

# SBA320AH / SBA330AH / SBA340AH

## EXTREME LOW VF SCHOTTKY RECTIFIER

**Voltage**

**20-40 V**

**Current**

**3 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

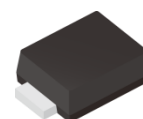
### Applications

- 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<sub>A</sub>=25 °C unless otherwise noted)

PARAMETER	SYMBOL	SBA320AH	SBA330AH	SBA340AH	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>	3			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	I <sub>FSM</sub>	50			A
Typical thermal resistance	R <sub>θJC</sub> <sup>(2)</sup>	20			°C/W
	R <sub>θJA</sub> <sup>(1)</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		SBA320AH		SBA330AH		SBA340AH		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	T <sub>J</sub> =25 °C	0.19	-	0.19	-	0.21	-	V
		I <sub>F</sub> = 1A		0.32	-	0.33	-	0.35	-	
		I <sub>F</sub> = 3A		-	0.44	-	0.46	-	0.48	
		I <sub>F</sub> = 10mA	T <sub>J</sub> =125 °C	0.05	-	0.06	-	0.06	-	V
Reverse current	I <sub>R</sub> <sup>(3)</sup>	I <sub>F</sub> = 1A		0.24	-	0.26	-	0.27	-	
		V <sub>R</sub> = 10V	T <sub>J</sub> =25°C	31	-	18	-	16	-	μA
		V <sub>R</sub> = 20V		-	200	28	-	21	-	
		V <sub>R</sub> = 30V		-	-	-	200	35	-	
		V <sub>R</sub> = 40V		-	-	-	-	-	150	
		V <sub>R</sub> = 20V	T <sub>J</sub> =125 °C	8.6	-	5.6	-	5.1	-	mA
		V <sub>R</sub> = 30V		-	-	10.7	-	7.6	-	
		V <sub>R</sub> = 40V		-	-	-	-	12	-	

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

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## TYPICAL CHARACTERISTIC CURVES

