



# SBA220CH / SBA230CH / SBA240CH

## EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

<b>Voltage</b>	<b>20-40 V</b>	<b>Current</b>	<b>2 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

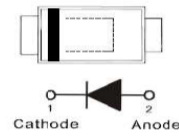
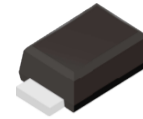
### Applications

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

### Mechanical Data

- Case: Molded plastic, SOD-323HE
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0002 ounces, 0.005 grams

SOD-323HE



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

PARAMETER	SYMBOL	SBA220CH	SBA230CH	SBA240CH	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>	20			A
Typical thermal resistance	R <sub>θJC</sub> (1)	50			°C/W
	R <sub>θJA</sub> (2)	300			
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	SBA220CH		SBA230CH		SBA240CH		UNIT											
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.												
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	0.21	-	0.21	-	0.22	-	V											
		I <sub>F</sub> = 0.5A								T <sub>J</sub> = 25 °C	0.33	-	0.34	-	0.37	-				
		I <sub>F</sub> = 2A															0.46	0.49	0.53	
		I <sub>F</sub> = 10mA	T <sub>J</sub> = 125 °C	0.09	-	0.09	-	0.1		-										
I <sub>F</sub> = 0.5A	0.24	-		0.26	-	0.27	-													
Reverse current	I <sub>R</sub> (3)	V <sub>R</sub> = 10V	14	-	9	-	7.4	-	μA											
		V <sub>R</sub> = 20V								T <sub>J</sub> = 25 °C	-	100	25	-	9.6	-				
		V <sub>R</sub> = 30V															-	100	16	-
		V <sub>R</sub> = 40V															-	-	-	100
		V <sub>R</sub> = 20V	T <sub>J</sub> = 125 °C	6.1	-	3.7	-	2.3		-	mA									
		V <sub>R</sub> = 30V										-	9.6	-	3.5	-				
		V <sub>R</sub> = 40V										-	-	-	5.6	-				
		V <sub>R</sub> = 40V										-	-	-	-	-				

- 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.



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## TYPICAL CHARACTERISTIC CURVES

