



# SBA320AH / SBA330AH / SBA340AH

## EXTREME LOW VF SCHOTTKY RECTIFIER

<b>Voltage</b>	<b>20-40 V</b>	<b>Current</b>	<b>3 A</b>
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### Features

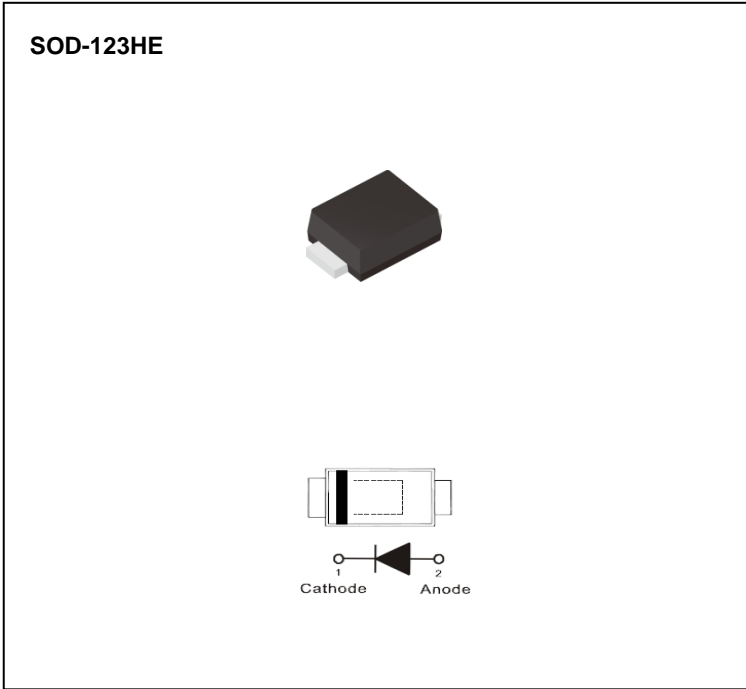
- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### 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



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

PARAMETER	SYMBOL	SBA320AH	SBA330AH	SBA340AH	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	$I_{F(AV)}$	3			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	$I_{FSM}$	50			A
Typical thermal resistance	$R_{\theta JC}^{(2)}$	20			$^\circ\text{C/W}$
	$R_{\theta JA}^{(1)}$	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	SBA320AH		SBA330AH		SBA340AH		UNIT		
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.			
Forward voltage	$V_F$	$I_F = 10\text{mA}$	$T_J = 25^\circ\text{C}$	0.19	-	0.19	-	0.21	-	V	
		$I_F = 1\text{A}$		0.32	-	0.33	-	0.35	-		
		$I_F = 3\text{A}$		-	0.44	-	0.46	-	0.48		
		$I_F = 10\text{mA}$		$T_J = 125^\circ\text{C}$	0.05	-	0.06	-	0.06	-	V
$I_F = 1\text{A}$	0.24	-	0.26		-	0.27	-				
Reverse current	$I_R^{(3)}$	$V_R = 10\text{V}$	$T_J = 25^\circ\text{C}$	31	-	18	-	16	-	$\mu\text{A}$	
		$V_R = 20\text{V}$		-	200	28	-	21	-		
		$V_R = 30\text{V}$		-	-	-	200	35	-		
		$V_R = 40\text{V}$		-	-	-	-	-	150		
		$V_R = 20\text{V}$		$T_J = 125^\circ\text{C}$	8.6	-	5.6	-	5.1	-	mA
		$V_R = 30\text{V}$			-	-	10.7	-	7.6	-	
$V_R = 40\text{V}$	-	-	-		-	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

