

SBA0820AS-AU / SBA0830AS-AU / SBA0840AS-AU

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage

20-40 V

Current

0.8 A

Features

- Ultra low forward voltage, 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
- AEC-Q101 qualified

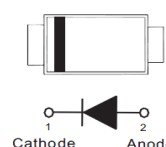
Applications

- 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



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

PARAMETER	SYMBOL	SBA0820AS-AU	SBA0830AS-AU	SBA0840AS-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)}	0.8			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	I _{FSM}	2			A
Typical thermal resistance	R _{θJC} ⁽²⁾	100			°C/W
	R _{θJA} ⁽¹⁾	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	SBA0820AS-AU		SBA0830AS-AU		SBA0840AS-AU		UNIT
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	$I_F = 10\text{mA}$	0.24	-	0.25	-	0.26	-	V
		$I_F = 100\text{mA}$	0.32	-	0.33	-	0.35	-	
		$I_F = 800\text{mA}$	-	0.55	-	0.6	-	0.7	
		$I_F = 10\text{mA}$	0.13	-	0.13	-	0.15	-	V
Reverse current	$I_R^{(3)}$	$V_R = 10\text{V}$	4.6	-	4	-	1.3	-	μA
		$V_R = 20\text{V}$	-	100	9	-	1.9	-	
		$V_R = 30\text{V}$	-	-	-	100	3.1	-	
		$V_R = 40\text{V}$	-	-	-	-	-	50	
		$V_R = 20\text{V}$	1.7	-	1.4	-	0.5	-	mA
		$V_R = 30\text{V}$	-	-	3.5	-	0.8	-	
		$V_R = 40\text{V}$	-	-	-	-	1.3	-	
		$T_J = 125^\circ\text{C}$	-	-	-	-	-	-	

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.