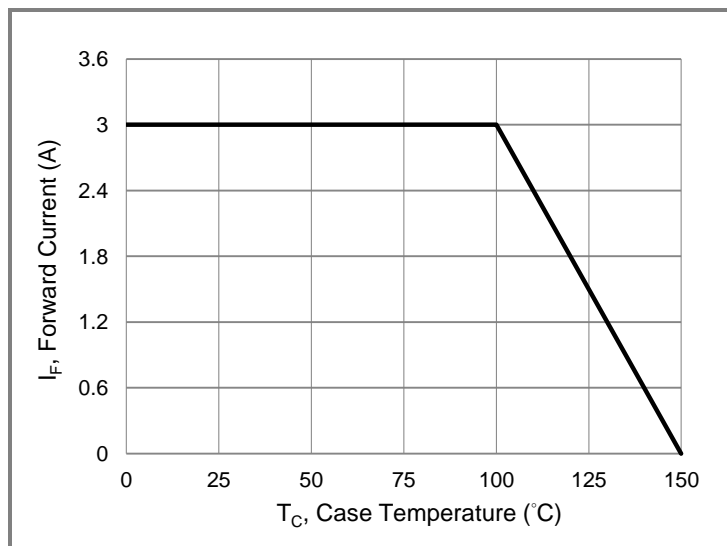


Fig.1 Forward Current Derating Curve

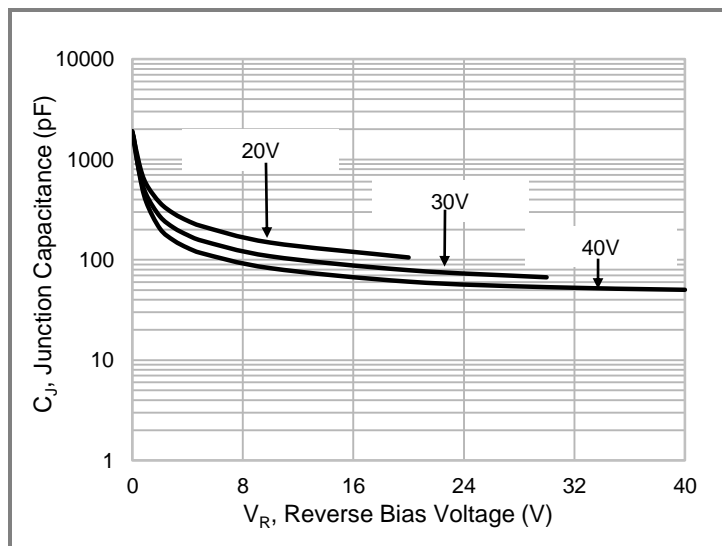


Fig. 2 Typical Junction Capacitance

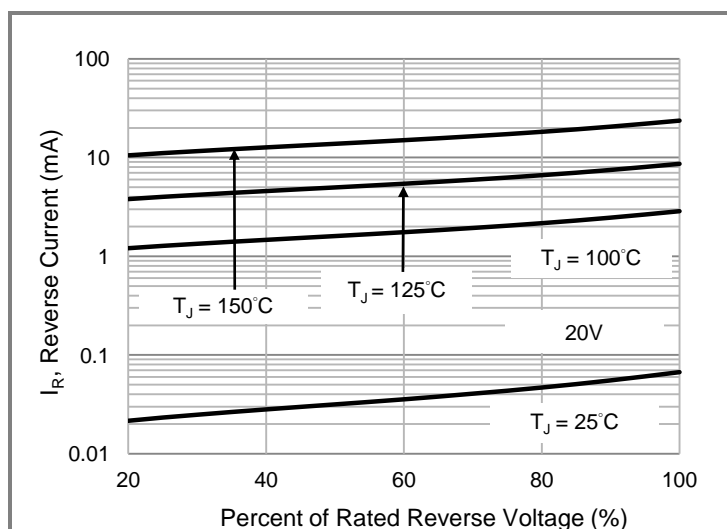


Fig.3 Typical Reverse Characteristics

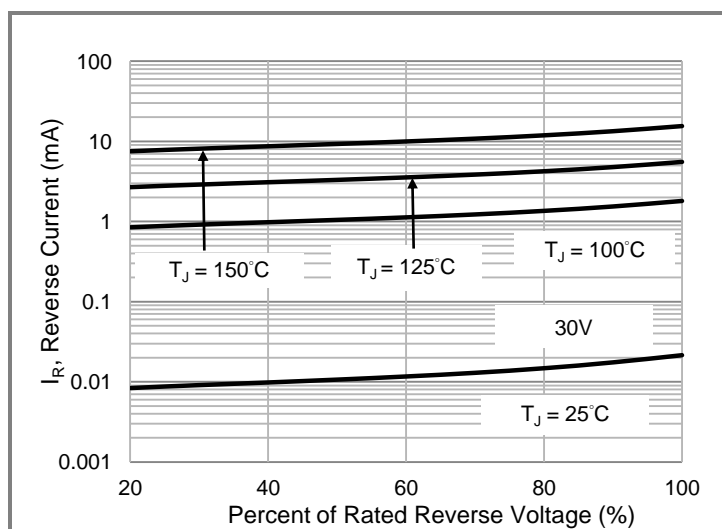