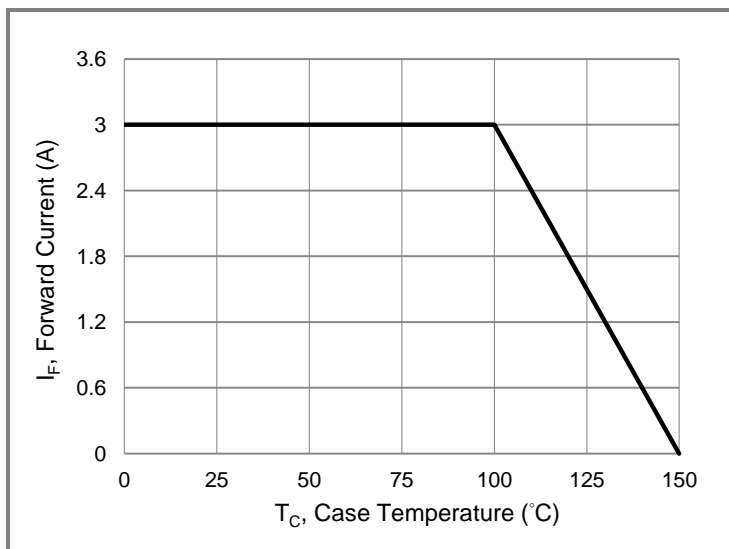


Fig.1 Forward Current Derating Curve

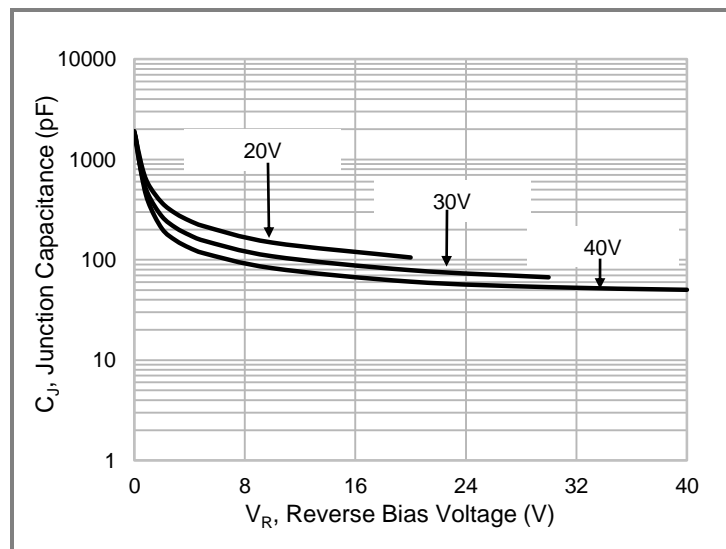


Fig. 2 Typical Junction Capacitance

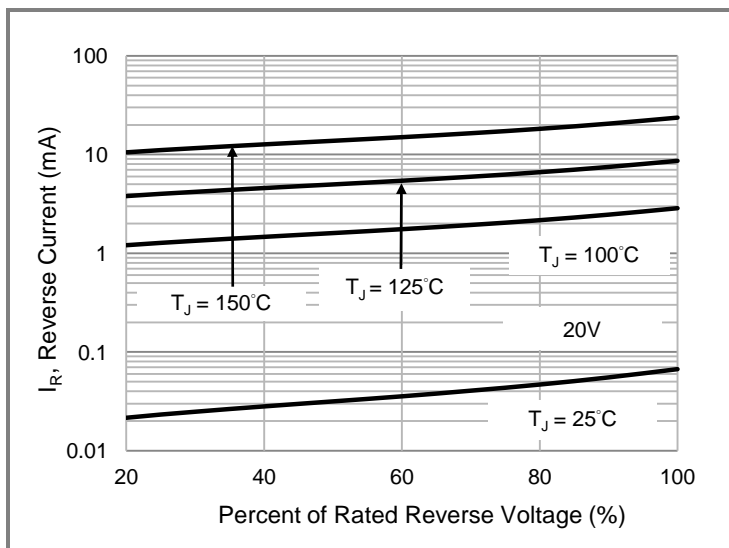


Fig.3 Typical Reverse Characteristics