SBA0820AS-AU / SBA0830AS-AU / SBA0840AS-AU

TYPICAL CHARACTERISTIC CURVES

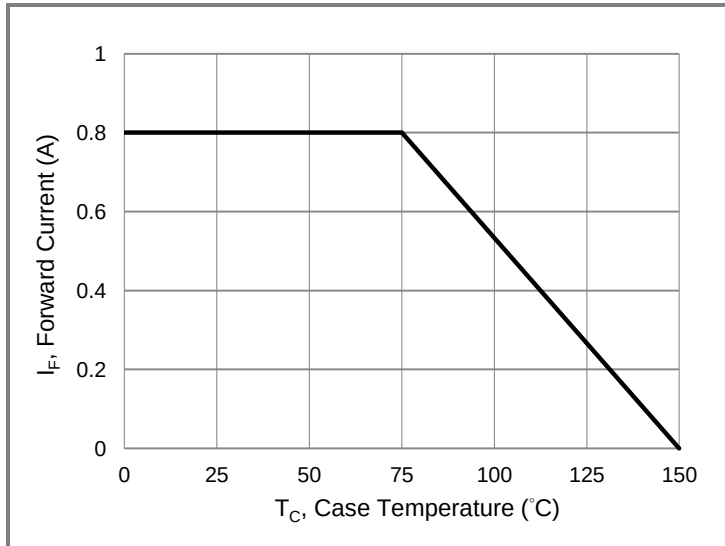


Fig.1 Forward Current Derating Curve

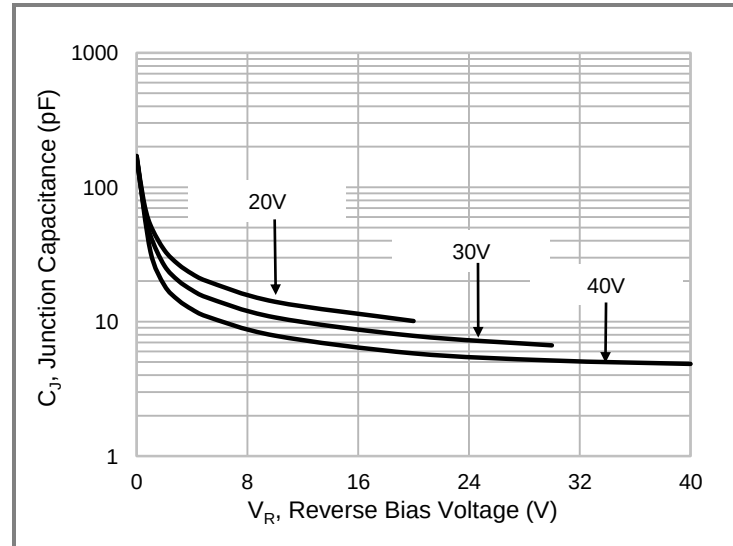


Fig. 2 Typical Junction Capacitance

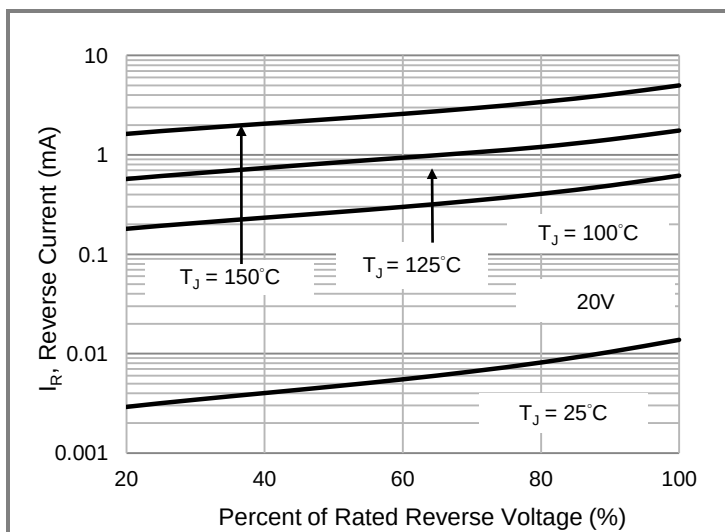


Fig.3 Typical Reverse Characteristics

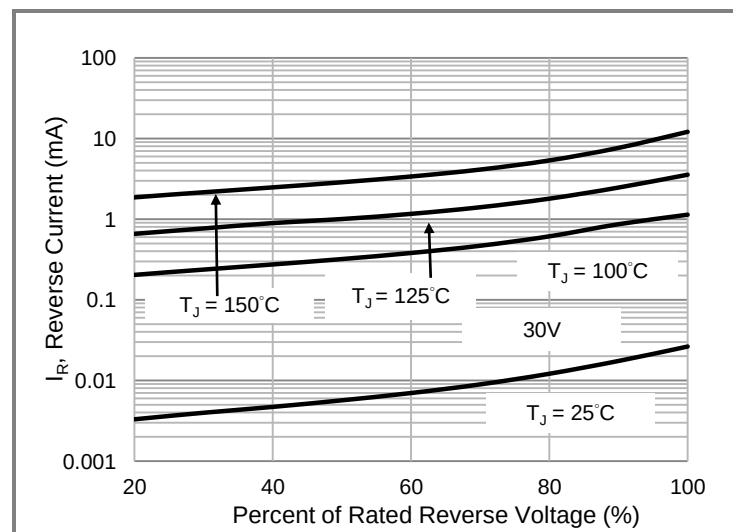


Fig.4 Typical Reverse Characteristics

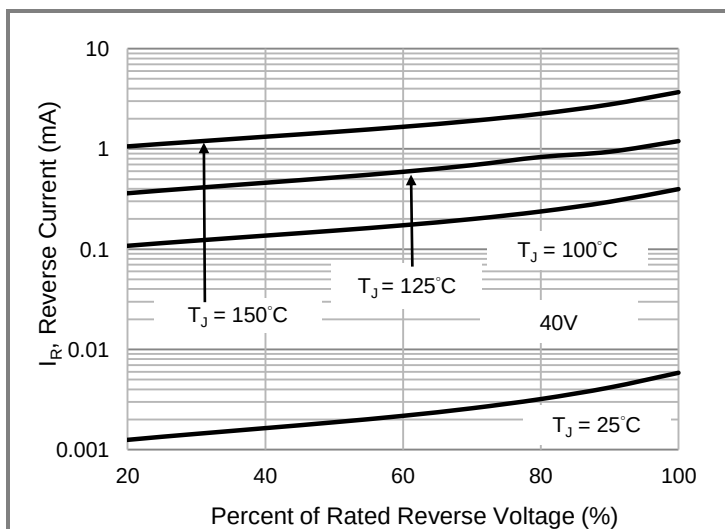


Fig.5 Typical Reverse Characteristics

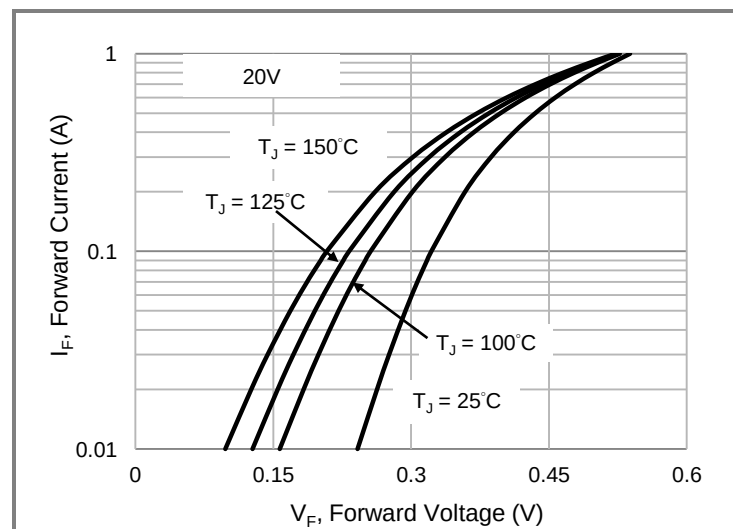


