SBA320AL / SBA330AL / SBA340AL

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage 20-40 V **Current** 3 A

Features

- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

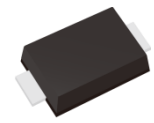
Applications

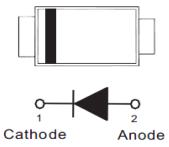
- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

Mechanical Data

- Case: Molded plastic, SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0006 ounces, 0.0173 grams

SOD-123FL





Maximum Ratings (T_A = 25 °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	$R_{\theta JC}$ (2) $R_{\theta JA}$ (1)	32 200			°C/W
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		SBA320AL		SBA330AL		SBA340AL		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	I_F = 10mA	T_J =25 °C	0.19	-	0.19	-	0.21	-	V
		I_F = 1A		0.32	-	0.33	-	0.35	-	
		I_F = 3A		-	0.44	-	0.46	-	0.48	
		I_F = 10mA	T_J =125 °C	0.05	-	0.06	-	0.06	-	V
		I_F = 1A		0.24	-	0.26	-	0.27	-	
Reverse current	I_R (3)	V_R = 10V	T_J=25°C	31	-	18	-	16	-	μA
		V_R = 20V		-	200	28	-	21	-	
		V_R = 30V		-	-	-	200	35	-	
		V_R = 40V		-	-	-	-	-	150	
		V_R = 20V	T_J =125 °C	8.6	-	5.6	-	5.1	-	mA
		V_R = 30V		-	-	10.7	-	7.6	-	
		V_R = 40V		-	-	-	-	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.

