SBA120AS SERIES

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage	20-40 V	Current	1 A

Features

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

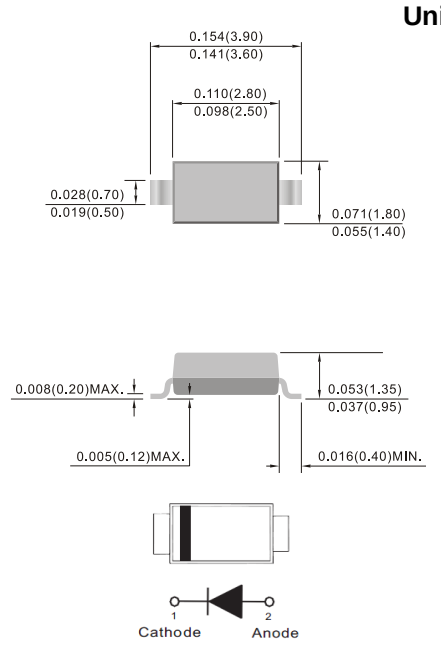
Applications

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

Mechanical Data

- Case: Molded plastic, SOD-123
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00037 ounces, 0.0104 grams

SOD-123 **Unit: inch(mm)**



Maximum Ratings (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	SBA120AS	SBA130AS	SBA140AS	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		$I_{F(AV)}$	1			A
Peak forward surge current : 8.3ms single half sine-wave Superimposed on rated load		I_{FSM}	10			A
Typical thermal resistance	(Note 2)	$R_{\theta JC}$	100			°C/W
	(Note 1)	$R_{\theta JA}$	510			
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		SBA120AS		SBA130AS		SBA140AS		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	I_F = 10mA	T_J =25 °C	0.22	-	0.22	-	0.23	-	V
		I_F = 0.5A		0.35	-	0.36	-	0.39	-	
		I_F = 1A		-	0.45	-	0.47	-	0.51	
		I_F = 10mA	T_J =125 °C	0.09	-	0.1	-	0.1	-	V
		I_F = 0.5A		0.27	-	0.3	-	0.33	-	
Reverse current (Note 3)	I_R	V_R = 10V	T_J=25°C	7.5	-	5.9	-	3.6	-	μA
		V_R = 20V		-	100	10	-	4.2	-	
		V_R = 30V		-	-	-	100	6.1	-	
		V_R = 40V		-	-	-	-	-	100	
		V_R = 20V	T_J =125 °C	3.2	-	2.2	-	1.2	-	mA
		V_R = 30V		-	-	3.9	-	1.7	-	
		V_R = 40V		-	-	-	-	2.3	-	

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.

