



SBA220AH-AU / SBA230AH-AU / SBA240AH-AU

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage	20-40 V	Current	2 A
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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
- AEC-Q101 qualified

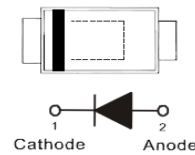
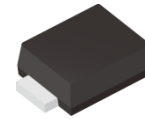
Applications

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

Mechanical Data

- Case: Molded plastic, SOD-123HE
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0006 ounces, 0.0184 grams

SOD-123HE



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

PARAMETER	SYMBOL	SBA220AH-AU	SBA230AH-AU	SBA240AH-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	$I_{F(AV)}$	2			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	I_{FSM}	30			A
Typical thermal resistance	$R_{\theta JC}^{(1)}$	20			$^\circ\text{C/W}$
	$R_{\theta JA}^{(2)}$	185			
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	SBA220AH-AU		SBA230AH-AU		SBA240AH-AU		UNIT							
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.								
Forward voltage	V_F	$I_F = 10\text{mA}$	0.21	-	0.21	-	0.22	-	V							
		$I_F = 0.5\text{A}$								0.33	-	0.34	-	0.37	-	
		$I_F = 2\text{A}$														0.46
		$T_J = 25^\circ\text{C}$														
Reverse current	$I_R^{(3)}$	$V_R = 10\text{V}$	6.1	-	3.7	-	2.3	-	mA							
		$V_R = 20\text{V}$								9.6	-	3.5	-			
		$V_R = 30\text{V}$												5.6	-	-
		$V_R = 40\text{V}$														
Reverse current	$I_R^{(3)}$	$V_R = 10\text{V}$	-	-	-	-	-	μA								
		$V_R = 20\text{V}$							100	-	9.6	-				
		$V_R = 30\text{V}$											-	100	16	-
		$V_R = 40\text{V}$														
Reverse current	$I_R^{(3)}$	$V_R = 20\text{V}$	-	-	-	-	-	mA								
		$V_R = 30\text{V}$							9.6	-	3.5	-				
		$V_R = 40\text{V}$											5.6	-	-	

Note : 1. Mounted on a FR4 PCB, single-sided copper, with 100cm² copper pad area.

2. Mounted on a FR4 PCB, single-sided copper, mini pad.

3. Short duration pulse test used to minimize self-heating effect.



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TYPICAL CHARACTERISTIC CURVES