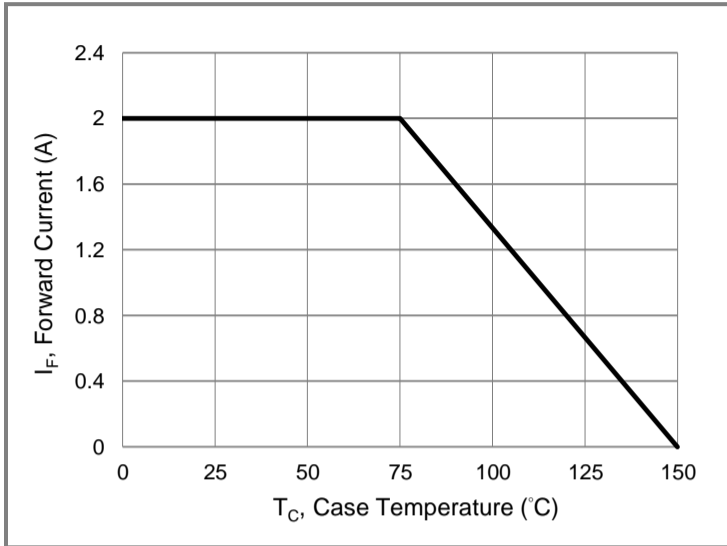


Fig.1 Forward Current Derating Curve

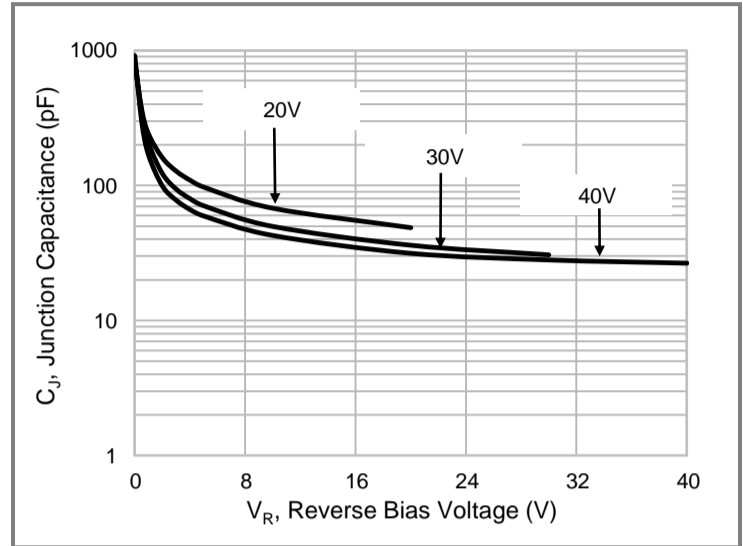


Fig. 2 Typical Junction Capacitance

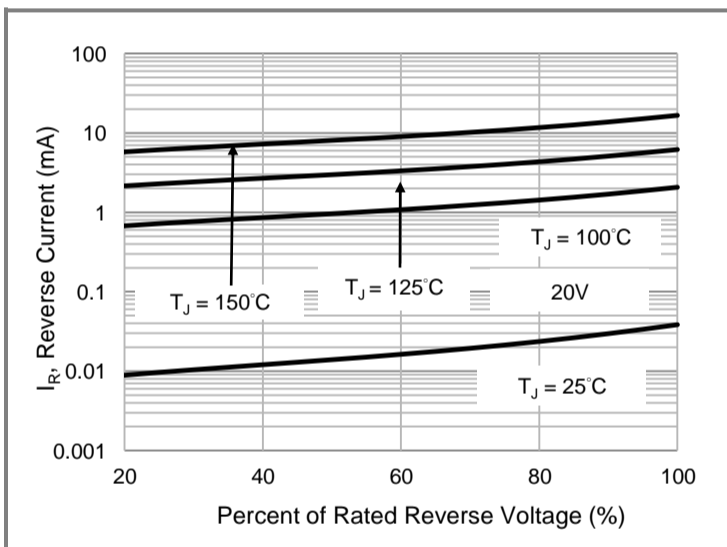


Fig.3 Typical Reverse Characteristics

