

## SBA220AH-AU / SBA230AH-AU / SBA240AH-AU

### EXTREME LOW VF SCHOTTKY RECTIFIER

**Voltage**

**20-40 V**

**Current**

**2 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
- AEC-Q101 qualified

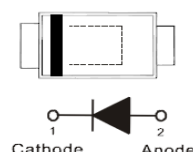
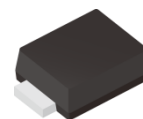
#### Applications

- 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 <sub>RRM</sub>	20	30	40	V
Maximum rms voltage	V <sub>RMS</sub>	14	21	28	V
Maximum dc blocking voltage	V <sub>R</sub>	20	30	40	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	2			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	I <sub>FSM</sub>	30			A
Typical thermal resistance	R <sub>θJC</sub> <sup>(1)</sup>	20			°C/W
	R <sub>θJA</sub> <sup>(2)</sup>	185			
Operating junction temperature range	T <sub>J</sub>	-55 to +150			°C
Storage temperature range	T <sub>STG</sub>	-55 to +150			°C

### Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION		SBA220AH-AU		SBA230AH-AU		SBA240AH-AU		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	$V_F$	$I_F = 10\text{mA}$	$T_J = 25^\circ\text{C}$	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	-	0.49	-	0.53	
		$I_F = 10\text{mA}$	$T_J = 125^\circ\text{C}$	0.09	-	0.09	-	0.1	-	V
		$I_F = 0.5\text{A}$		0.24	-	0.26	-	0.27	-	
Reverse current	$I_R^{(3)}$	$V_R = 10\text{V}$	$T_J = 25^\circ\text{C}$	14	-	9	-	7.4	-	$\mu\text{A}$
		$V_R = 20\text{V}$		-	100	25	-	9.6	-	
		$V_R = 30\text{V}$		-	-	-	100	16	-	
		$V_R = 40\text{V}$		-	-	-	-	-	100	
		$V_R = 20\text{V}$	$T_J = 125^\circ\text{C}$	6.1	-	3.7	-	2.3	-	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 100cm<sup>2</sup> 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.