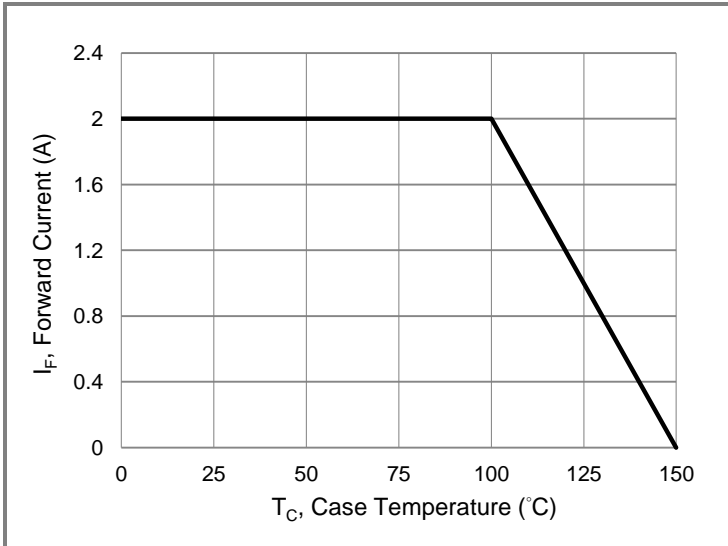


Fig.1 Forward Current Derating Curve

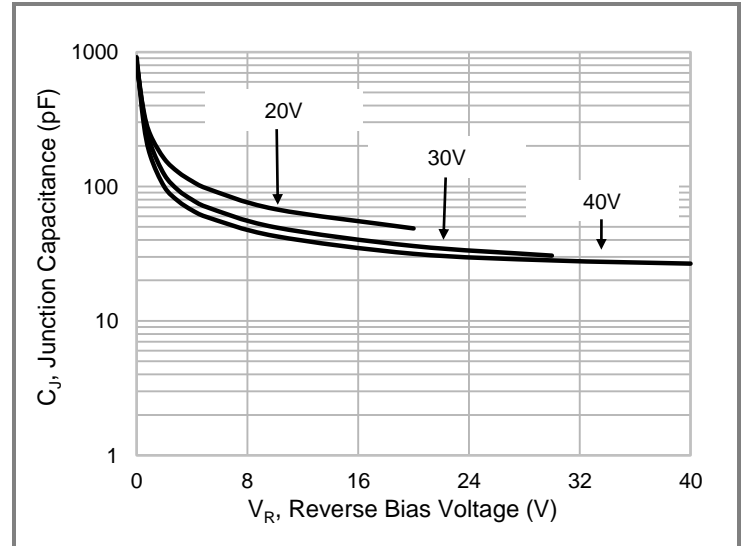


Fig. 2 Typical Junction Capacitance

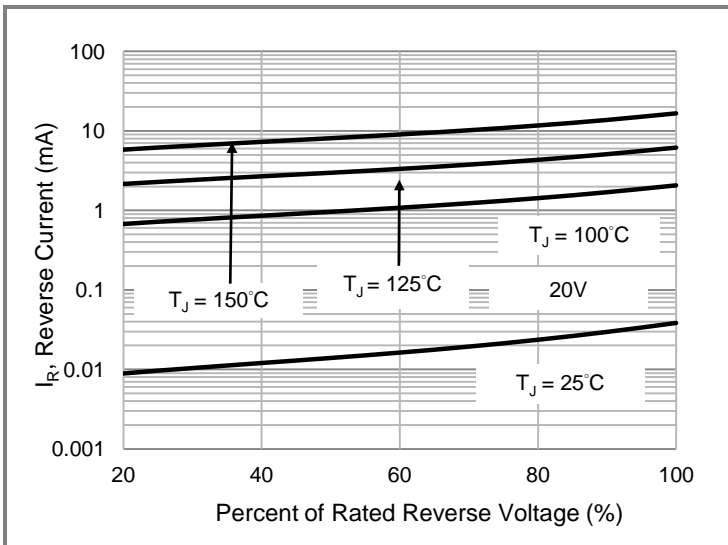


Fig.3 Typical Reverse Characteristics

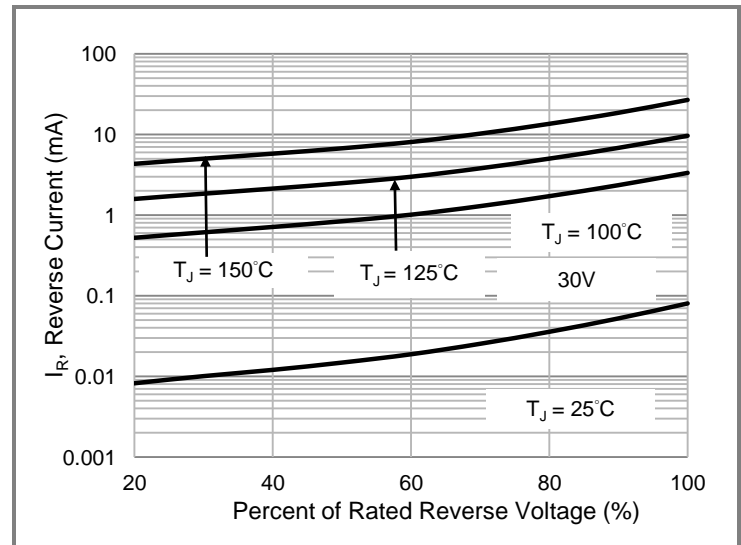