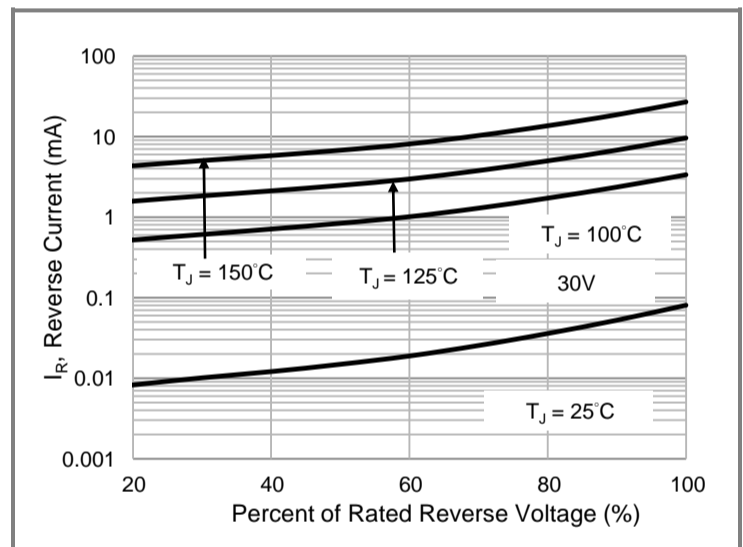


Fig.4 Typical Reverse Characteristics

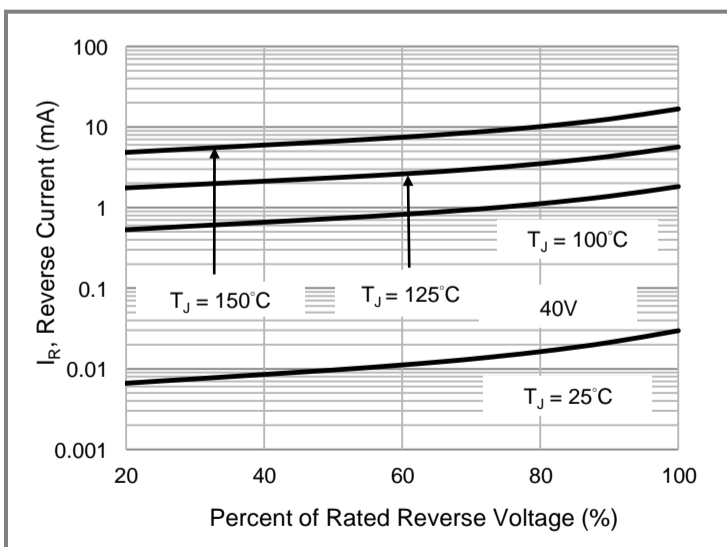


Fig.5 Typical Reverse Characteristics

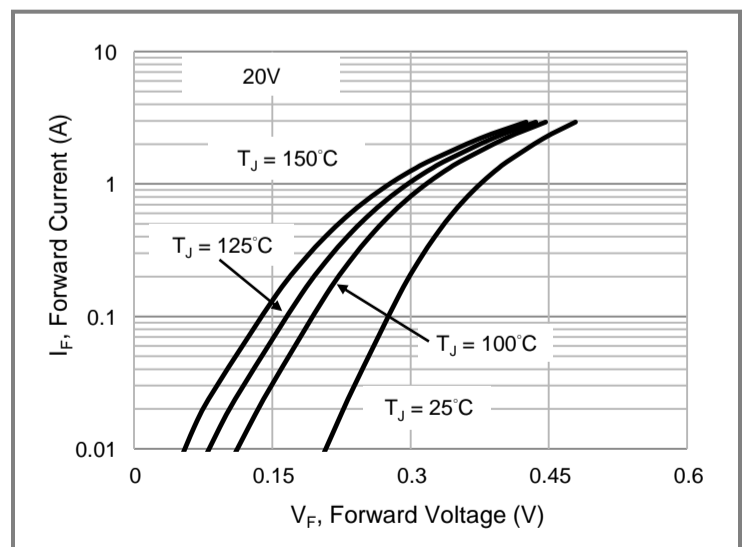
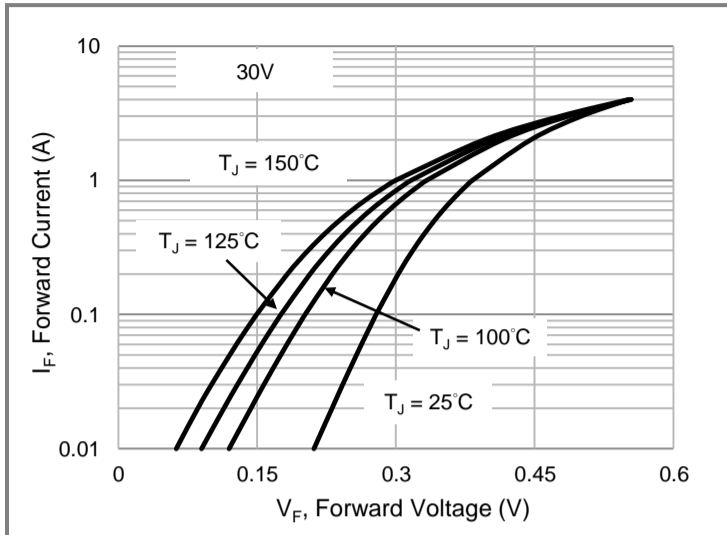


