



SBA220CH / SBA230CH / SBA240CH

EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage	20-40 V	Current	2 A
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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

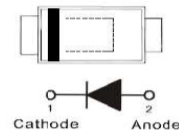
Applications

- 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_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SBA220CH	SBA230CH	SBA240CH	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	R _{θJC} (1)	50			°C/W
	R _{θJA} (2)	300			
Operating junction temperature range	T _J	-55 to +150			°C
Storage temperature range	T _{STG}	-55 to +150			°C

Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	SBA220CH		SBA230CH		SBA240CH		UNIT
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V _F	I _F = 10mA	0.21	-	0.21	-	0.22	-	V
		I _F = 0.5A	0.33	-	0.34	-	0.37	-	
		I _F = 2A	-	0.46	-	0.49	-	0.53	
		I _F = 10mA	0.09	-	0.09	-	0.1	-	V
I _F = 0.5A	0.24	-	0.26	-	0.27	-			
Reverse current	I _R (3)	V _R = 10V	14	-	9	-	7.4	-	μA
		V _R = 20V	-	100	25	-	9.6	-	
		V _R = 30V	-	-	-	100	16	-	
		V _R = 40V	-	-	-	-	-	100	
		V _R = 20V	6.1	-	3.7	-	2.3	-	mA
		V _R = 30V	-	-	9.6	-	3.5	-	
V _R = 40V	-	-	-	-	5.6	-			

- Note : 1. Mounted on a FR4 PCB, single-sided copper, with 100cm² 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