Fig.4 Typical Reverse Characteristics

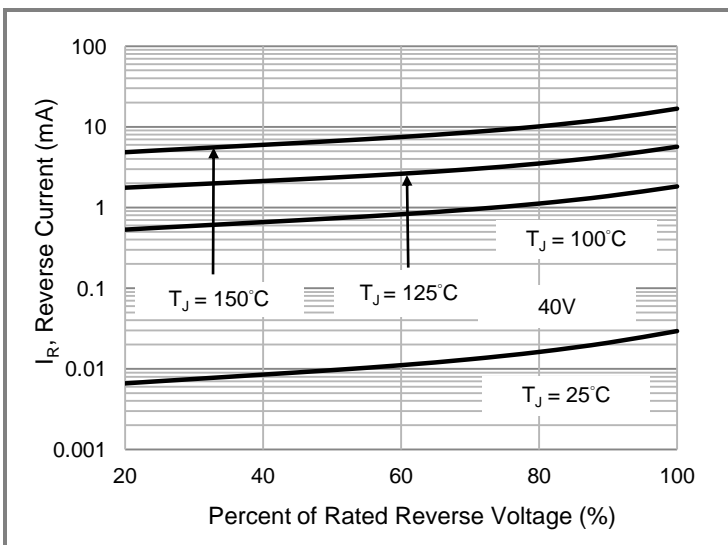


Fig.5 Typical Reverse Characteristics

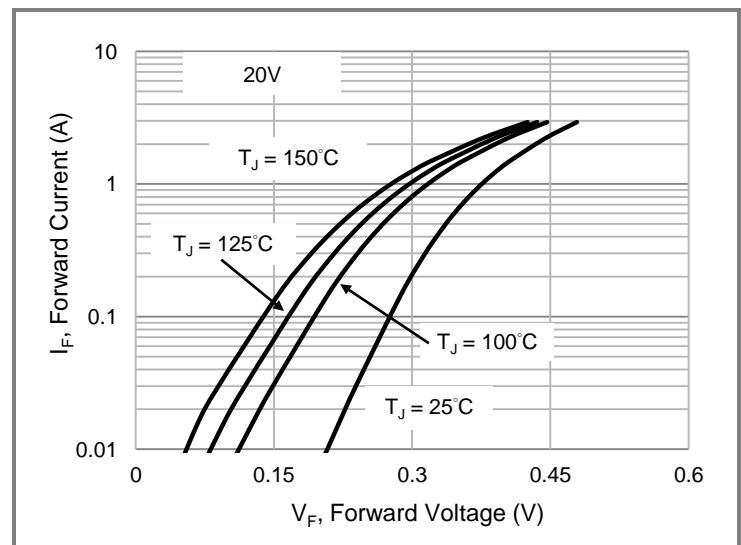


Fig.6 Typical Forward Characteristics



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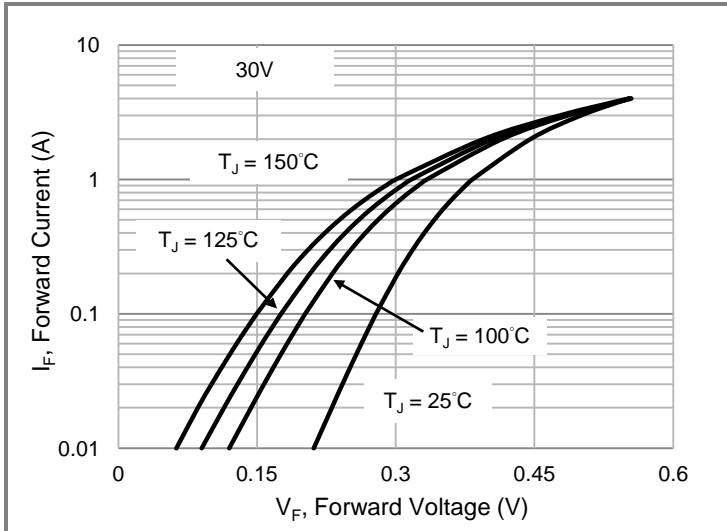


