

SBA120CH-AU / SBA130CH-AU / SBA140CH-AU

Surface Mount Extreme Low V_F Schottky Rectifier

Voltage

20-40 V

Current

1 A

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

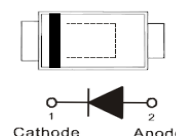
Applications

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

Mechanical Data

- Case: Molded plastic, SOD-323HE
- 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	SBA120CH-AU	SBA130CH-AU	SBA140CH-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)}	1			A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	10			A
Typical thermal resistance	(Note 1)	R _{θJC}	50			°C/W
	(Note 2)	R _{θJA}	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		SBA120CH-AU		SBA130CH-AU		SBA140CH-AU		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	$I_F = 10\text{mA}$	$T_J = 25^\circ\text{C}$	0.22	-	0.22	-	0.23	-	V
		$I_F = 0.5\text{A}$		0.35	-	0.36	-	0.39	-	
		$I_F = 1\text{A}$		-	0.45	-	0.47	-	0.51	
		$I_F = 10\text{mA}$	$T_J = 125^\circ\text{C}$	0.09	-	0.1	-	0.1	-	V
		$I_F = 0.5\text{A}$		0.27	-	0.3	-	0.33	-	
Reverse current	I_R	$V_R = 10\text{V}$	$T_J = 25^\circ\text{C}$	7.5	-	5.9	-	3.6	-	μA
		$V_R = 20\text{V}$		-	100	10	-	4.2	-	
		$V_R = 30\text{V}$		-	-	-	100	6.1	-	
		$V_R = 40\text{V}$		-	-	-	-	-	100	
		$V_R = 20\text{V}$	$T_J = 125^\circ\text{C}$	3.2	-	2.2	-	1.2	-	mA
		$V_R = 30\text{V}$		-	-	3.9	-	1.7	-	
		$V_R = 40\text{V}$		-	-	-	-	2.3	-	
				-	-	-	-	-	-	