## SBA220AH-AU / SBA230AH-AU / SBA240AH-AU

### TYPICAL CHARACTERISTIC CURVES

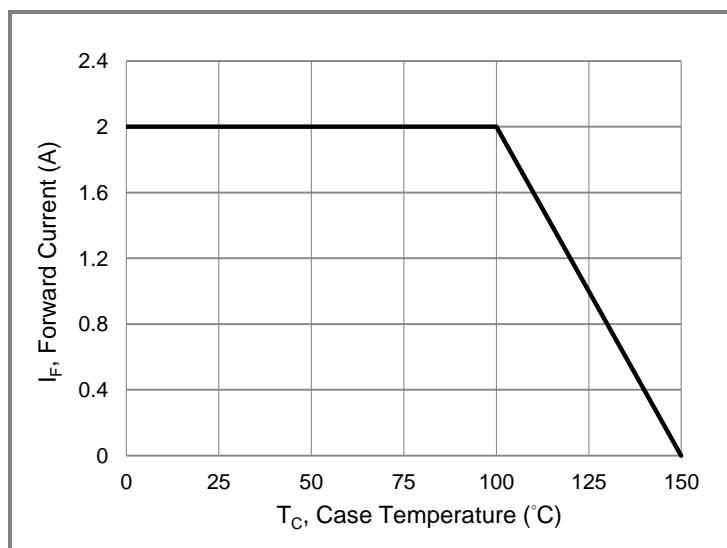


Fig.1 Forward Current Derating Curve

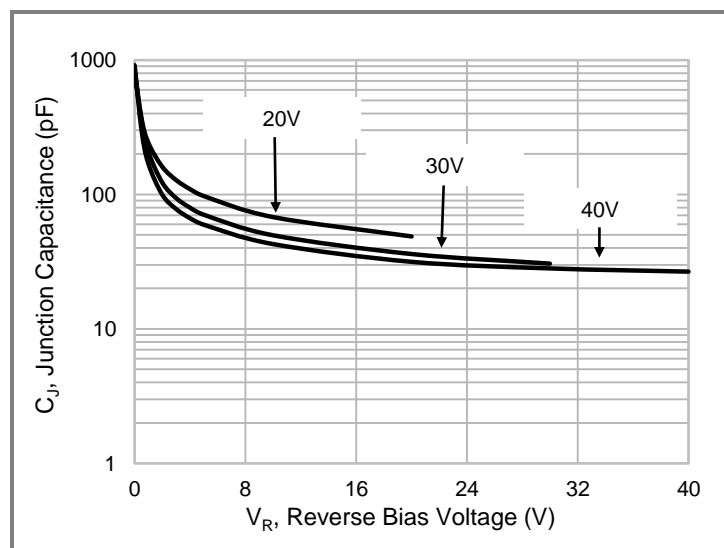


Fig. 2 Typical Junction Capacitance

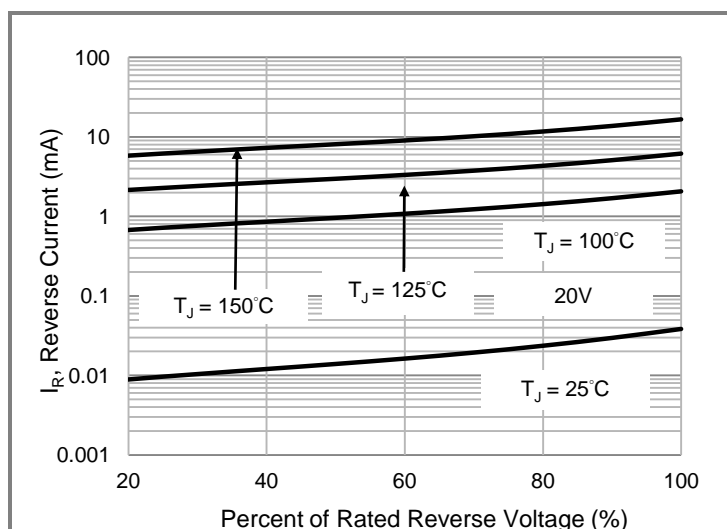


Fig.3 Typical Reverse Characteristics

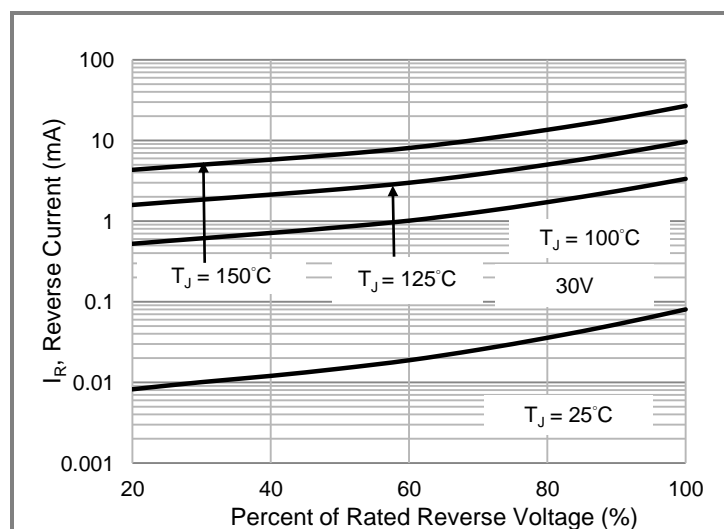


