



### **EXTREME LOW VF SCHOTTKY RECTIFIER**

Voltage

20-40 V

Current

0.8 A

#### **Features**

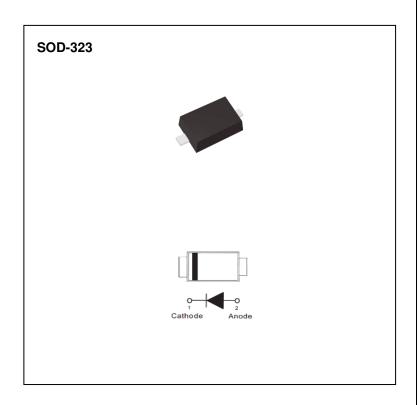
- Ultra low forward voltage, low power loss
- Fast switching speed
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

#### **Applications**

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

#### **Mechanical Data**

- Case: Molded plastic, SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00014 ounces, 0.0041 grams



### **Maximum Ratings** (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SBA0820CS-AU	SBA0830CS-AU	SBA0840CS-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	٧
Maximum average forward rectified current	I <sub>F(AV)</sub>	0.8			
Peak forward surge current: 8.3ms single half sinewave Superimposed on rated load	I <sub>FSM</sub>			Α	
	R <sub>eJC</sub> (2)	230			
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	650			
Operating junction temperature range	T <sub>J</sub>	-55 to +150			
Storage temperature range	T <sub>STG</sub>	-55 to +150			

#### **Electrical Characteristics**

DADAMETED	OVMBOL	TEST CONDITION		SBA0820CS-AU		SBA0830CS-AU		SBA0840CS-AU		
PARAMETER	SYMBOL	TEST CO	NUTTION	TYP.	MAX.	TYP. MAX.	TYP.	MAX.	UNIT	
		$I_F = 10mA$		0.24	-	0.25	-	0.26	-	
Forward voltage		I <sub>F</sub> = 100mA	T <sub>J</sub> =25 °C	0.32	-	0.33	-	0.35	-	V
	V <sub>F</sub>	I <sub>F</sub> = 800mA		-	0.55	-	0.6	-	0.7	
		$I_F = 10mA$	T <sub>.1</sub> =125 °C	0.13	-	0.13	-	0.15	-	V
	I <sub>F</sub> = 100	I <sub>F</sub> = 100mA		0.23	-	0.24	-	0.29	-	
		V <sub>R</sub> = 10V		4.6	-	4	-	1.3	-	
Reverse current		$V_R = 20V$	T <sub>J</sub> =25°C	-	100	9	-	1.9	-	μА
		$V_R = 30V$		-	-	-	100	3.1	-	
	I <sub>R</sub> <sup>(3)</sup>	$V_R = 40V$		-	-	-	-	-	50	
		V <sub>R</sub> = 20V	T <sub>J</sub> =125 °C	1.7	-	1.4	-	0.5	-	mA
		$V_R = 30V$		-	-	3.5	-	0.8	-	
		$V_R = 40V$		_	_	-	_	1.3	_	

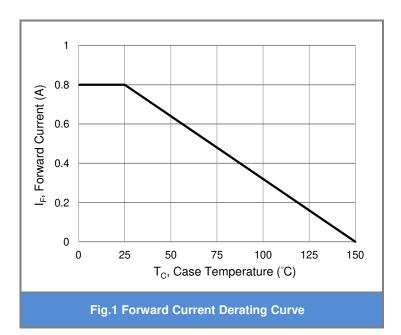
Note: 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

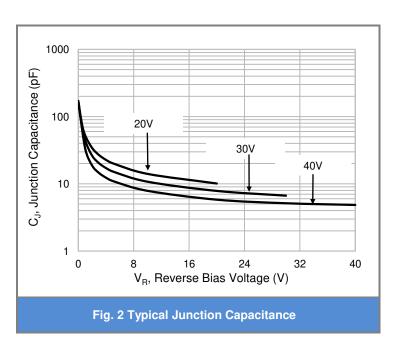
- 2. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.
- 3. Short duration pulse test used to minimize self-heating effect.