SBA120AS SERIES

TYPICAL CHARACTERISTIC CURVES

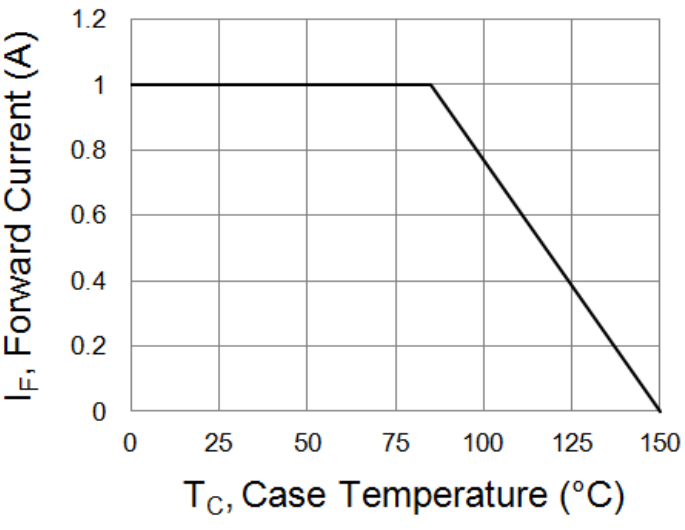


Fig.1 Forward Current Derating Curve

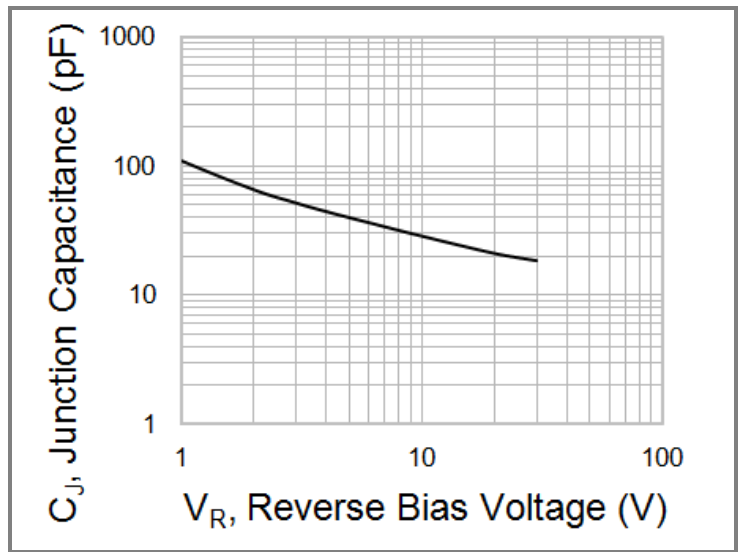


Fig. 2 Typical Junction Capacitance

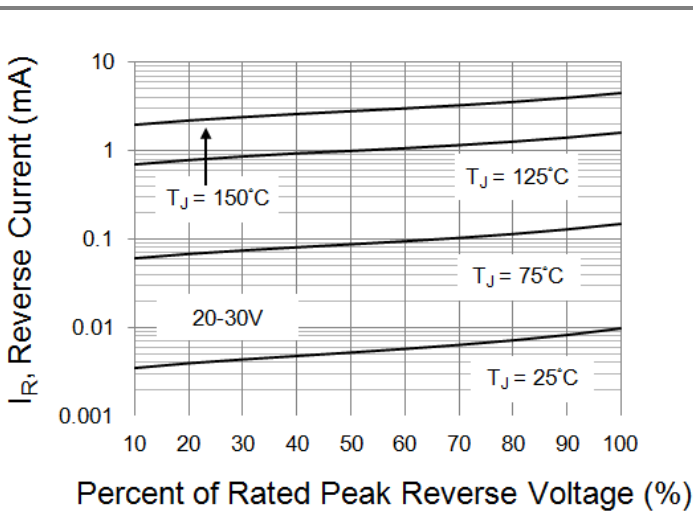


Fig.3 Typical Reverse Characteristics

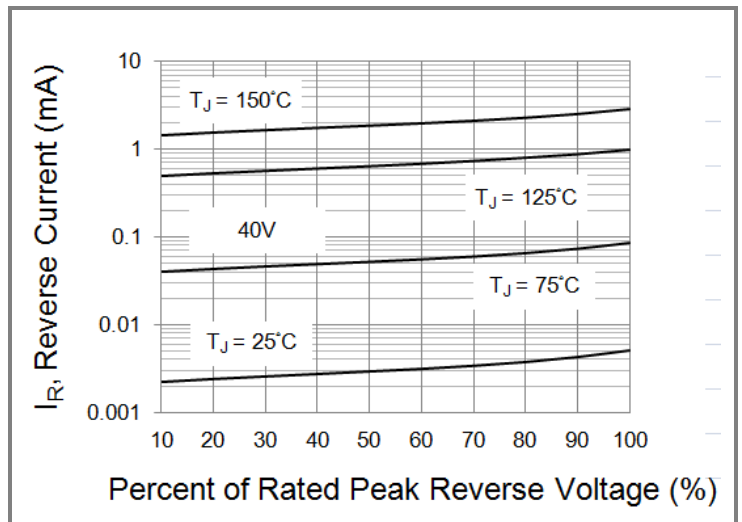


Fig.4 Typical Reverse Characteristics

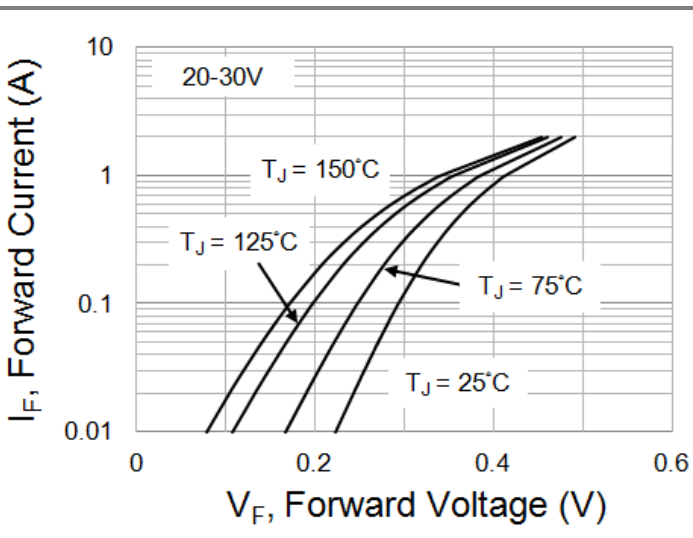


Fig.5 Typical Forward Characteristics

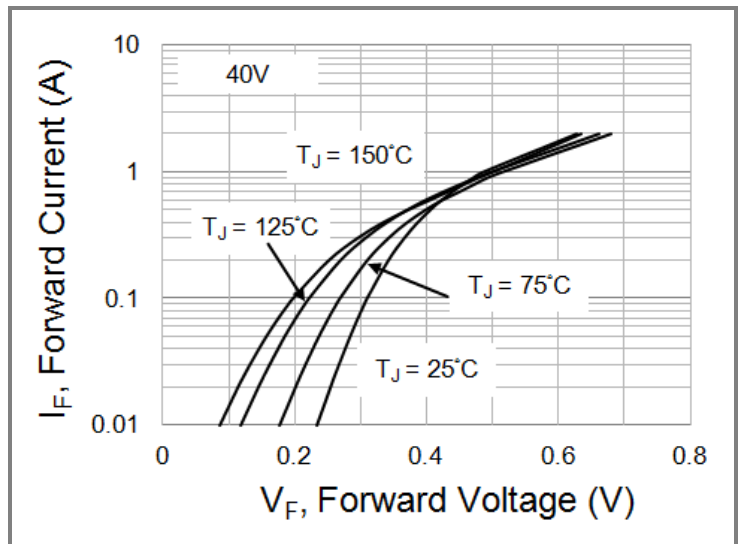


Fig.6 Typical Forward Characteristics

SBA120AS SERIES

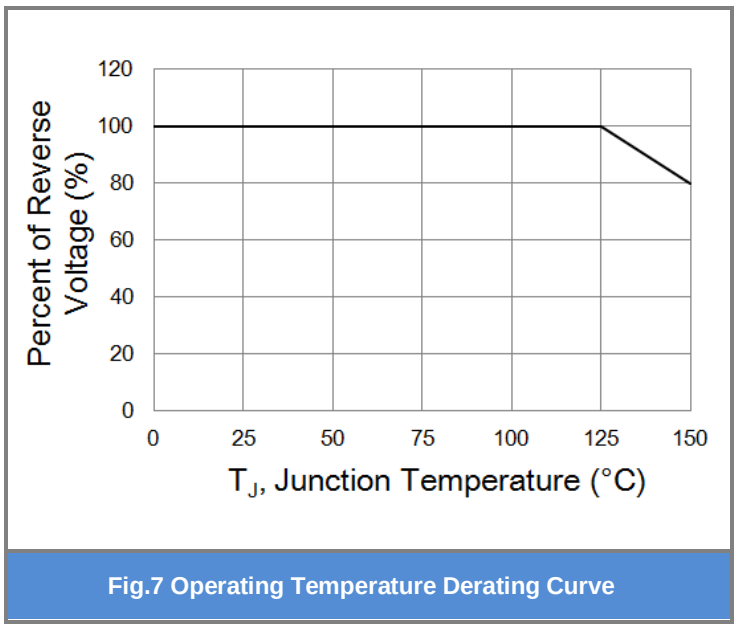


