SBA120CH SERIES

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage	20-40 V	Current	1 A

Features

- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Ultra thin profile package for space constrained utilization
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

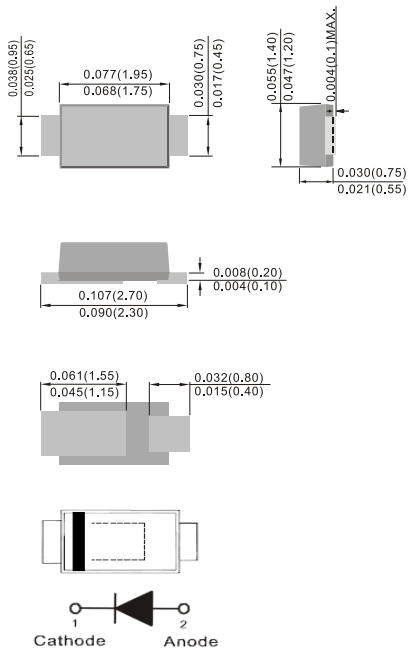
Applications

- 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 **Unit: inch(mm)**



Maximum Ratings (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	SBA120CH	SBA130CH	SBA140CH	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)	$R_{\theta JC}$	50			°C/W
	(Note 2)	$R_{\theta JA}$	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		SBA130CH		SBA140CH		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	I_F = 10mA	T_J =25 °C	0.22	-	0.22	-	0.23	-	V
		I_F = 0.5A		0.35	-	0.36	-	0.39	-	
		I_F = 1A		-	0.45	-	0.47	-	0.51	
		I_F = 10mA	T_J =125 °C	0.09	-	0.1	-	0.1	-	V
		I_F = 0.5A		0.27	-	0.3	-	0.33	-	
Reverse current (Note 3)	I_R	V_R = 10V	T_J=25°C	7.5	-	5.9	-	3.6	-	μA
		V_R = 20V		-	100	10	-	4.2	-	
		V_R = 30V		-	-	-	100	6.1	-	
		V_R = 40V		-	-	-	-	-	100	
		V_R = 20V	T_J =125 °C	3.2	-	2.2	-	1.2	-	mA
		V_R = 30V		-	-	3.9	-	1.7	-	
		V_R = 40V		-	-	-	-	2.3	-	

Note : 1. Mounted on a FR4 PCB, single-sided copper, with 100cm^2 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