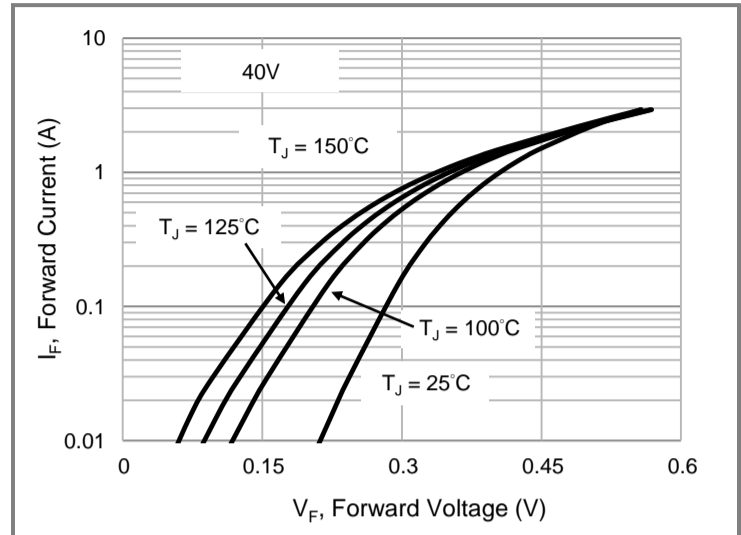
Fig.6 Typical Forward Characteristics



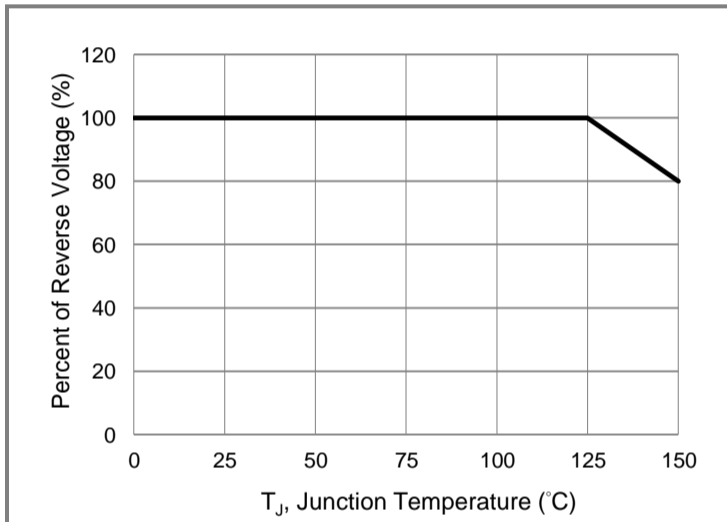
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**Fig.7 Typical Forward Characteristics**