SBA320AL / SBA330AL / SBA340AL

TYPICAL CHARACTERISTIC CURVES

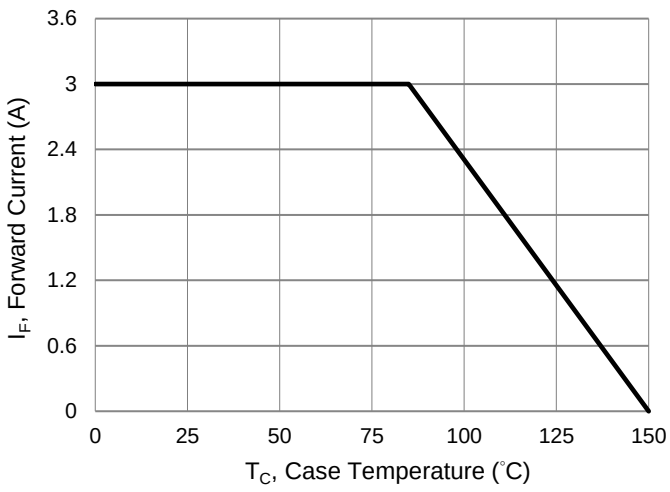


Fig.1 Forward Current Derating Curve

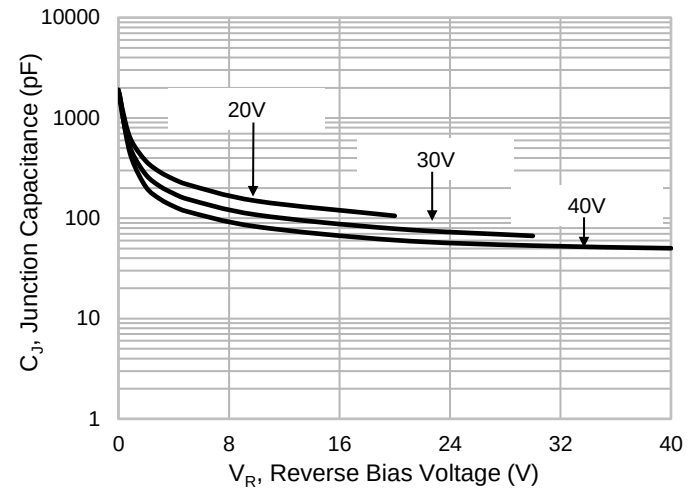


Fig. 2 Typical Junction Capacitance

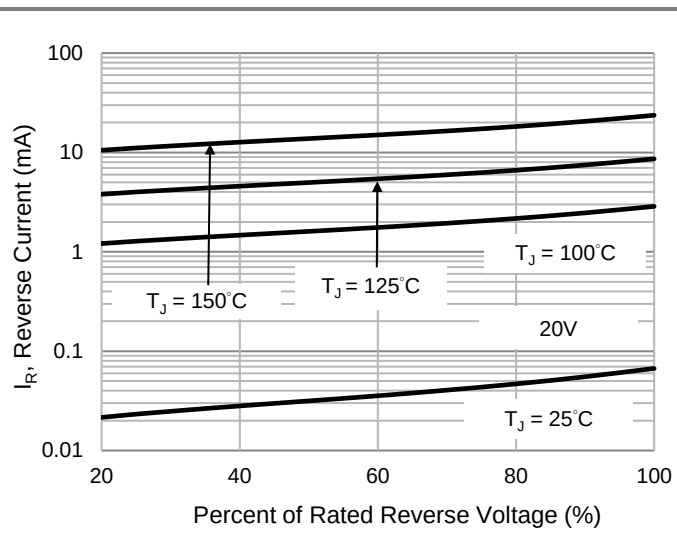


Fig.3 Typical Reverse Characteristics

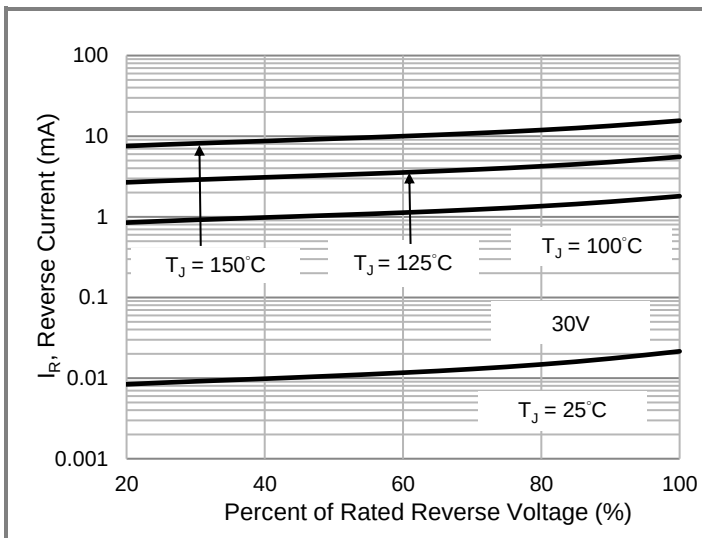


Fig.4 Typical Reverse Characteristics

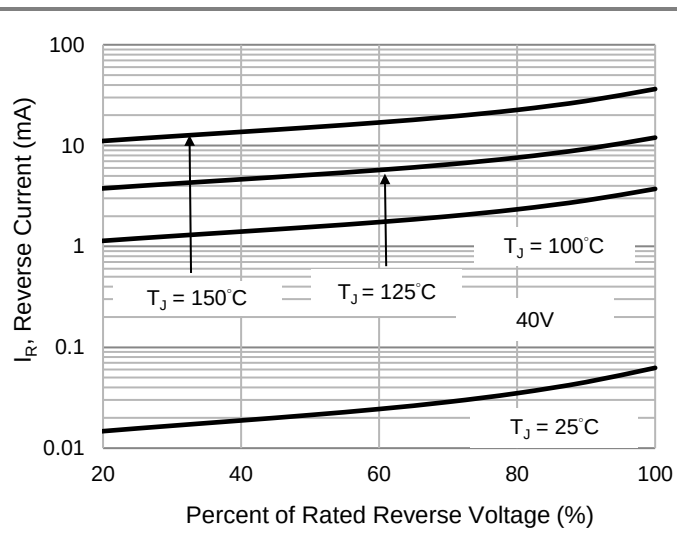


Fig.5 Typical Reverse Characteristics