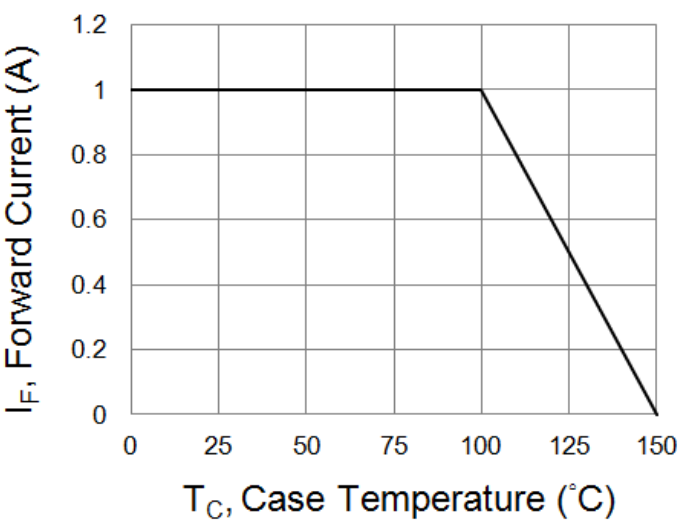

Fig.1 Forward Current Derating Curve

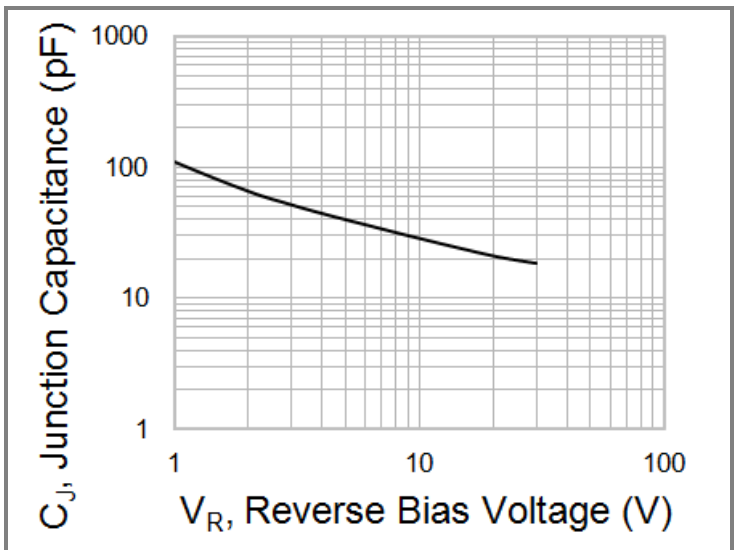

Fig. 2 Typical Junction Capacitance

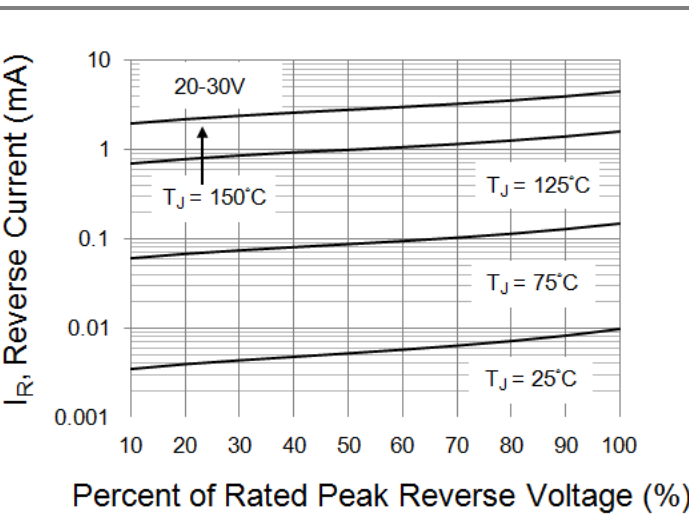

Fig.3 Typical Reverse Characteristics

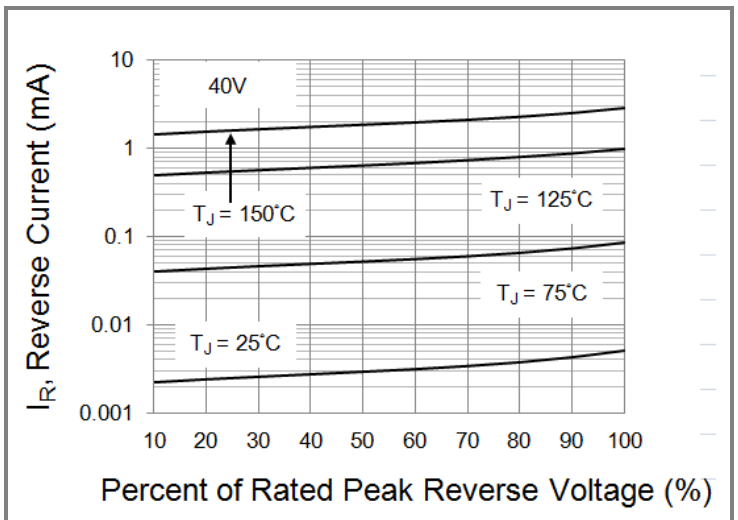

Fig.4 Typical Reverse Characteristics

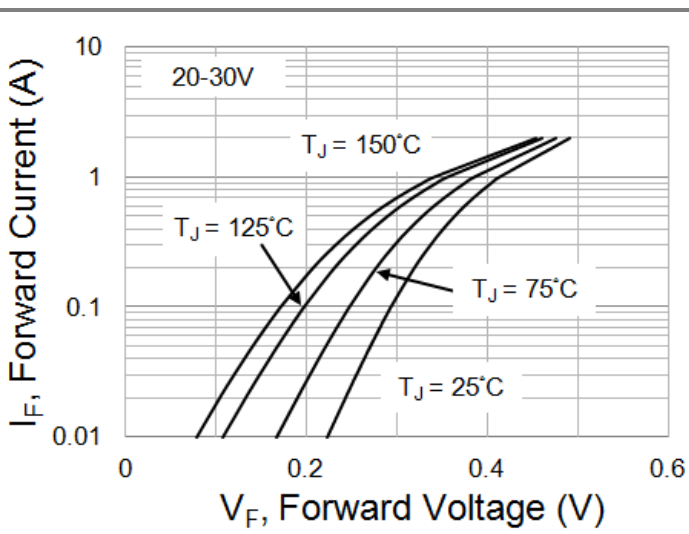

Fig.5 Typical Forward Characteristics

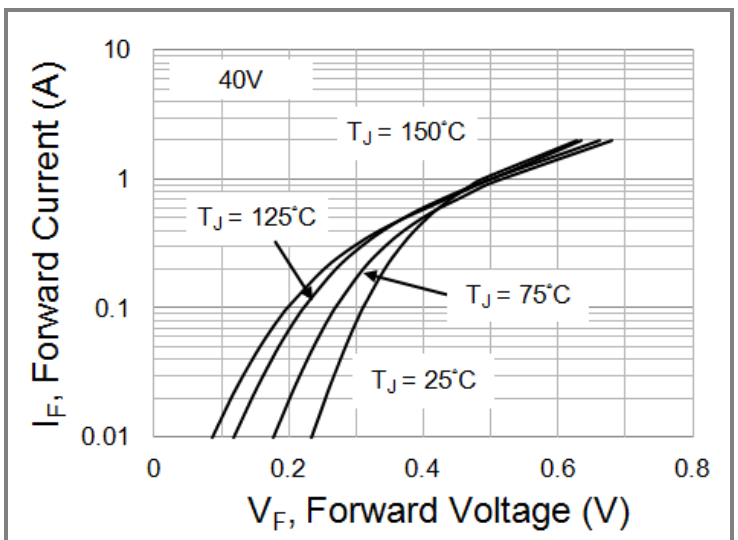

Fig.6 Typical Forward Characteristics

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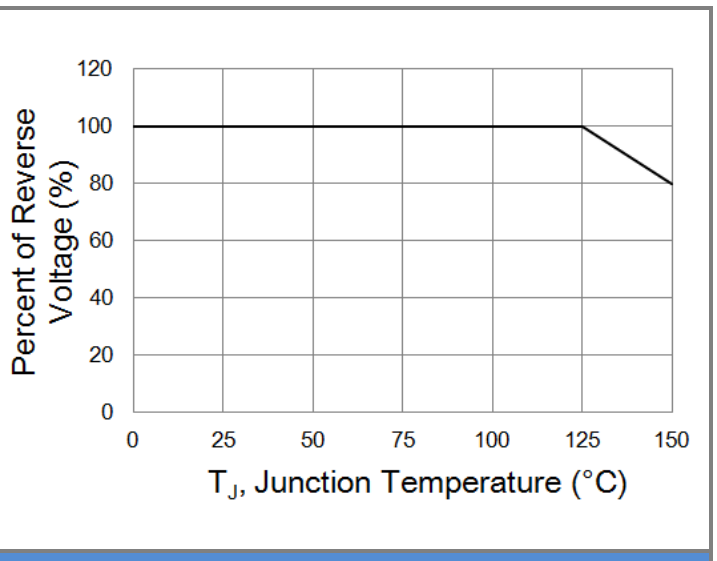


Fig.7 Operating Temperature Derating Curve

