

# SBA220CH-AU / SBA230CH-AU / SBA240CH-AU

## Surface Mount Extreme Low $V_F$ 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
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

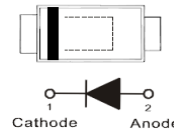
### Applications

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

### Mechanical Data

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

SOD-323HE



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

PARAMETER	SYMBOL	SBA220CH-AU	SBA230CH-AU	SBA240CH-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	$I_{FSM}$	20			A
Typical thermal resistance	(Note 1) $R_{\theta JC}$	50			$^\circ\text{C/W}$
	(Note 2) $R_{\theta JA}$	300			
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	SBA220CH-AU		SBA230CH-AU		SBA240CH-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	-	0.49	-	0.53	
		$I_F = 10\text{mA}$	0.09	-	0.09	-	0.1	-	V
$I_F = 0.5\text{A}$	0.24	-	0.26	-	0.27	-			
Reverse current	$I_R$	$V_R = 10\text{V}$	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	
		$V_R = 20\text{V}$	6.1	-	3.7	-	2.3	-	mA
		$V_R = 30\text{V}$	-	-	9.6	-	3.5	-	
$V_R = 40\text{V}$	-	-	-	-	5.6	-			

NOTES : 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, standard footprint.

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## TYPICAL CHARACTERISTIC CURVES