Fig.7 Operating Temperature Derating Curve

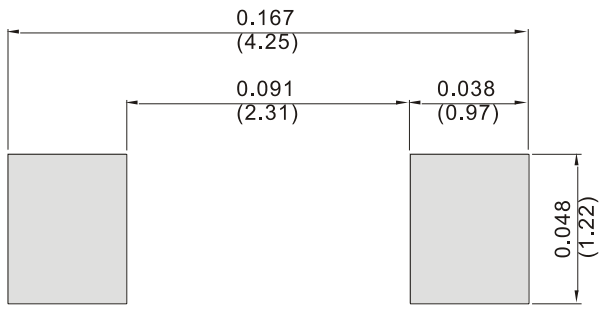
SBA120AS SERIES

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA120AS_R1_00001	SOD-123	3K pcs / 7” reel	A7	Halogen free
SBA120AS_R2_00001	SOD-123	10K pcs / 13” reel	A7	Halogen free
SBA130AS_R1_00001	SOD-123	3K pcs / 7” reel	B7	Halogen free
SBA130AS_R2_00001	SOD-123	10K pcs / 13” reel	B7	Halogen free
SBA140AS_R1_00001	SOD-123	3K pcs / 7” reel	C7	Halogen free
SBA140AS_R2_00001	SOD-123	10K pcs / 13” reel	C7	Halogen free

Mounting Pad Layout

SOD-123 Unit : inch(mm)



SBA120AS SERIES

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.