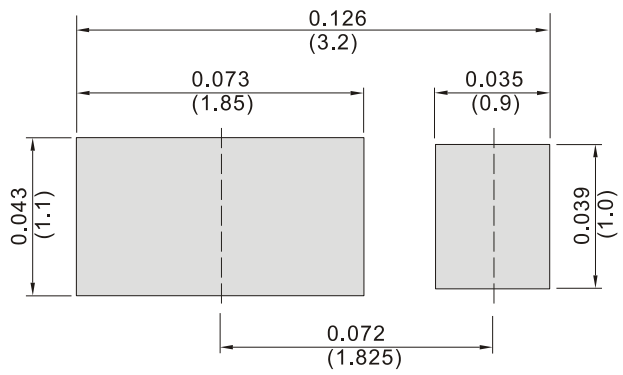
SBA120CH SERIES

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA120CH_R1_00001	SOD-323HE	5K pcs / 7” reel	B7	Halogen free
SBA120CH_R2_00001	SOD-323HE	12K pcs / 13” reel	B7	Halogen free
SBA130CH_R1_00001	SOD-323HE	5K pcs / 7” reel	A7	Halogen free
SBA130CH_R2_00001	SOD-323HE	12K pcs / 13” reel	A7	Halogen free
SBA140CH_R1_00001	SOD-323HE	5K pcs / 7” reel	C7	Halogen free
SBA140CH_R2_00001	SOD-323HE	12K pcs / 13” reel	C7	Halogen free

Mounting Pad Layout

SOD-323HE Unit : inch(mm)



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