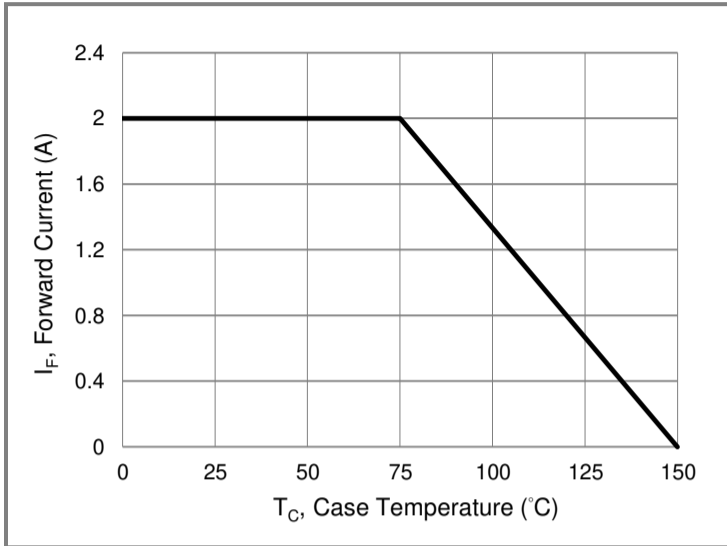


Fig.1 Forward Current Derating Curve

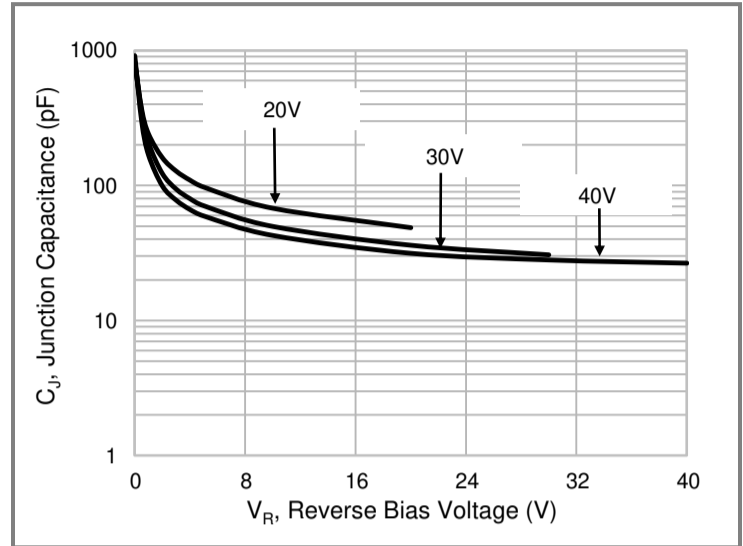


Fig. 2 Typical Junction Capacitance

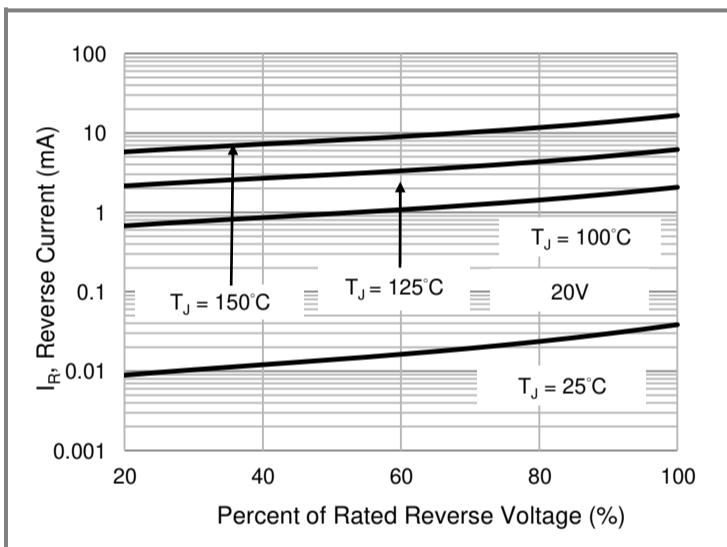


Fig.3 Typical Reverse Characteristics

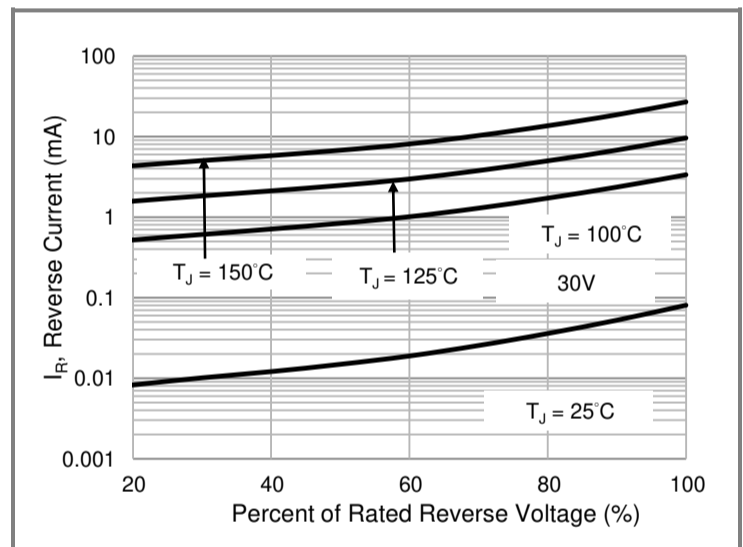