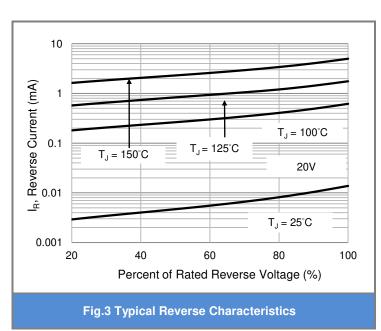


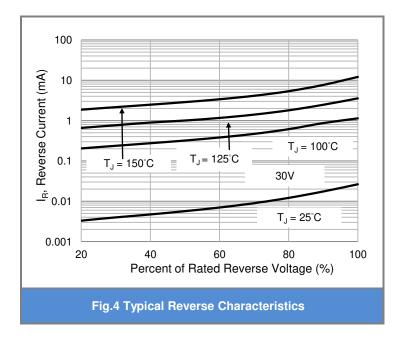


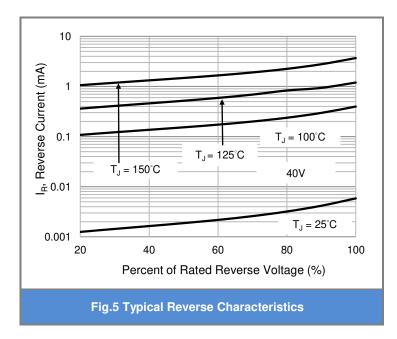
#### **TYPICAL CHARACTERISTIC CURVES**

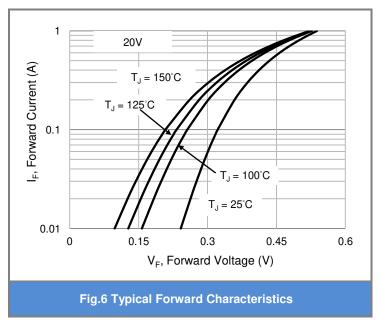






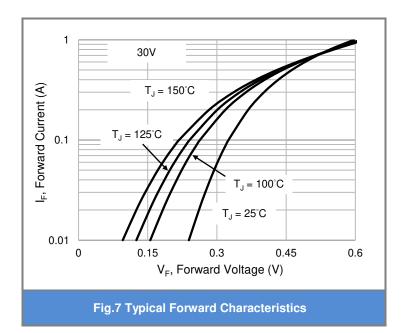


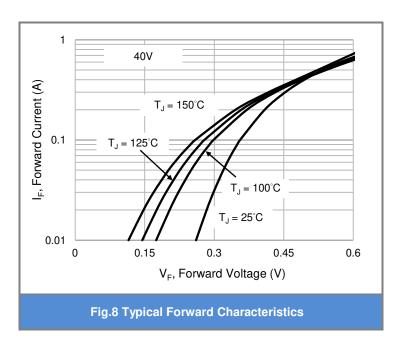


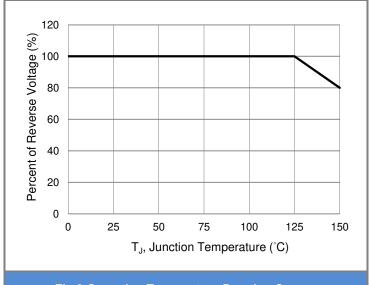












**Fig.9 Operating Temperature Derating Curve** 

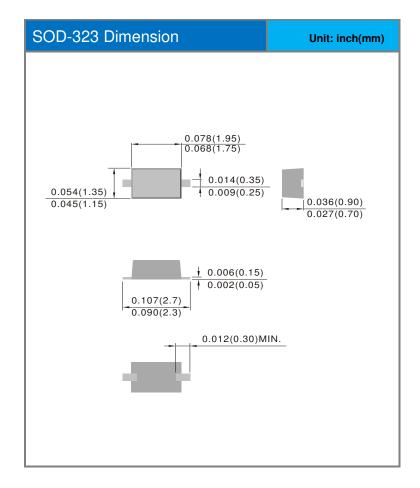


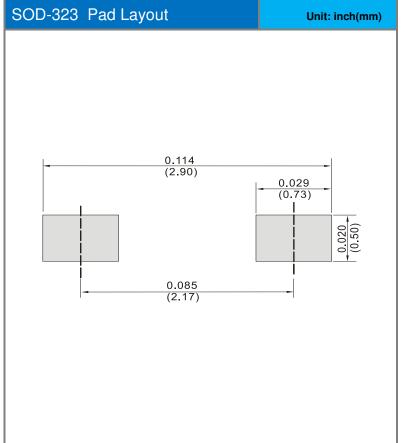


### **Part No Packing Code Version**

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA0820CS-AU_R1_000A1	SOD-323	5K / 7" Reel	2AS	Halogen free
SBA0830CS-AU_R1_000A1	SOD-323	5K / 7" Reel	3AS	Halogen free
SBA0840CS-AU_R1_000A1	SOD-323	5K / 7" Reel	4AS	Halogen free

### **Packaging Information & Mounting Pad Layout**









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