Fig.7 Typical Forward Characteristics

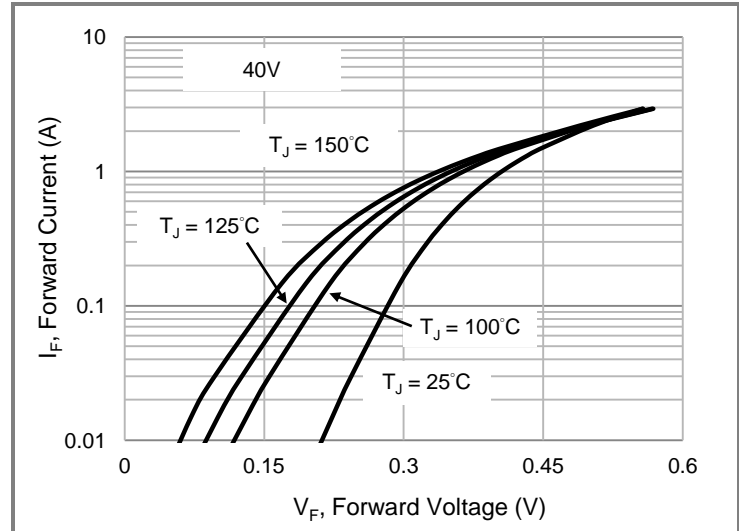


Fig.8 Typical Forward Characteristics

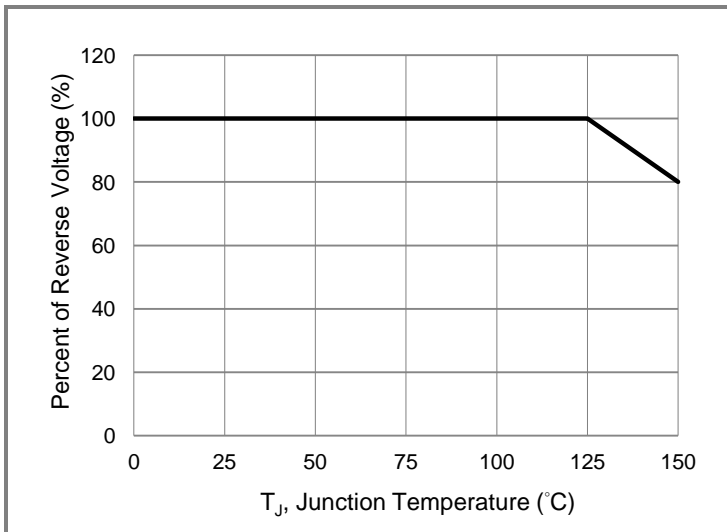


Fig.9 Operating Temperature Derating Curve

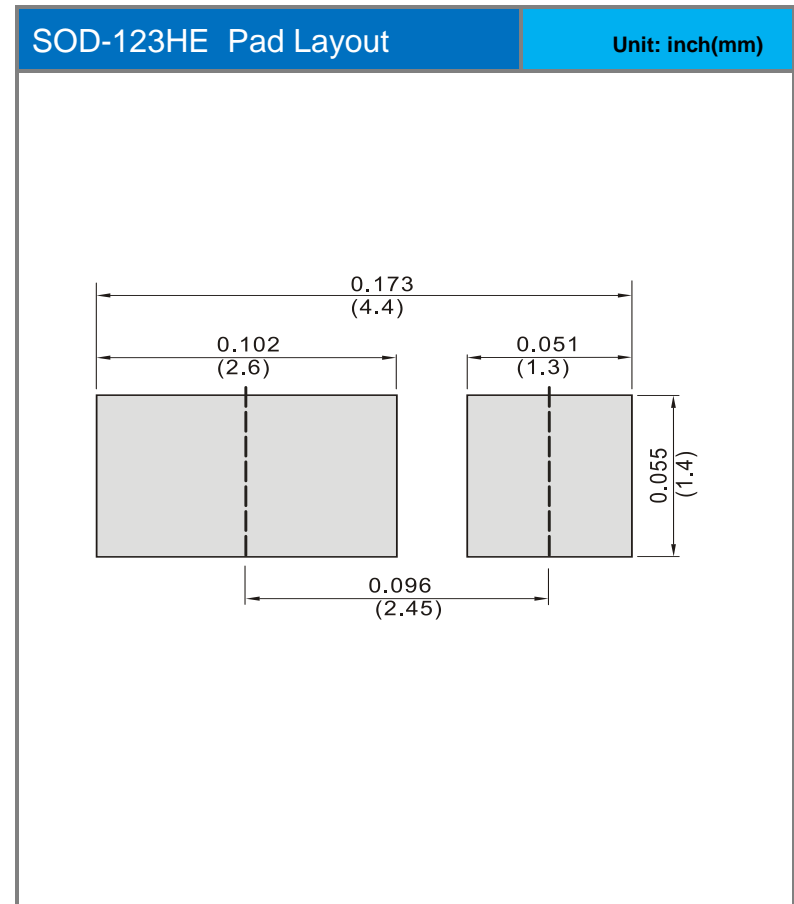
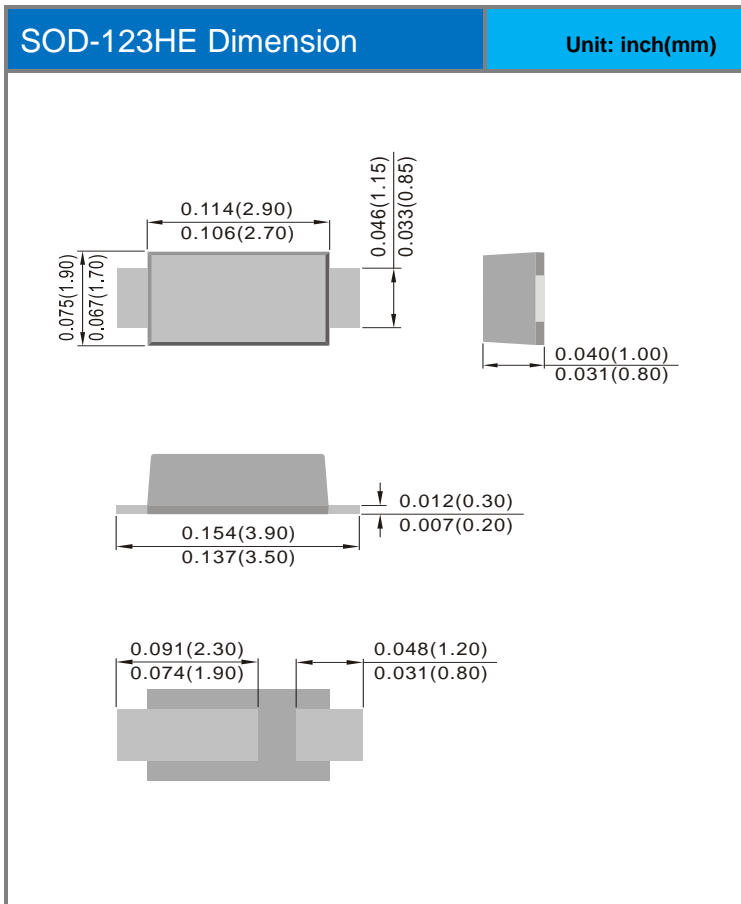


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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA220AH-AU_R1_000A1	SOD-123HE	3K pcs / 7" reel	B7	Halogen free
SBA230AH-AU_R1_000A1	SOD-123HE	3K pcs / 7" reel	E7	Halogen free
SBA240AH-AU_R1_000A1	SOD-123HE	3K pcs / 7" reel	F7	Halogen free

Packaging Information & Mounting Pad Layout





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