Fig.4 Typical Reverse Characteristics

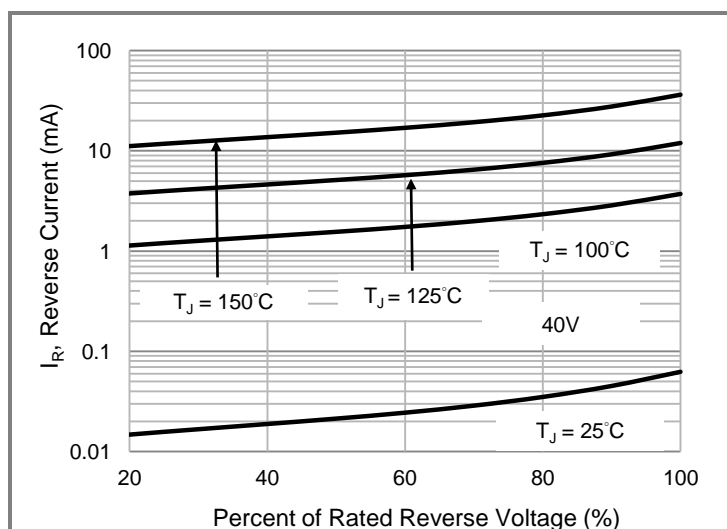


Fig.5 Typical Forward Characteristics

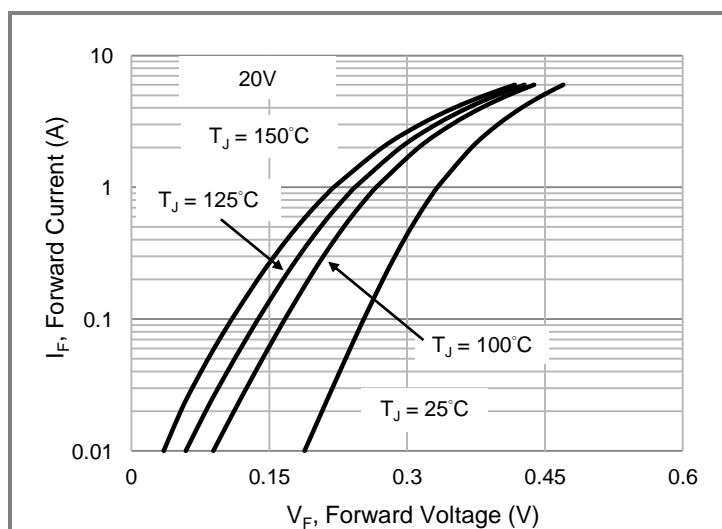
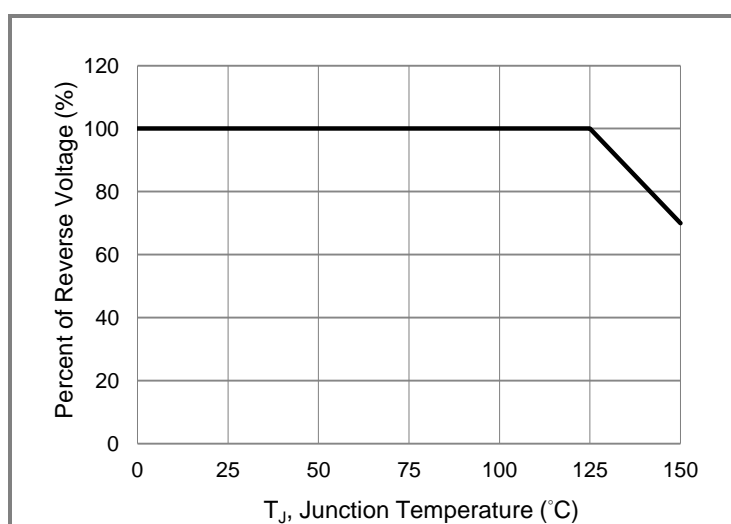
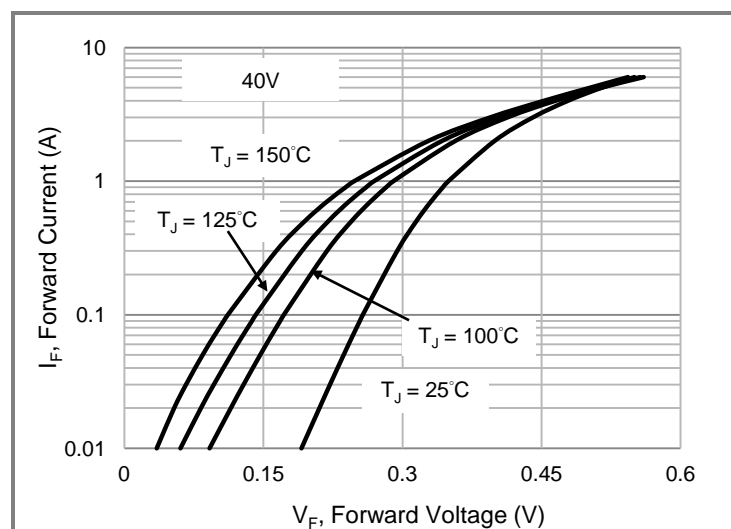
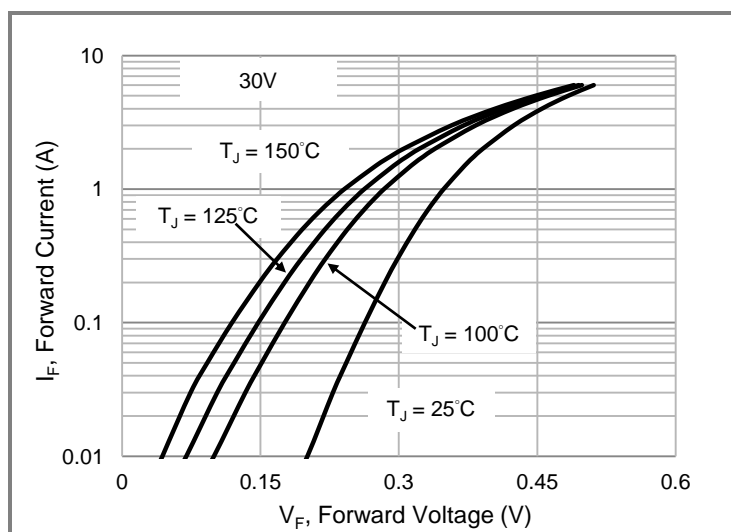