**Fig.8 Typical Forward Characteristics**



**Fig.9 Operating Temperature Derating Curve**

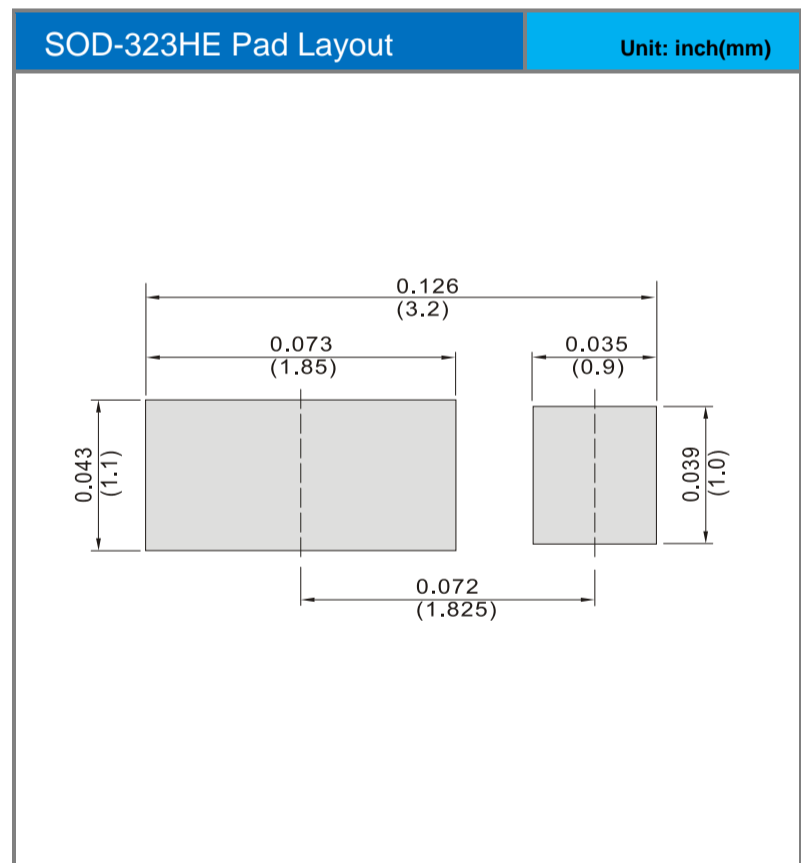
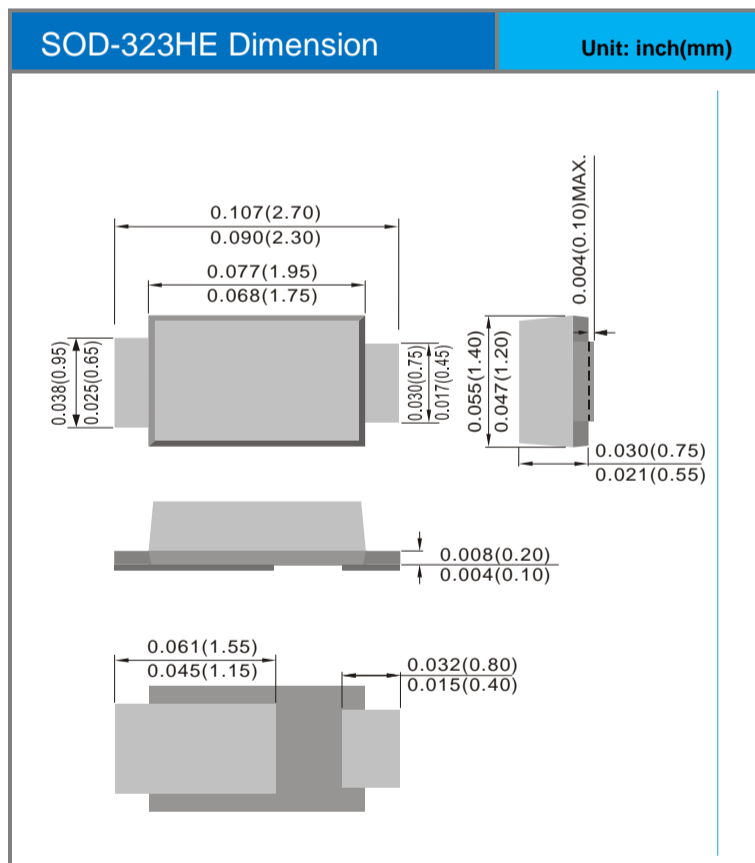


# SBA220CH / SBA230CH / SBA240CH

## Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBA220CH_R1_00001	SOD-323HE	5K pcs / 7" reel	E7	Halogen free
SBA230CH_R1_00001	SOD-323HE	5K pcs / 7" reel	F7	Halogen free
SBA240CH_R1_00001	SOD-323HE	5K pcs / 7" reel	H7	Halogen free

## Packaging Information & Mounting Pad Layout





## SBA220CH / SBA230CH / SBA240CH

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