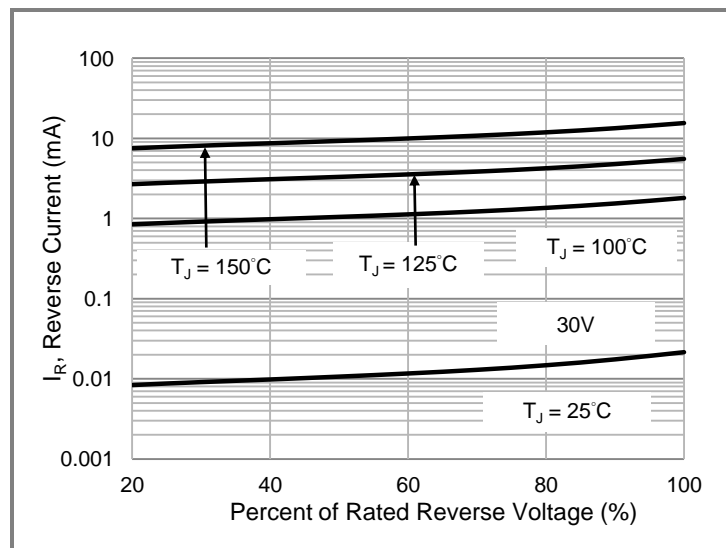


Fig.4 Typical Reverse Characteristics

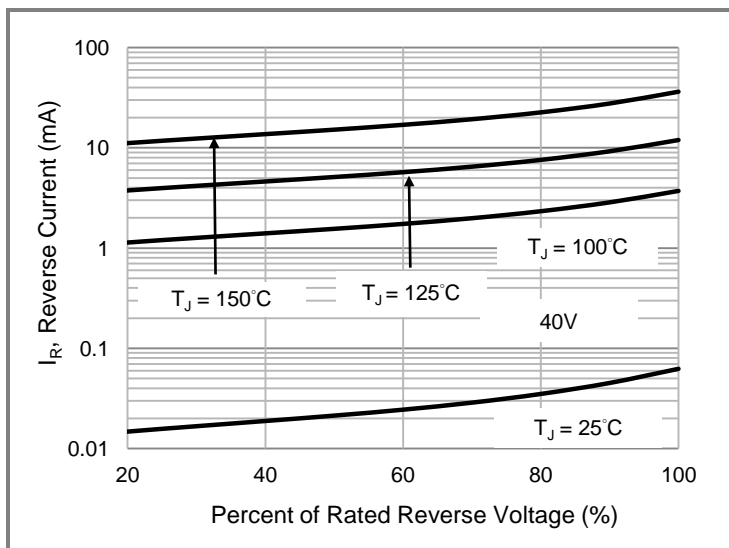


Fig.5 Typical Forward Characteristics

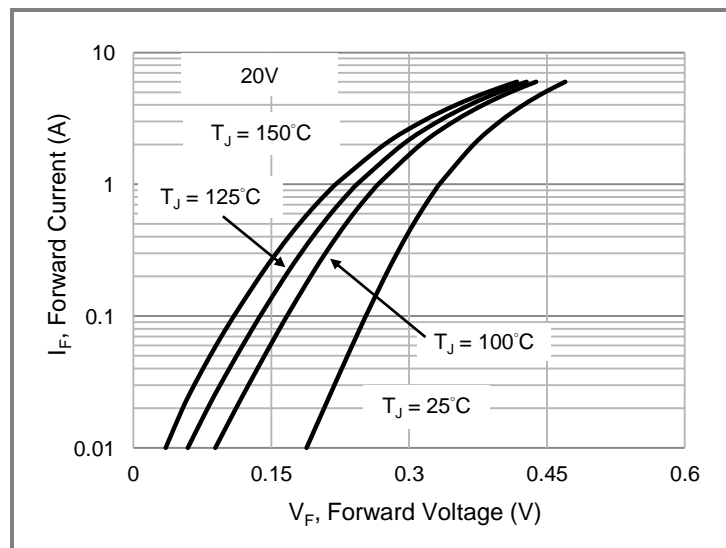
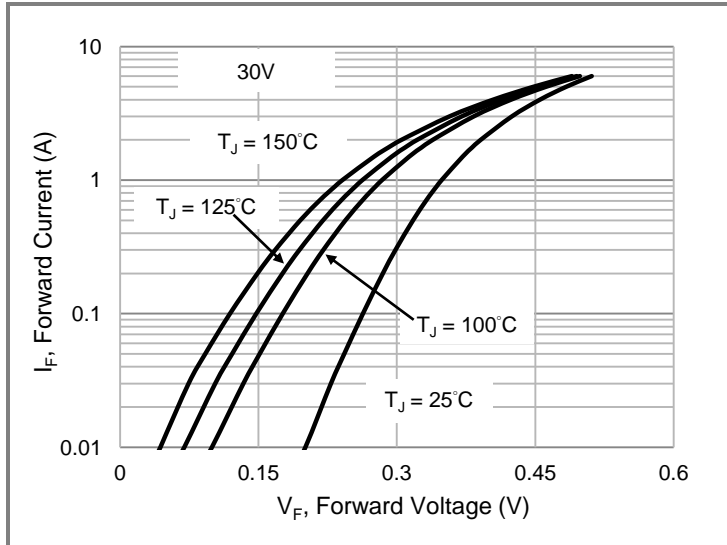