Fig.4 Typical Reverse Characteristics

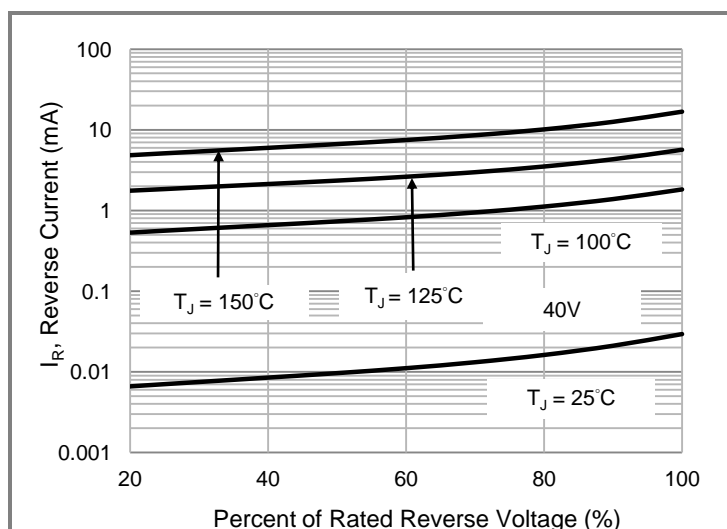


Fig.5 Typical Reverse Characteristics

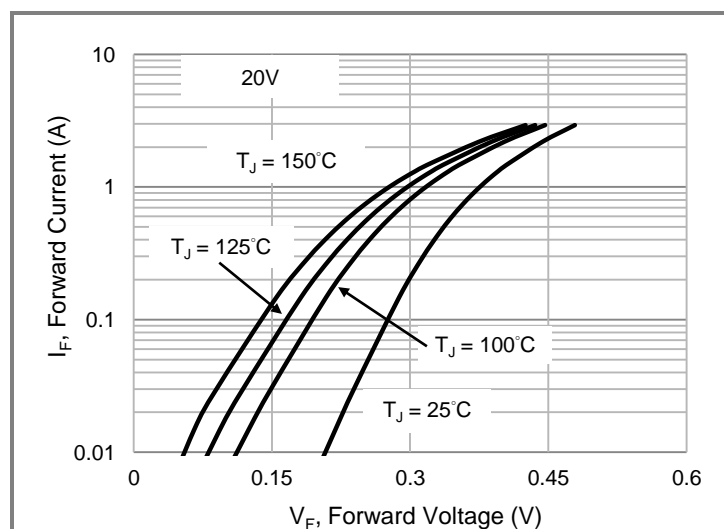


Fig.6 Typical Forward Characteristics

## SBA220AH-AU / SBA230AH-AU / SBA240AH-AU

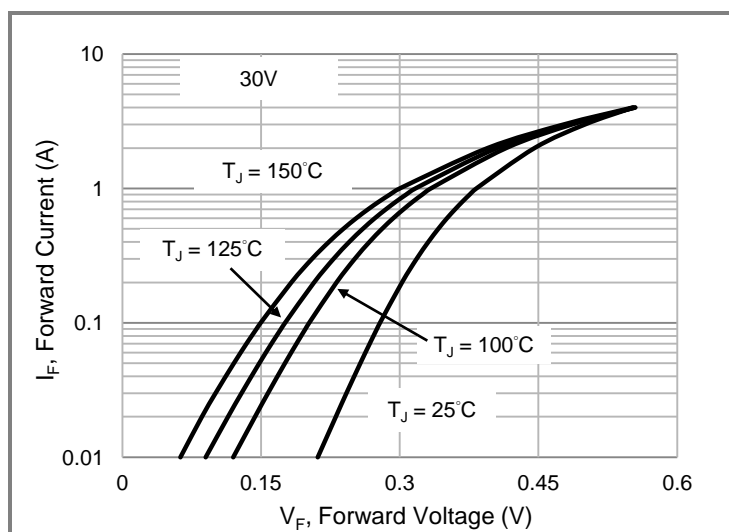


Fig.7 Typical Forward Characteristics

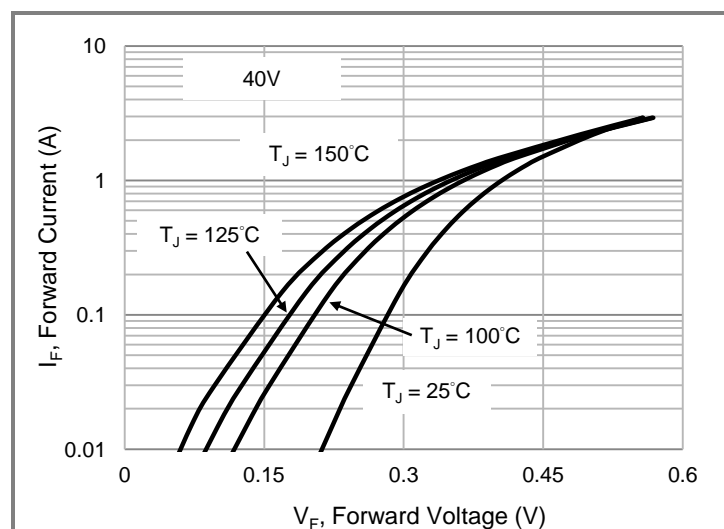


Fig.8 Typical Forward Characteristics