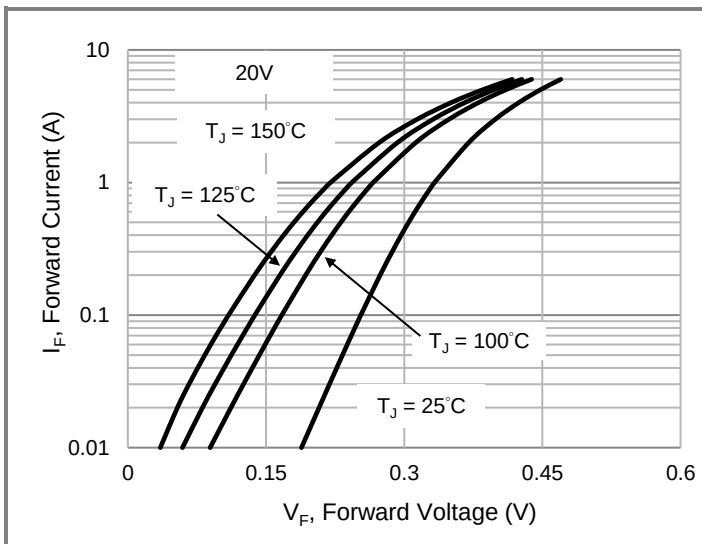


Fig.6 Typical Forward Characteristics

SBA320AL / SBA330AL / SBA340AL

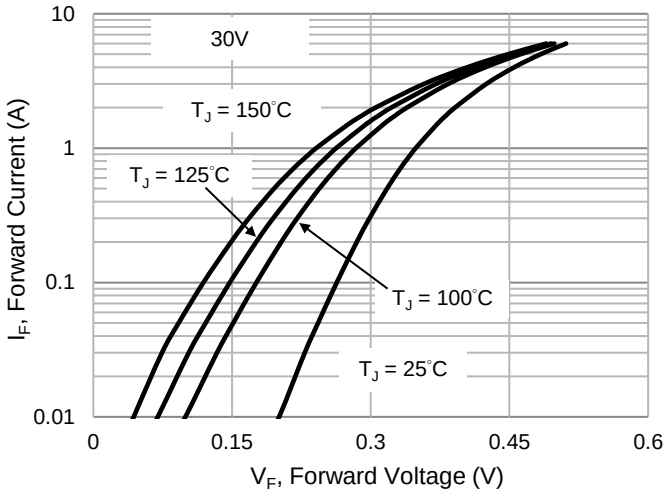


Fig.7 Typical Forward Characteristics

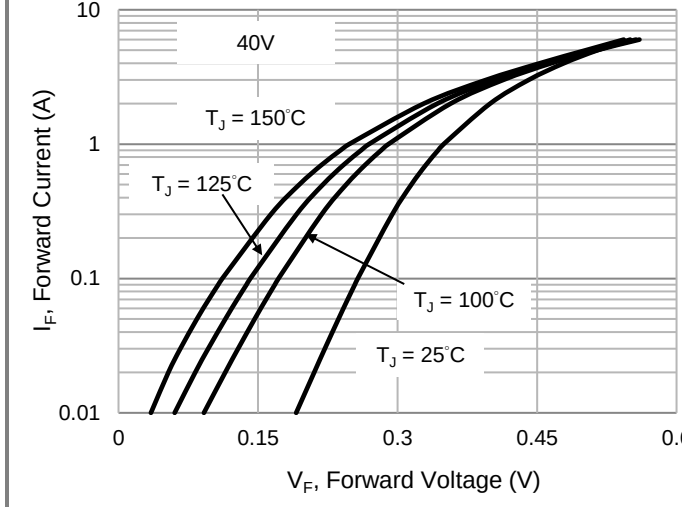


Fig.8 Typical Forward Characteristics

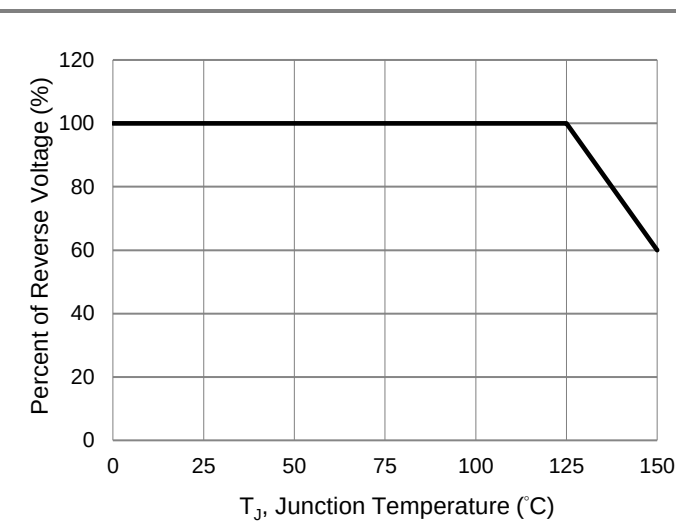


Fig.9 Operating Temperature Derating Curve

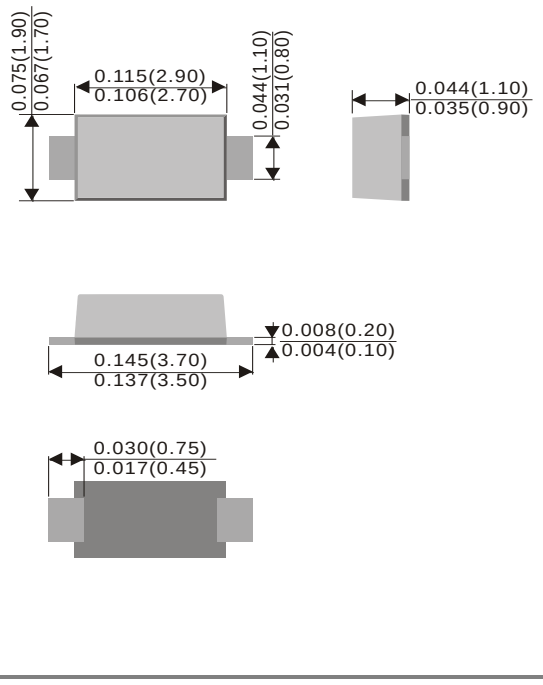
SBA320AL / SBA330AL / SBA340AL