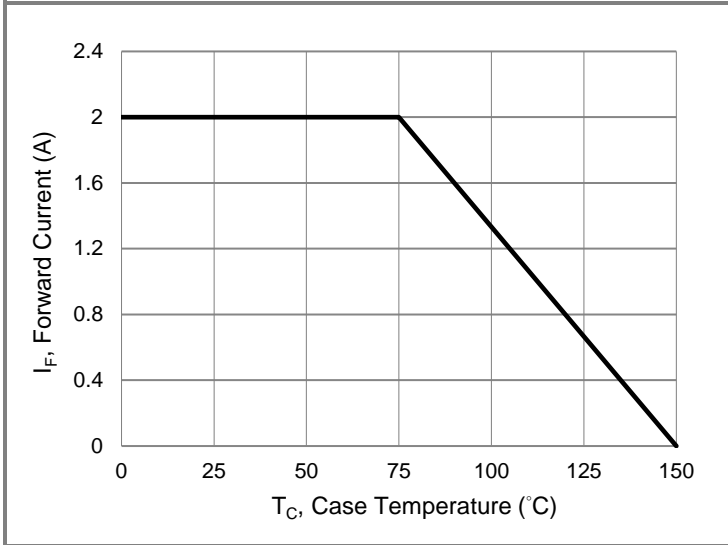


Fig.1 Forward Current Derating Curve

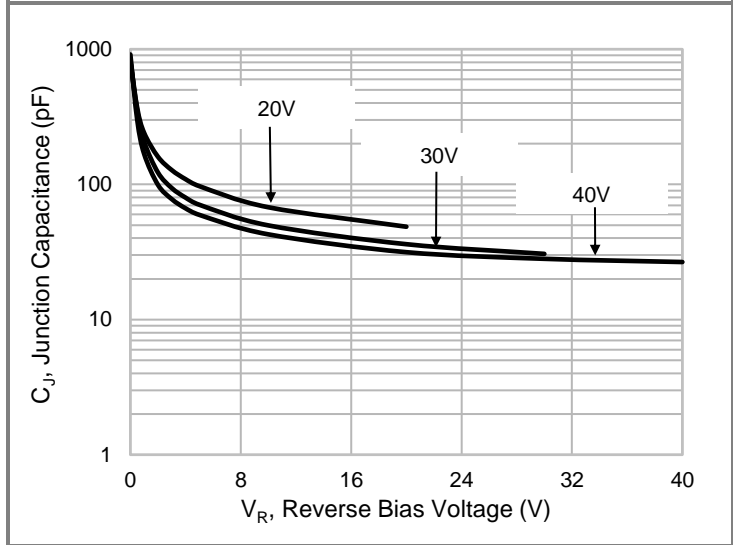


Fig. 2 Typical Junction Capacitance

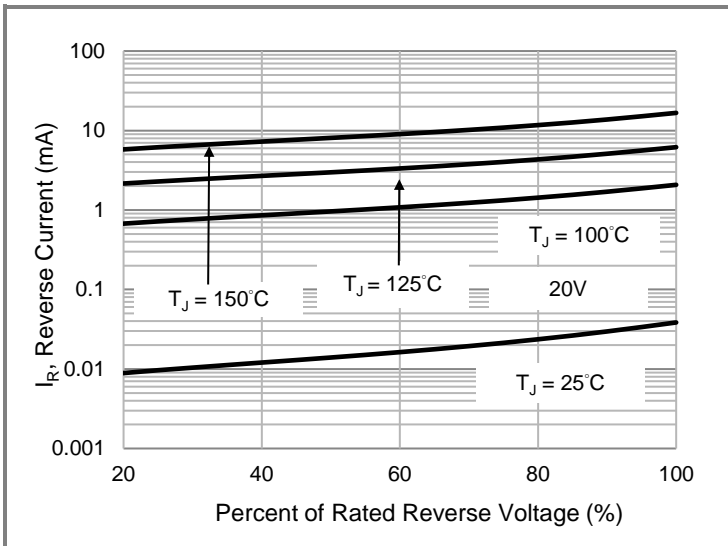


Fig.3 Typical Reverse Characteristics

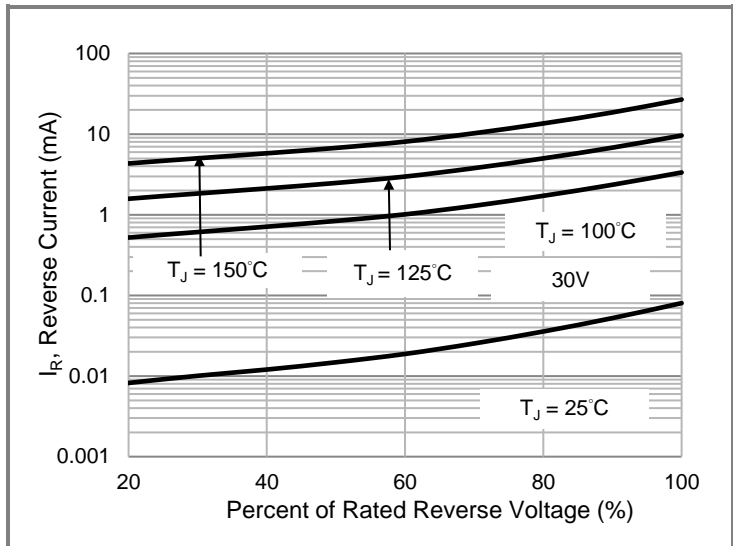


Fig.4 Typical Reverse Characteristics