Fig.6 Typical Forward Characteristics

SBA0820AS-AU / SBA0830AS-AU / SBA0840AS-AU

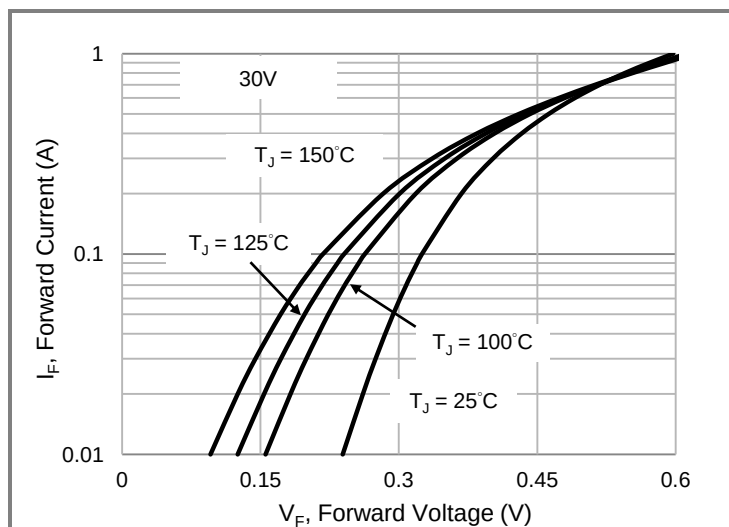


Fig.7 Typical Forward Characteristics

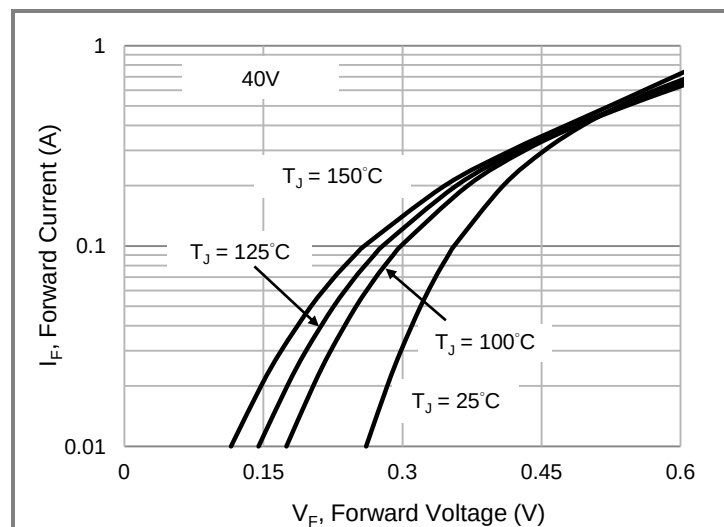


Fig.8 Typical Forward Characteristics

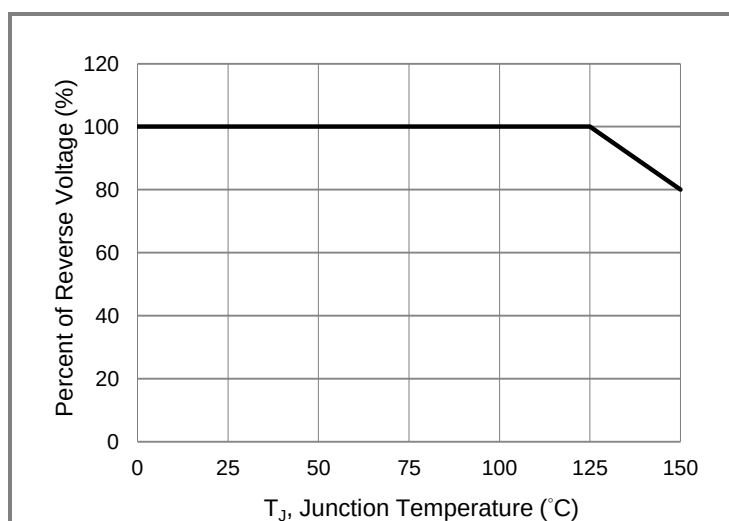


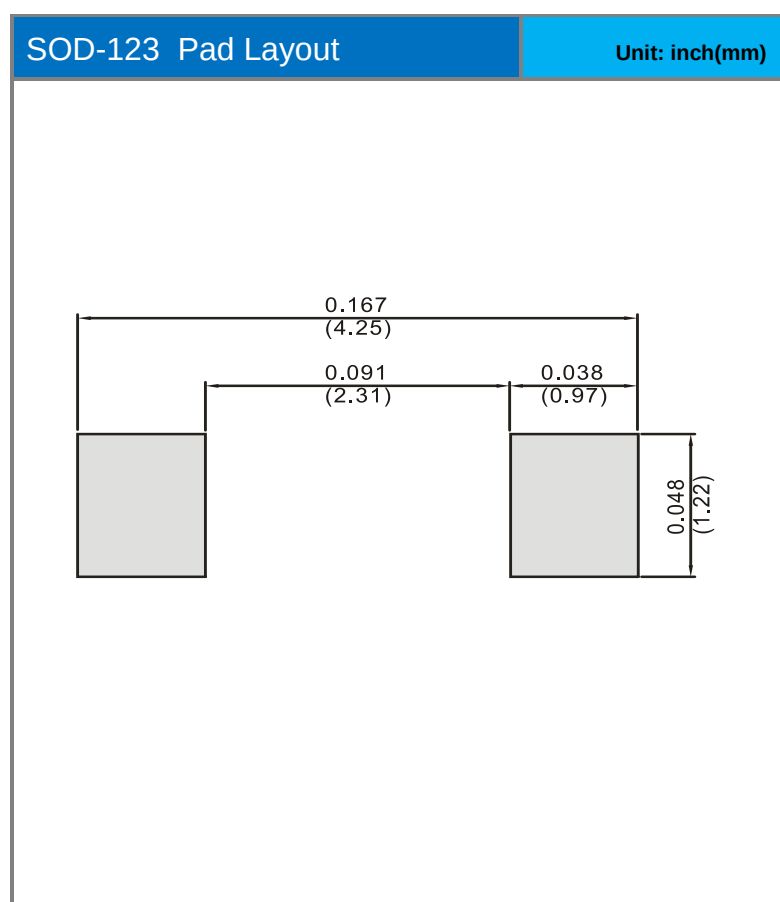
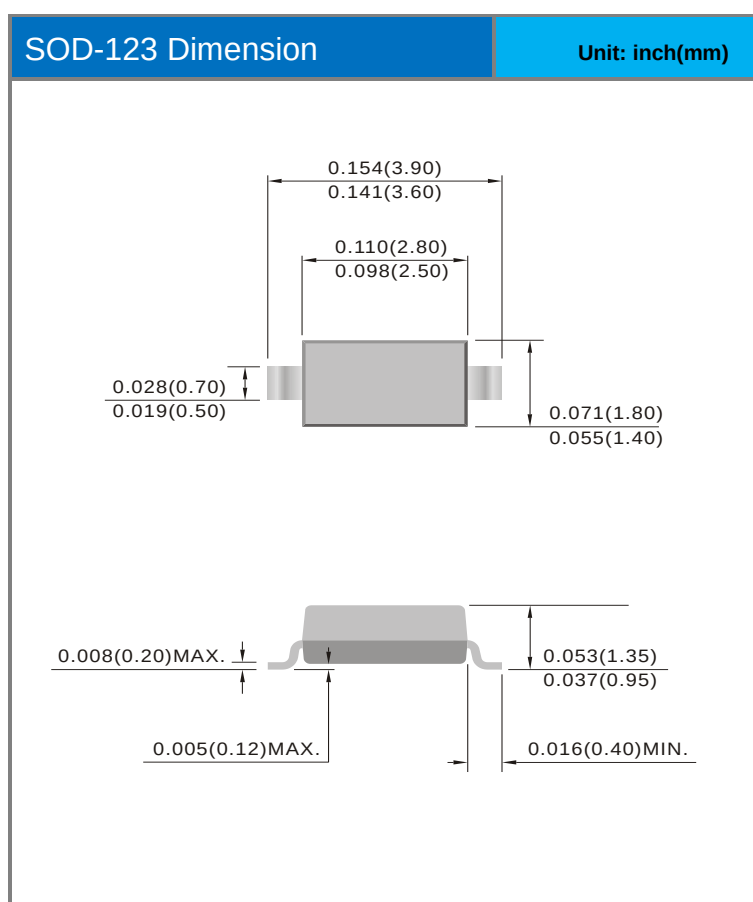
Fig.9 Operating Temperature Derating Curve

SBA0820AS-AU / SBA0830AS-AU / SBA0840AS-AU

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA0820AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	2AS	Halogen free
SBA0830AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	3AS	Halogen free
SBA0840AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	4AS	Halogen free

Packaging Information & Mounting Pad Layout





SBA0820AS-AU / SBA0830AS-AU / SBA0840AS-AU

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 relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, 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.