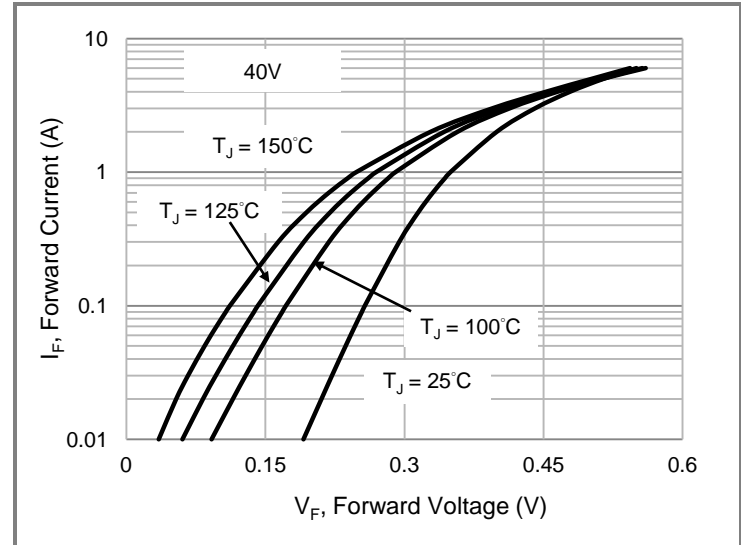
Fig.6 Typical Forward Characteristics



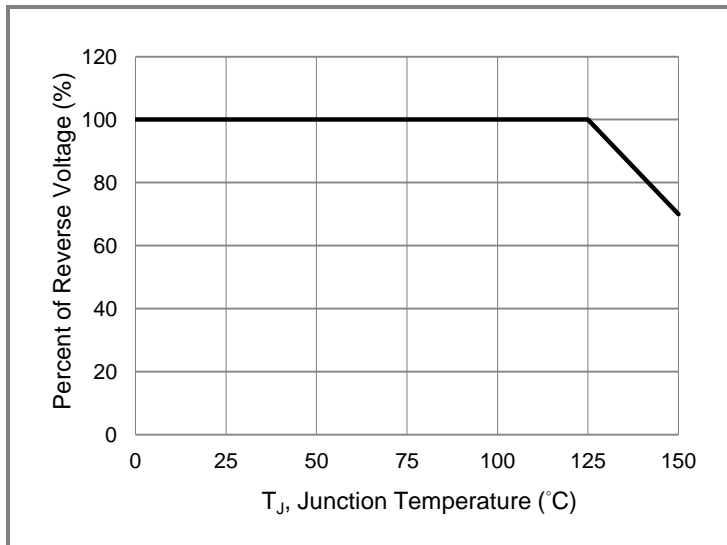
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**Fig.7 Typical Forward Characteristics**