Product and Packing Information

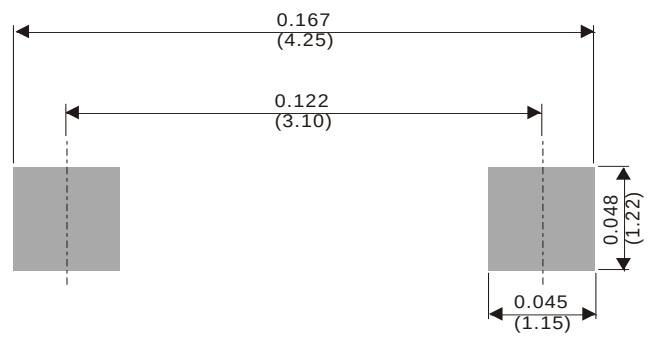
Part No.	Package Type	Packing Type	Marking
SBA320AL	SOD-123FL	3K pcs / 7” reel	E7
SBA330AL	SOD-123FL	3K pcs / 7” reel	F7
SBA340AL	SOD-123FL	3K pcs / 7” reel	G7

Packaging Information & Mounting Pad Layout

SOD-123FL Dimension — Unit: inch(mm)



SOD-123FL Pad Layout — Unit: inch(mm)



SBA320AL / SBA330AL / SBA340AL

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.