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

2. Mounted on a FR4 PCB, single-sided copper, standard footprint.

SBA120CH-AU / SBA130CH-AU / SBA140CH-AU

TYPICAL CHARACTERISTIC CURVES

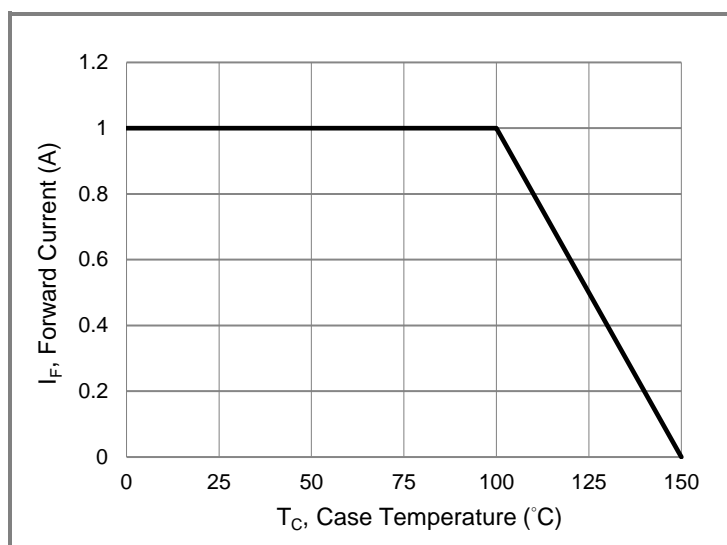


Fig.1 Forward Current Derating Curve

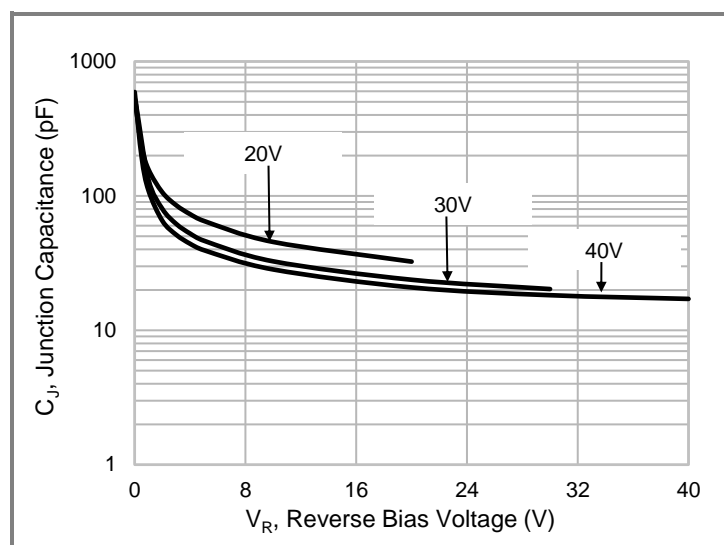


Fig. 2 Typical Junction Capacitance

