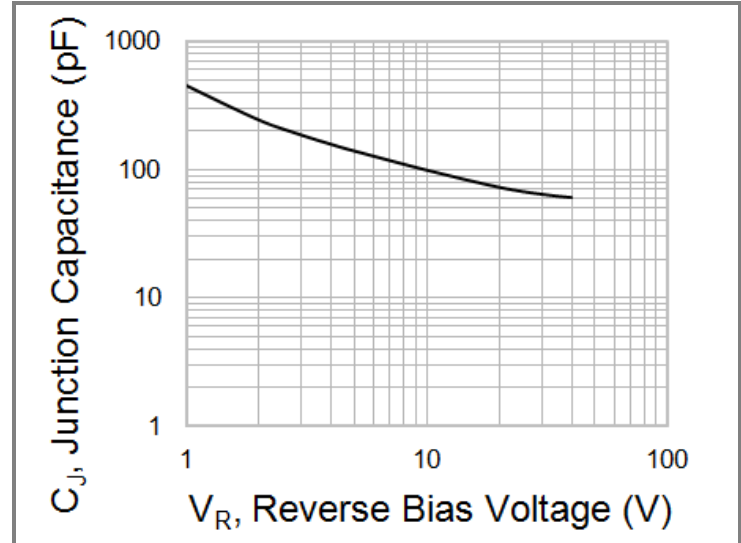


Fig. 2 Typical Junction Capacitance

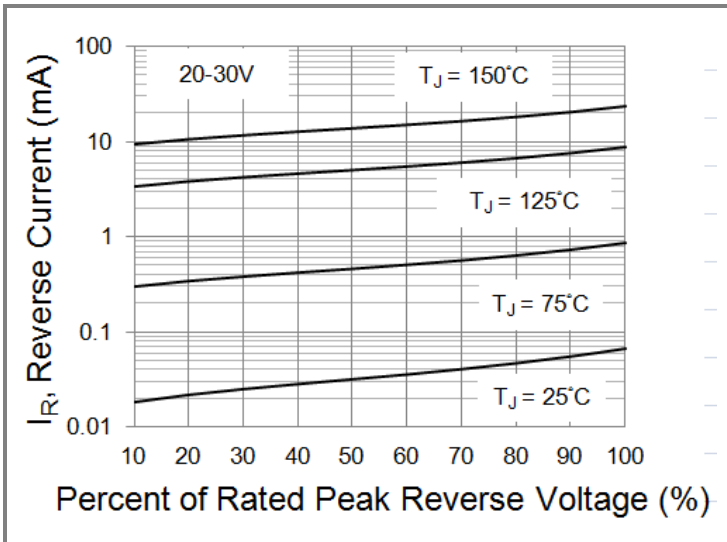


Fig.3 Typical Reverse Characteristics

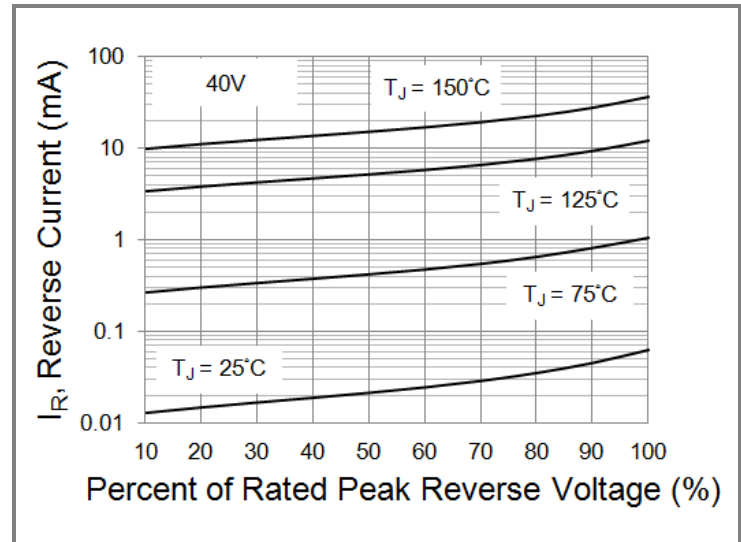


Fig.4 Typical Reverse Characteristics

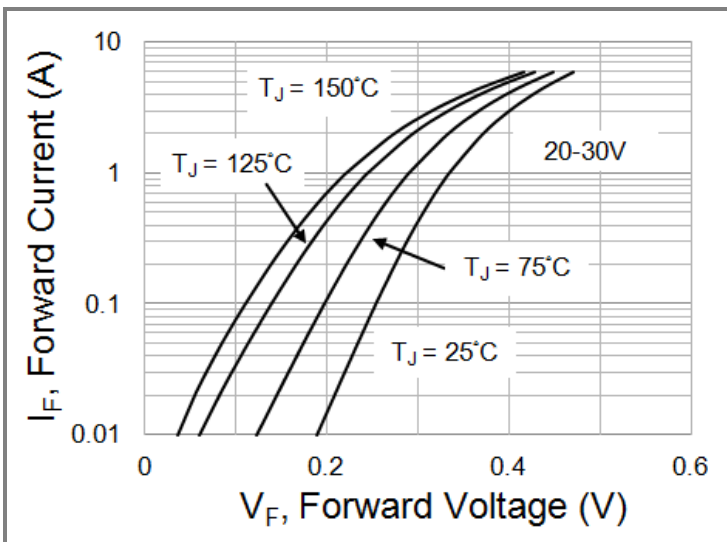


Fig.5 Typical Forward Characteristics

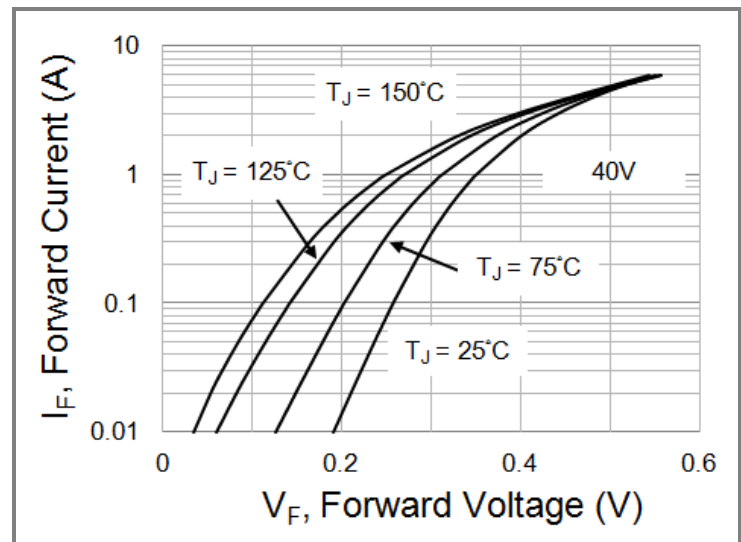
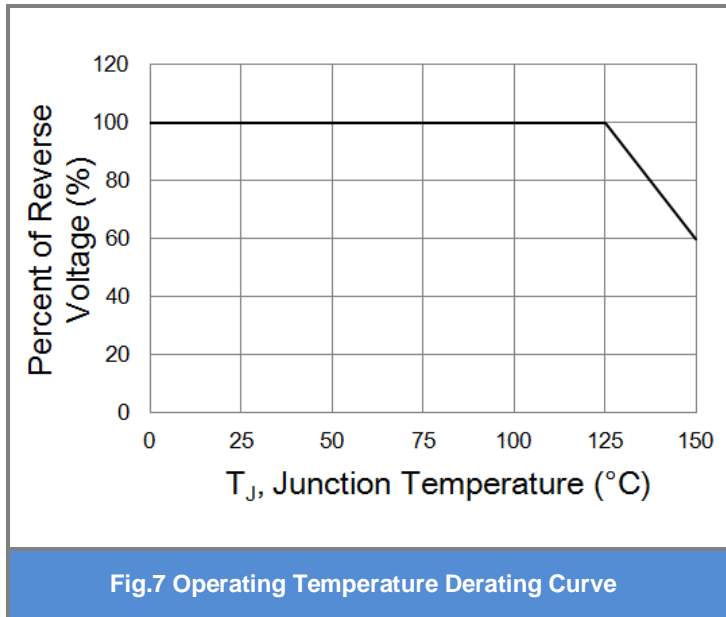


Fig.6 Typical Forward Characteristics



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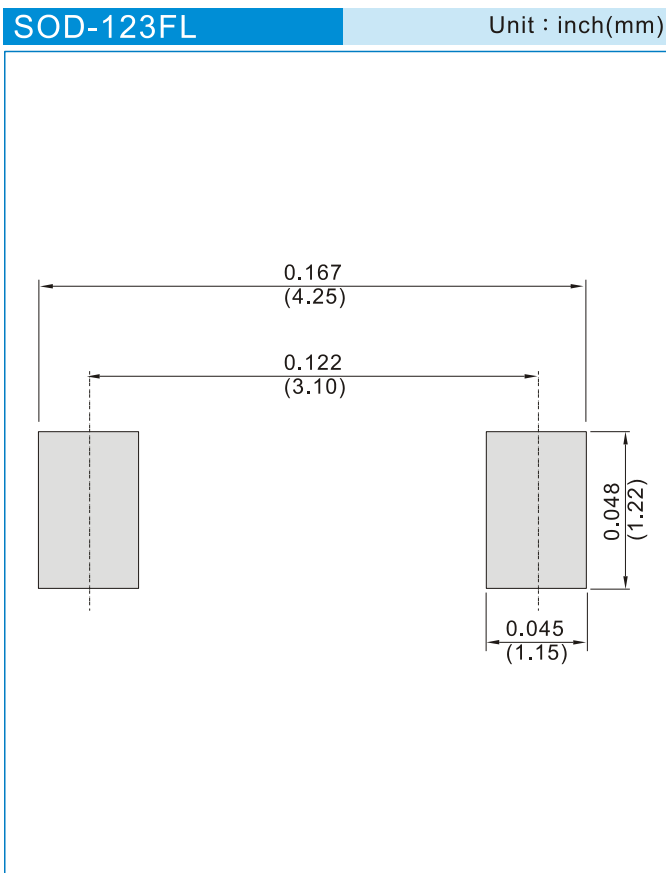


SBA320AL SERIES

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA320AL_R1_00001	SOD-123FL	3K pcs / 7" reel	E7	Halogen free
SBA320AL_R2_00001	SOD-123FL	10K pcs / 13" reel	E7	Halogen free
SBA330AL_R1_00001	SOD-123FL	3K pcs / 7" reel	F7	Halogen free
SBA330AL_R2_00001	SOD-123FL	10K pcs / 13" reel	F7	Halogen free
SBA340AL_R1_00001	SOD-123FL	3K pcs / 7" reel	G7	Halogen free
SBA340AL_R2_00001	SOD-123FL	10K pcs / 13" reel	G7	Halogen free

Mounting Pad Layout





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