Fig.4 Typical Reverse Characteristics

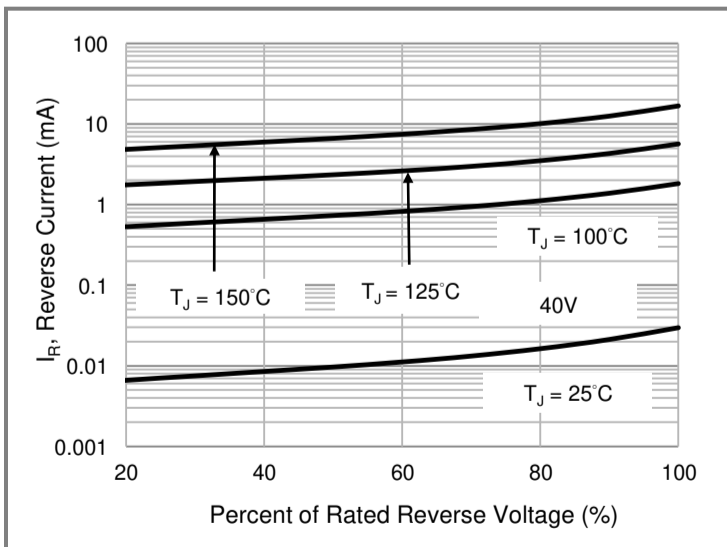


Fig.5 Typical Reverse Characteristics

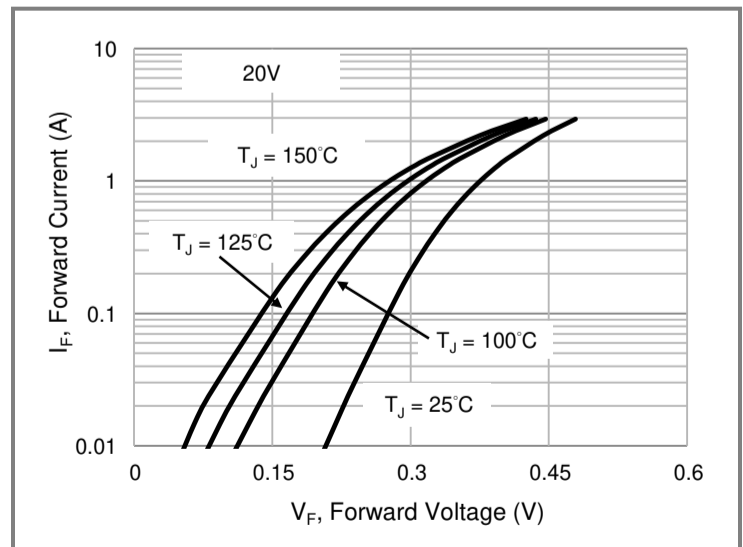


Fig.6 Typical Forward Characteristics



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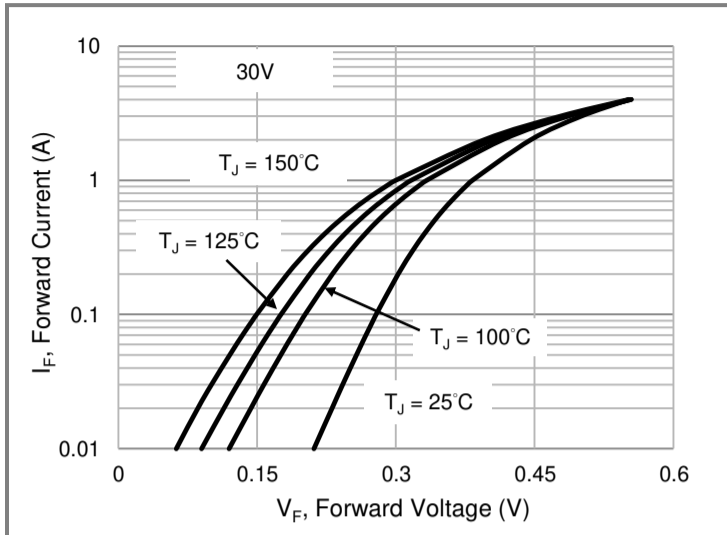