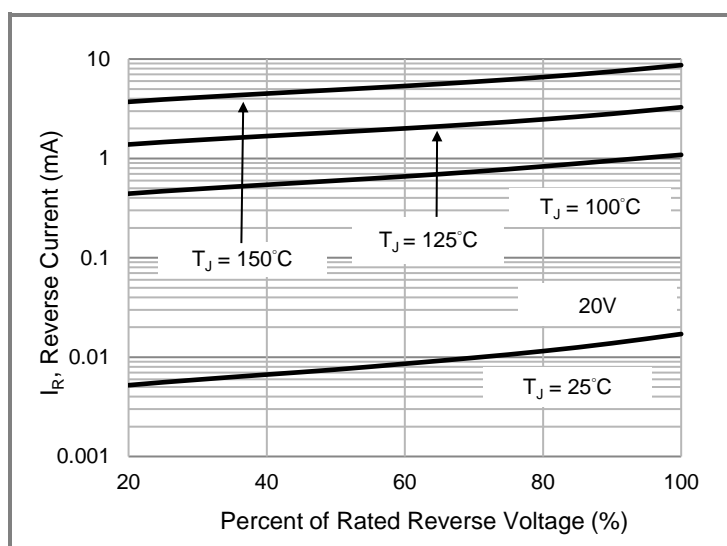


Fig.3 Typical Reverse Characteristics

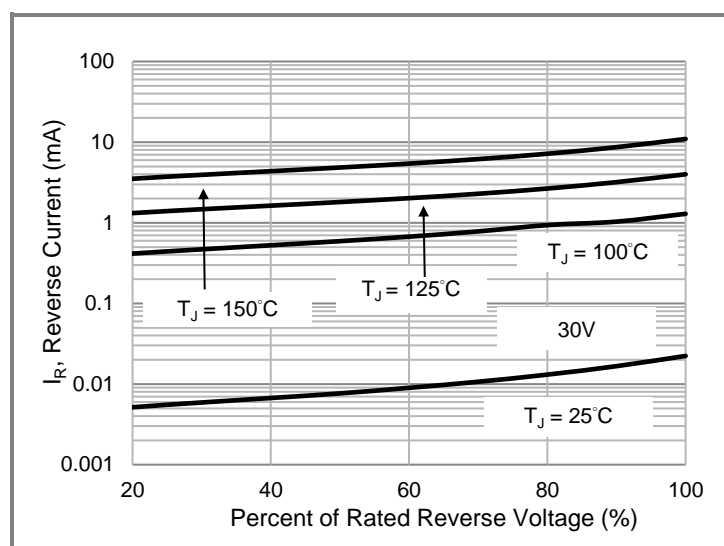


Fig.4 Typical Reverse Characteristics

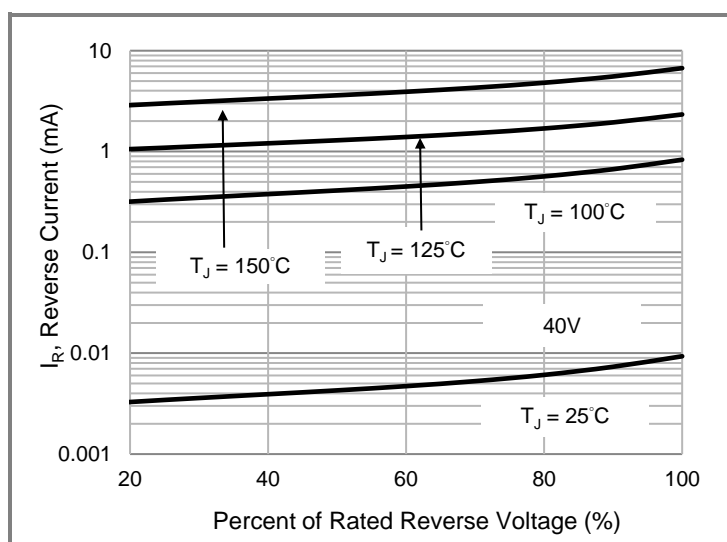


Fig.5 Typical Reverse Characteristics

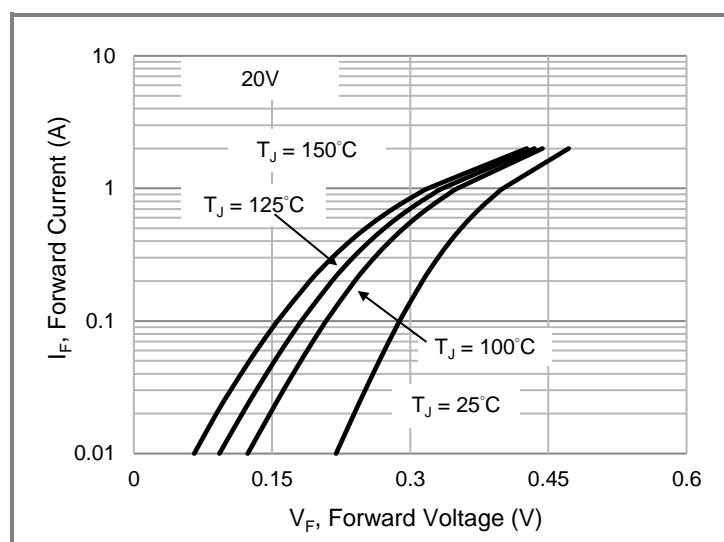


Fig.6 Typical Forward Characteristics

SBA120CH-AU / SBA130CH-AU / SBA140CH-AU