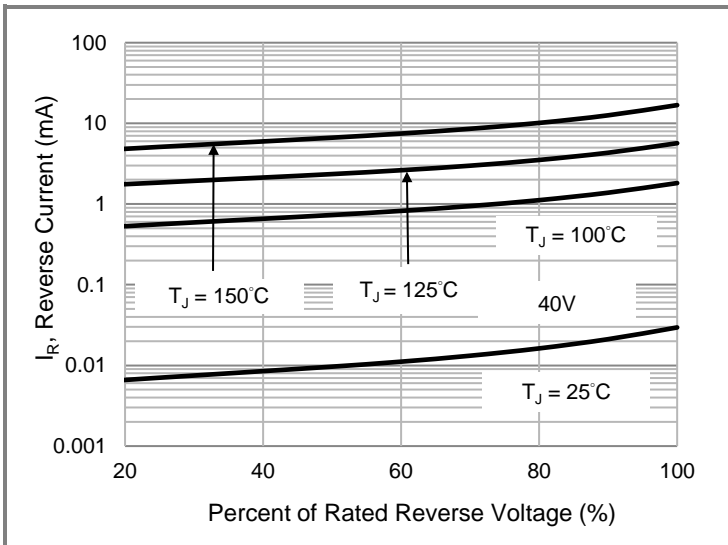


Fig.5 Typical Reverse Characteristics

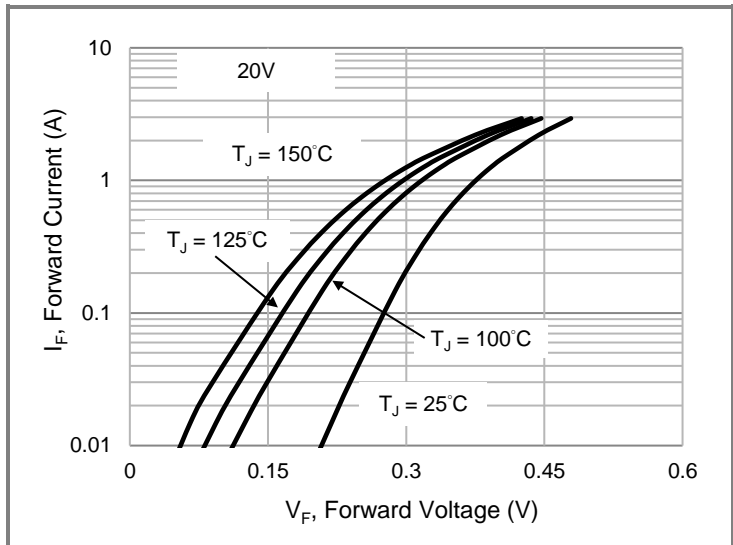
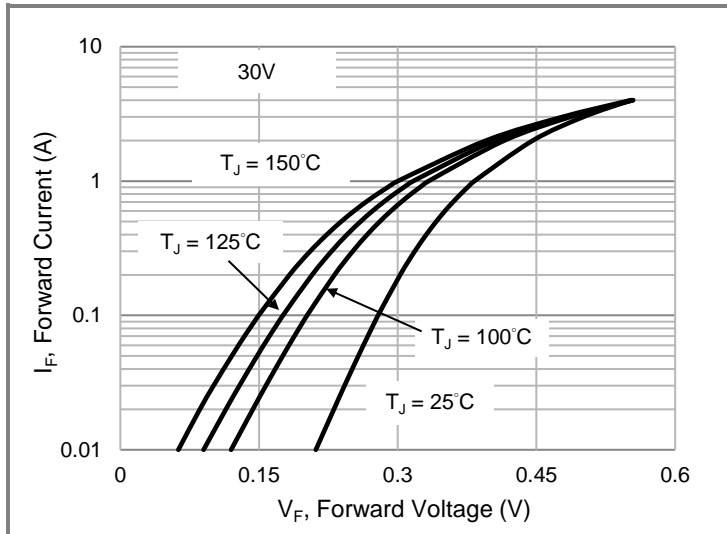
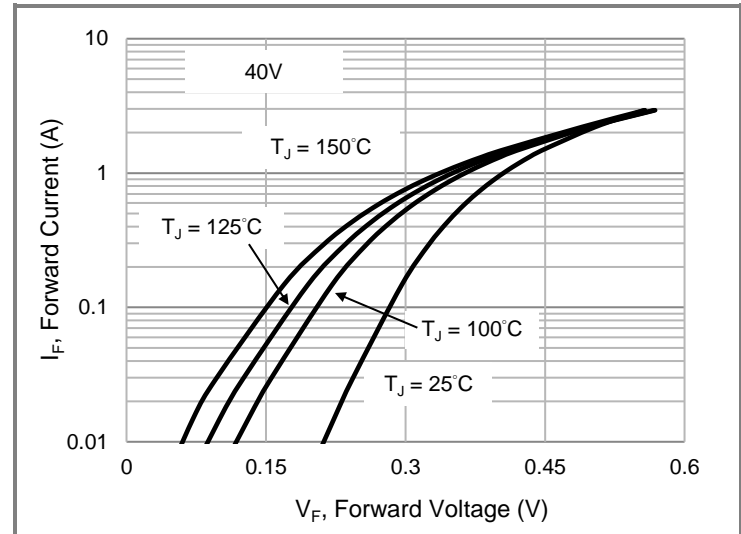


Fig.6 Typical Forward Characteristics

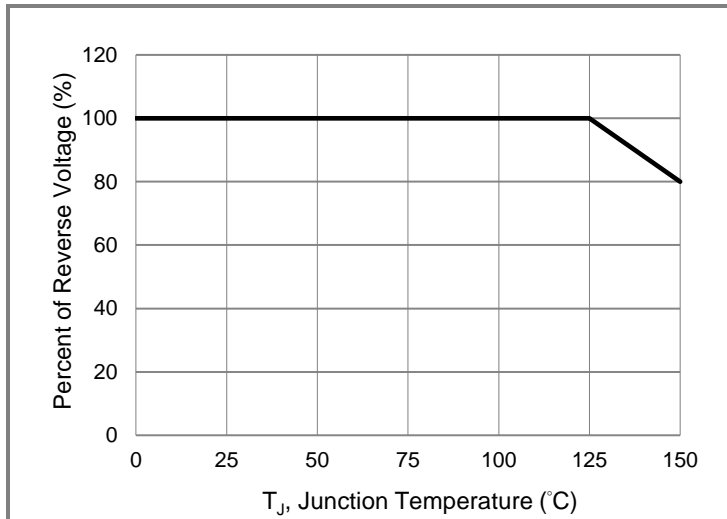
**SBA220CH-AU / SBA230CH-AU / SBA240CH-AU**