**Fig.8 Typical Forward Characteristics**



**Fig.9 Operating Temperature Derating Curve**

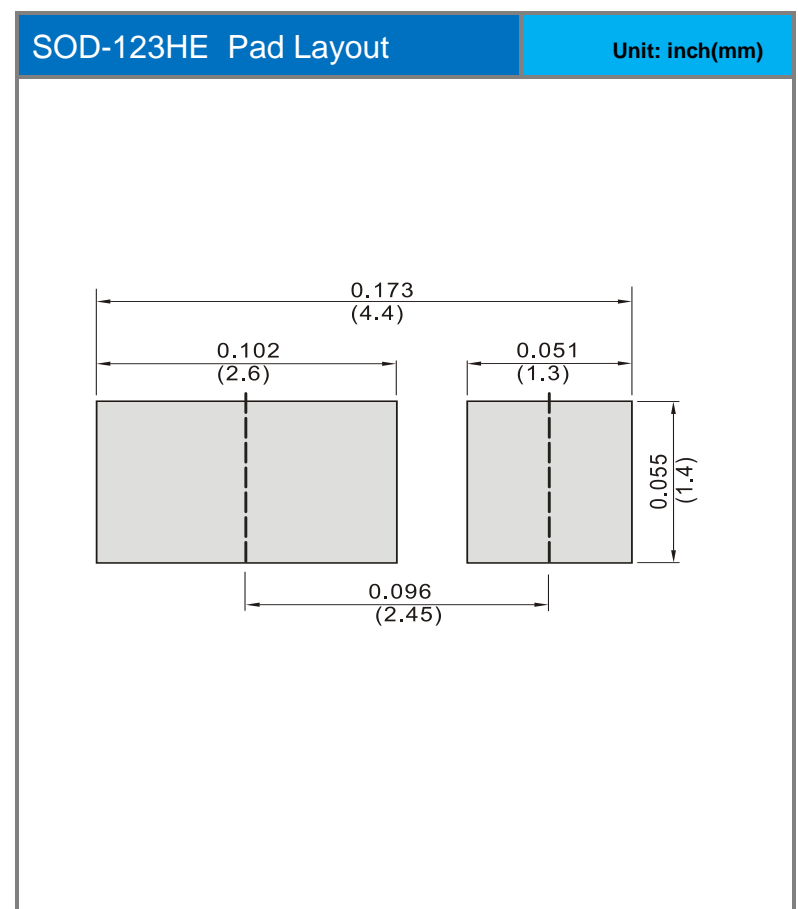
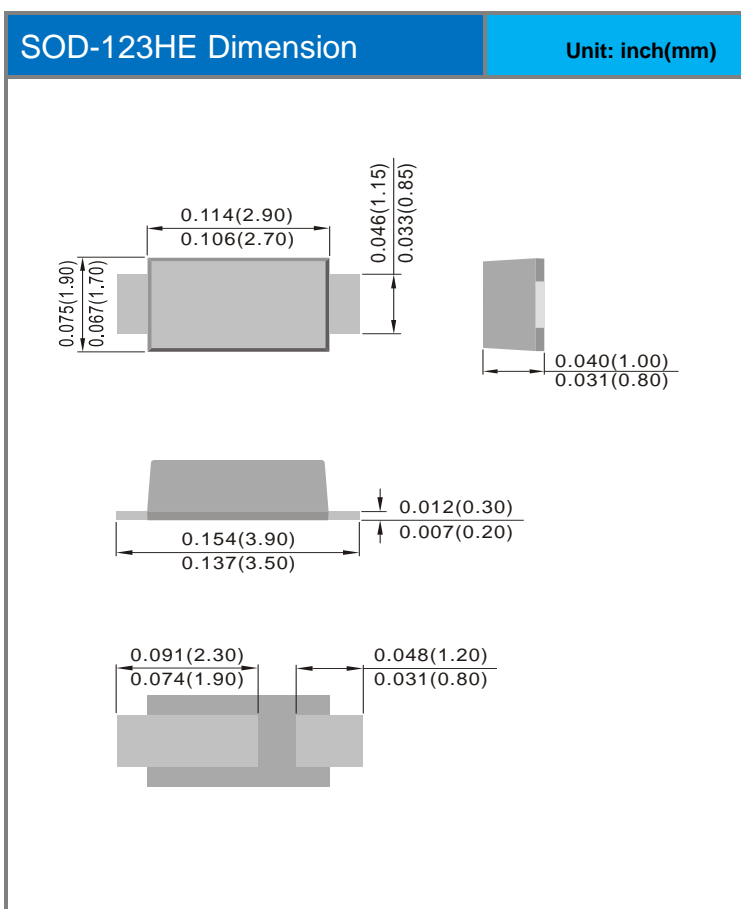


# SBA320AH / SBA330AH / SBA340AH

## 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





## SBA320AH / SBA330AH / SBA340AH

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