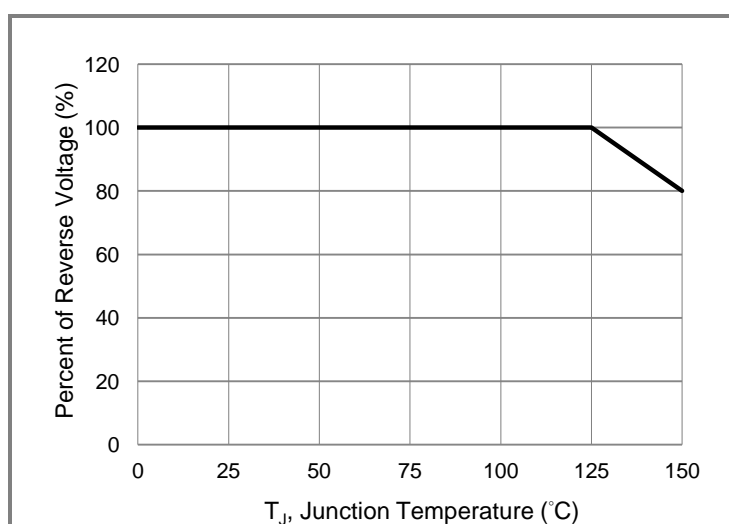


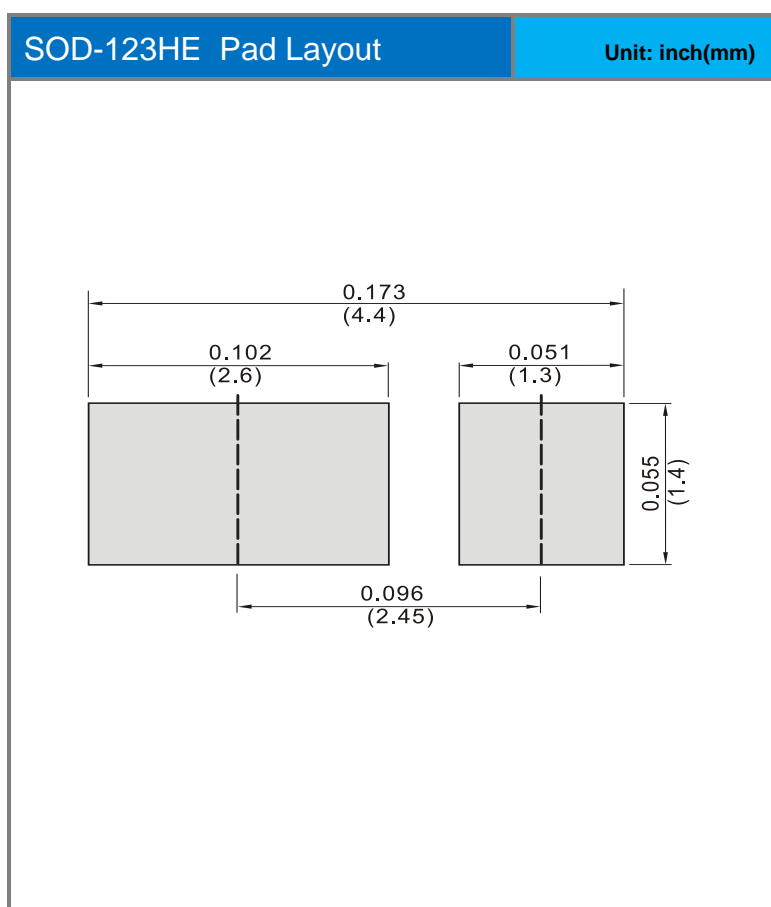
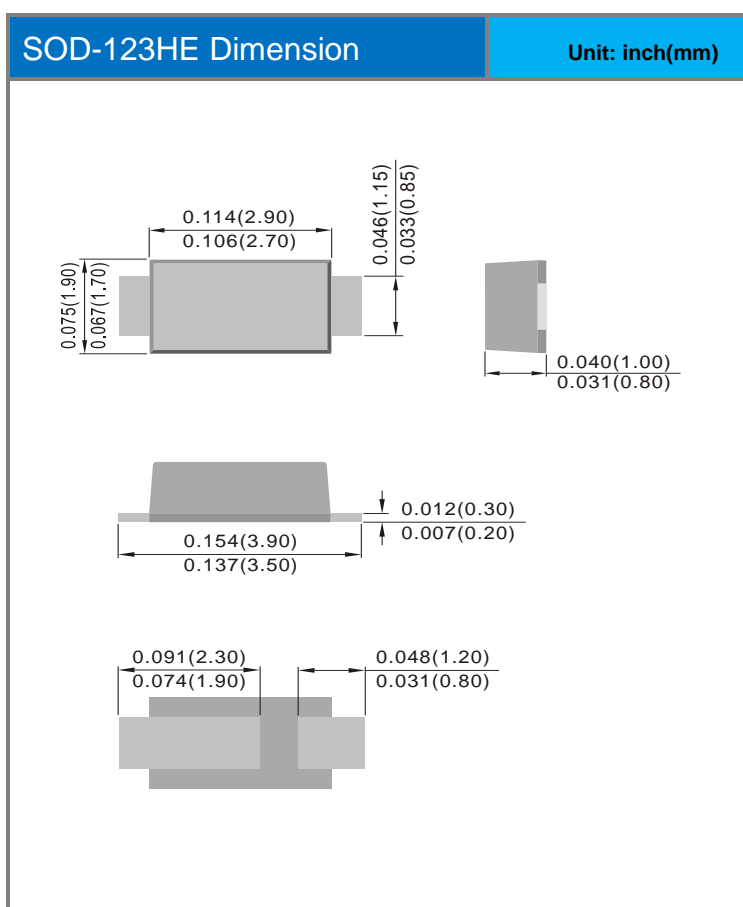
Fig.9 Operating Temperature Derating Curve

## SBA220AH-AU / SBA230AH-AU / SBA240AH-AU

### 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





## **SBA220AH-AU / SBA230AH-AU / SBA240AH-AU**

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