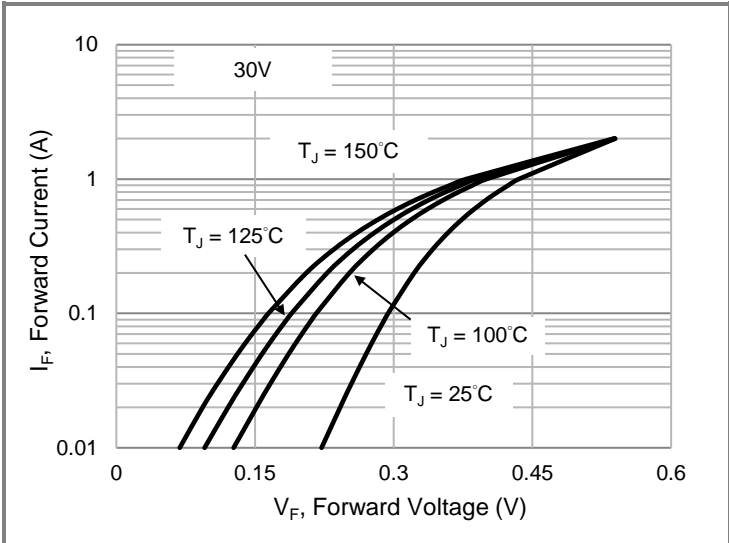


Fig.7 Typical Forward Characteristics

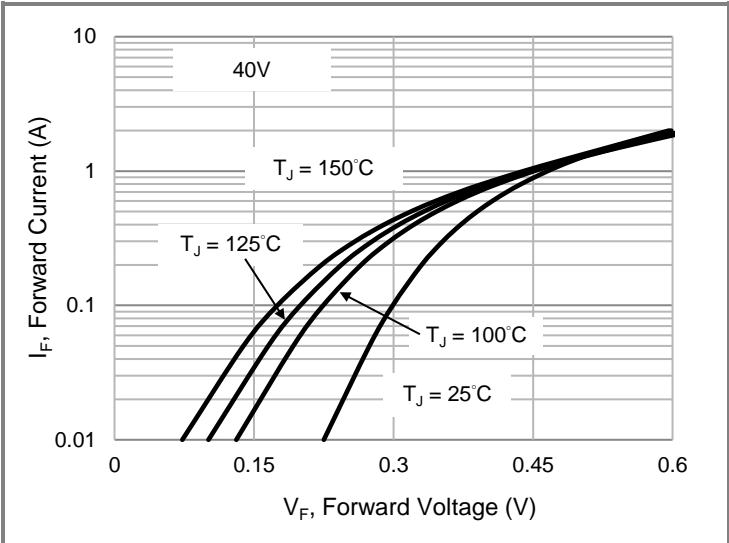


Fig.8 Typical Forward Characteristics

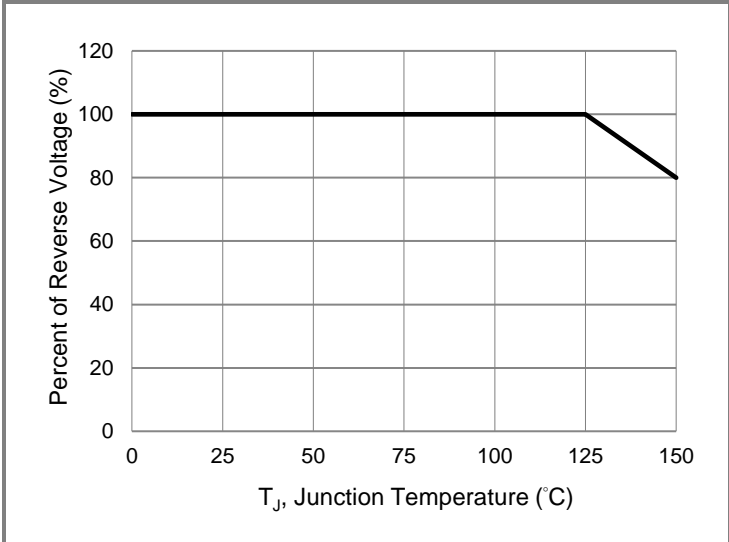


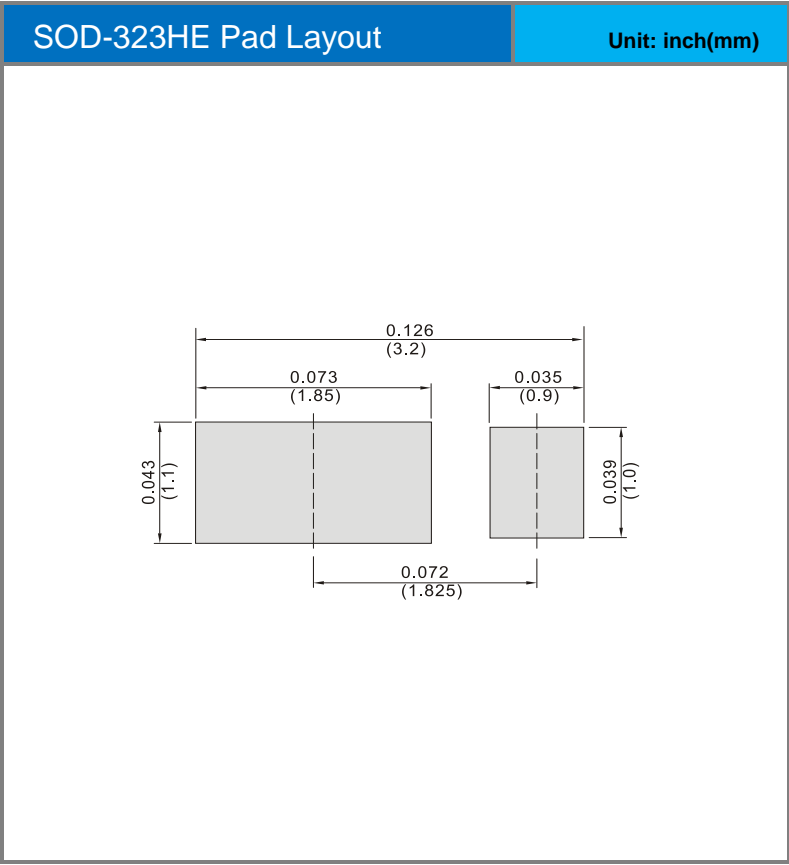
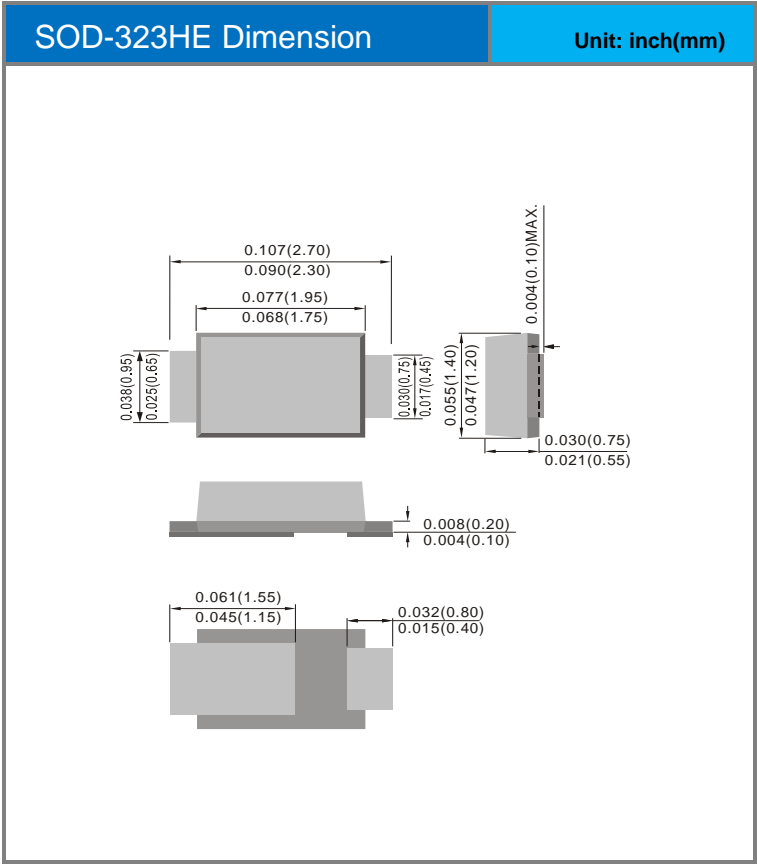
Fig.9 Operating Temperature Derating Curve

SBA120CH-AU / SBA130CH-AU / SBA140CH-AU

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBA120CH-AU	SOD-323HE	5K pcs / 7" reel	B7
SBA130CH-AU	SOD-323HE	5K pcs / 7" reel	A7
SBA140CH-AU	SOD-323HE	5K pcs / 7" reel	C7

Packaging Information & Mounting Pad Layout



SBA120CH-AU / SBA130CH-AU / SBA140CH-AU

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panjit:](#)

[SBA130CH-AU_R1_000A1](#)