**Fig.7 Typical Forward Characteristics**



**Fig.8 Typical Forward Characteristics**



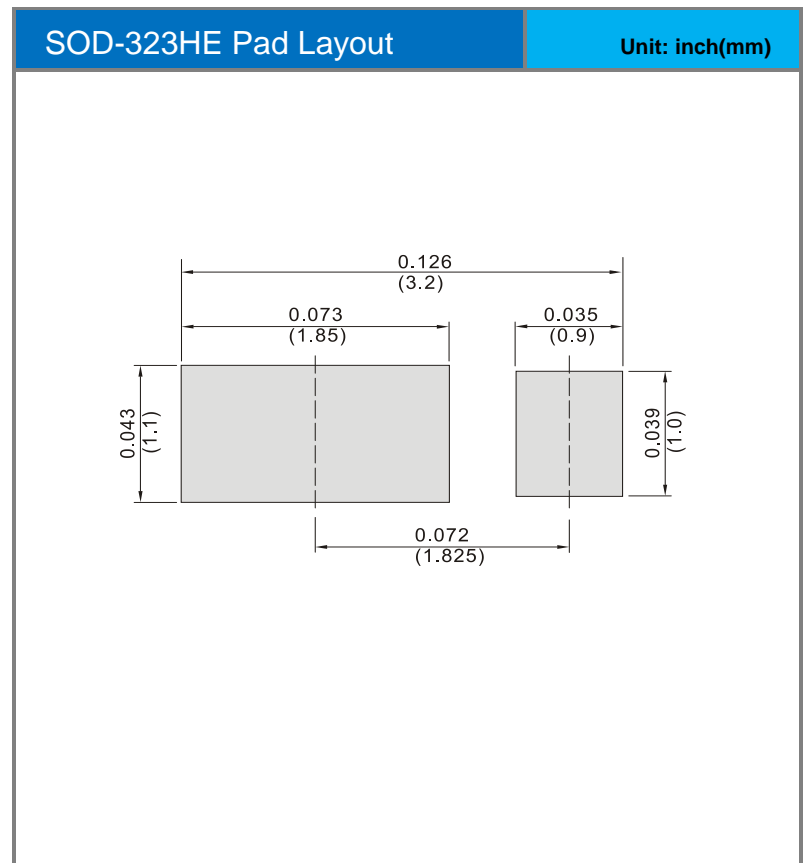
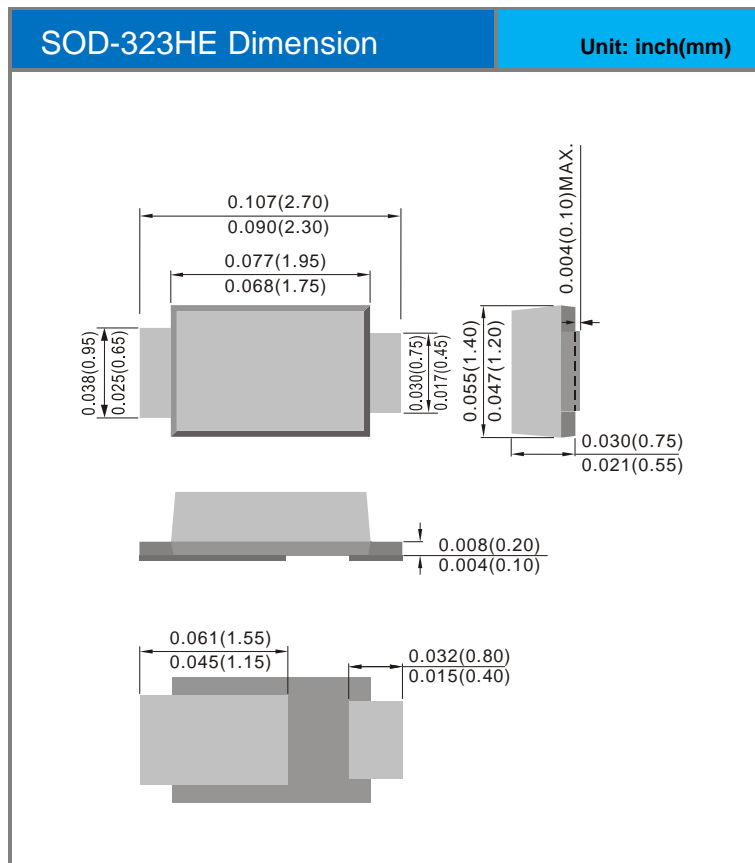
**Fig.9 Operating Temperature Derating Curve**

## SBA220CH-AU / SBA230CH-AU / SBA240CH-AU

### Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBA220CH-AU	SOD-323HE	5K pcs / 7" reel	E7
SBA230CH-AU	SOD-323HE	5K pcs / 7" reel	F7
SBA240CH-AU	SOD-323HE	5K pcs / 7" reel	H7

### Packaging Information & Mounting Pad Layout



## **SBA220CH-AU / SBA230CH-AU / SBA240CH-AU**

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