Fig.6 Typical Forward Characteristics

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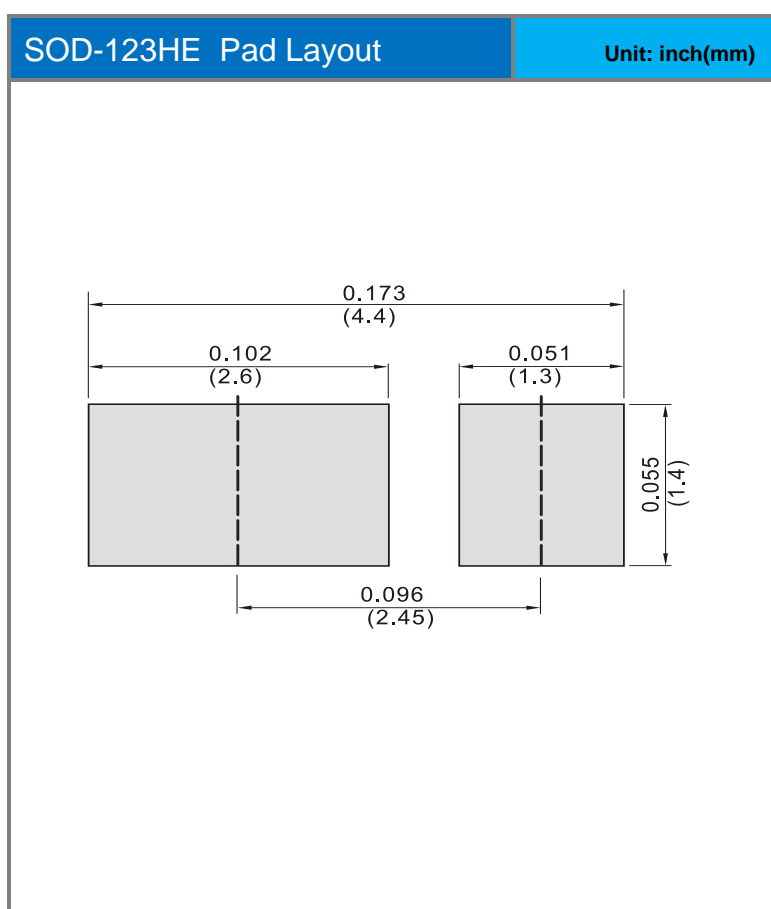
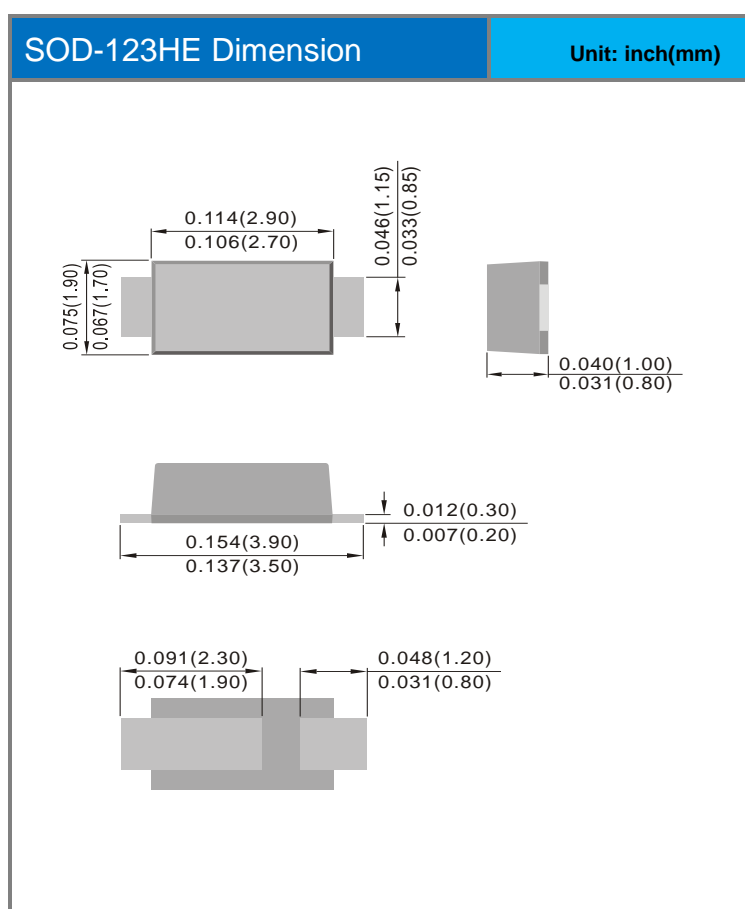


## SBA320AH / SBA330AH / SBA340AH

### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA320AH_R1_00001	SOD-123HE	3K pcs / 7" reel	G7	Halogen free
SBA330AH_R1_00001	SOD-123HE	3K pcs / 7" reel	H7	Halogen free
SBA340AH_R1_00001	SOD-123HE	3K pcs / 7" reel	L7	Halogen free

### Packaging Information & Mounting Pad Layout





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