Fig.7 Typical Forward Characteristics

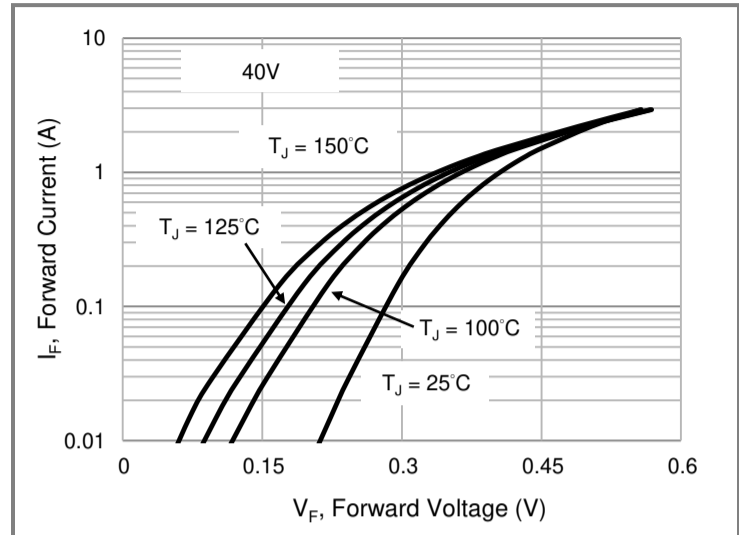


Fig.8 Typical Forward Characteristics

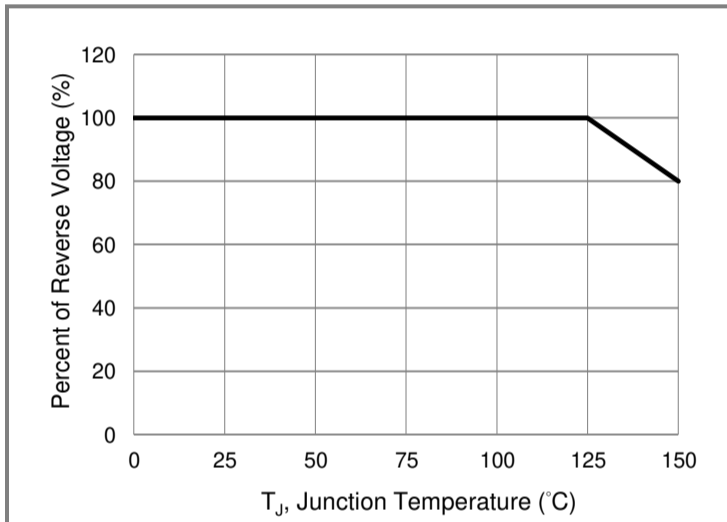


Fig.9 Operating Temperature Derating Curve

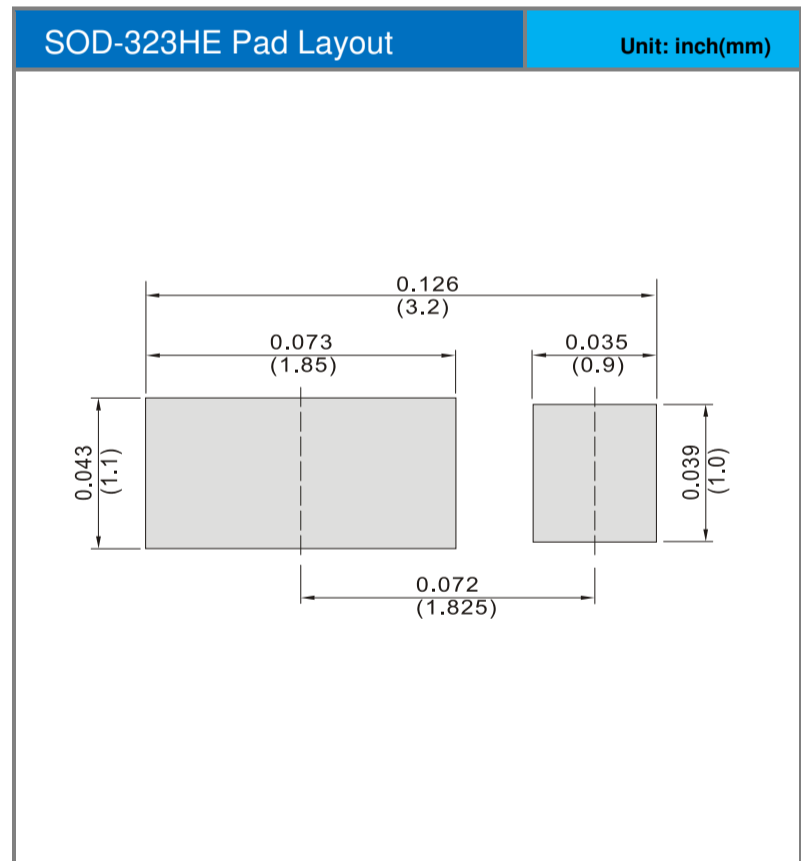
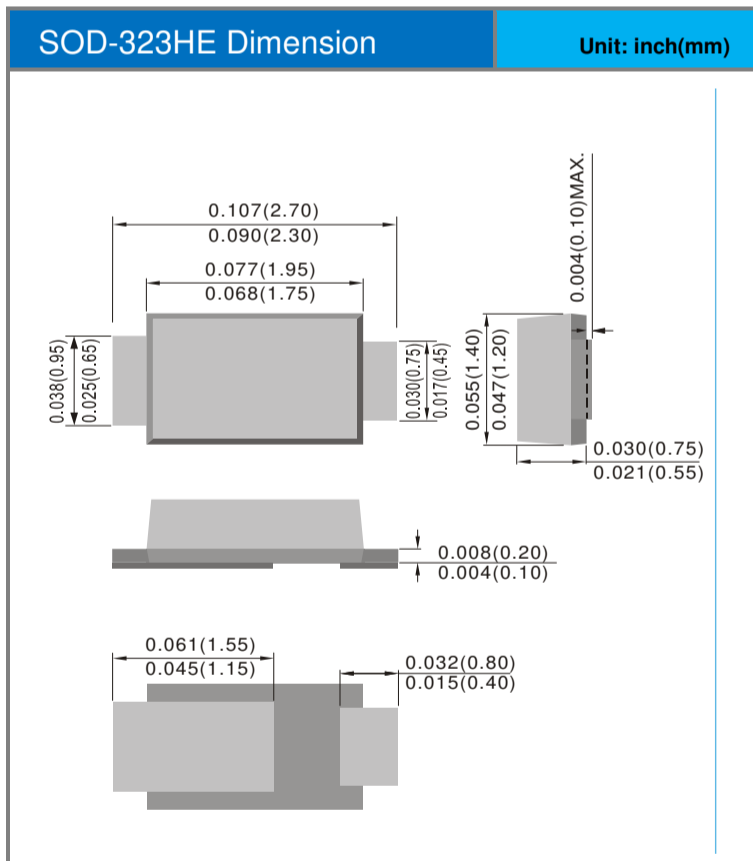


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Part No. Packing Code Version

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





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