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)

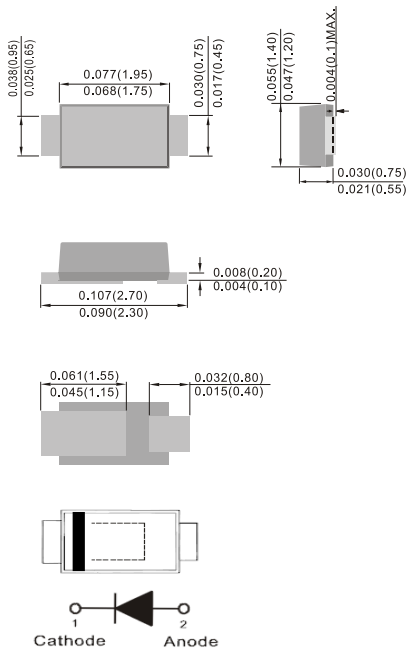
Applications

- 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.

SBA120CH SERIES

TYPICAL CHARACTERISTIC CURVES

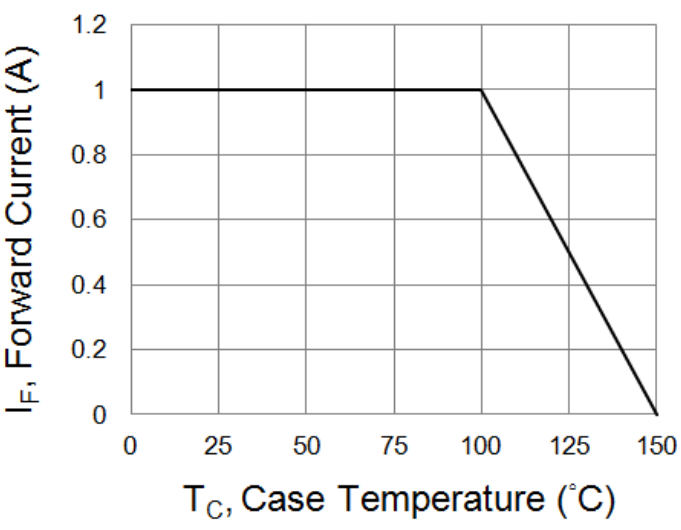


Fig.1 Forward Current Derating Curve

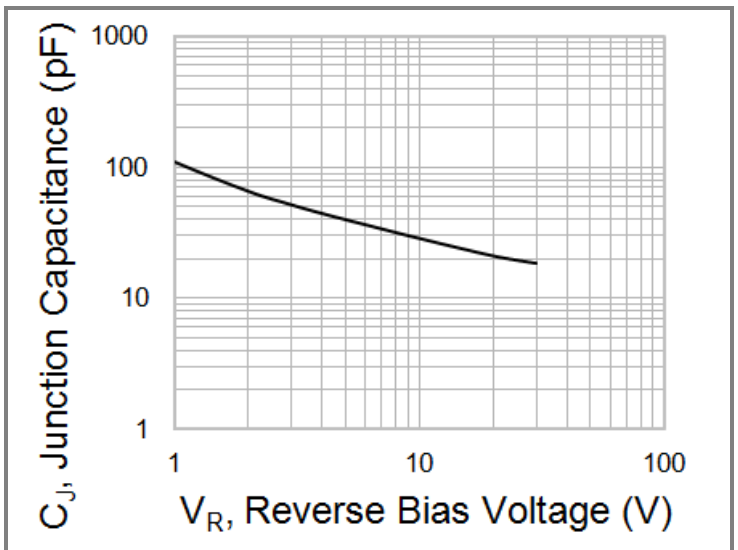


Fig. 2 Typical Junction Capacitance

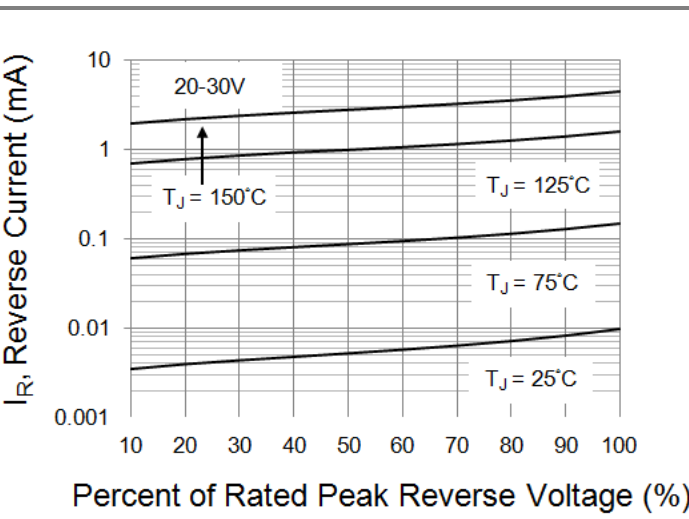


Fig.3 Typical Reverse Characteristics

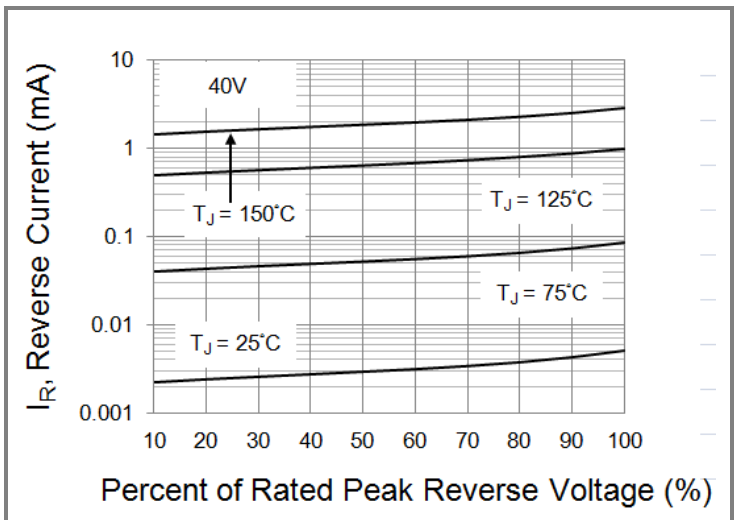


Fig.4 Typical Reverse Characteristics

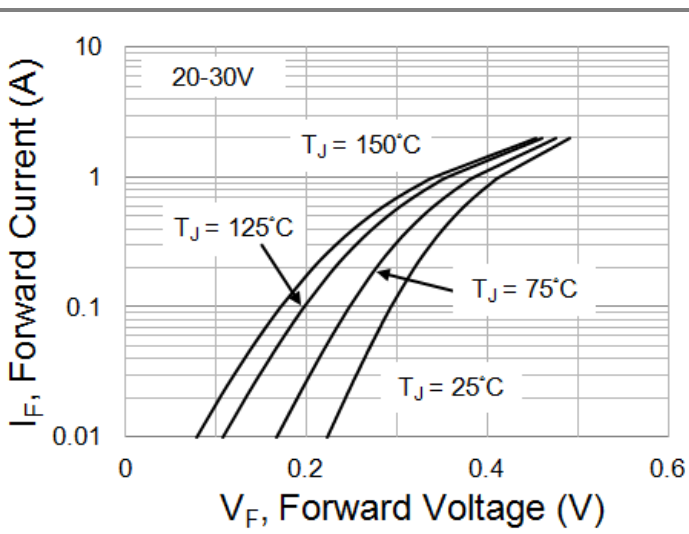


Fig.5 Typical Forward Characteristics

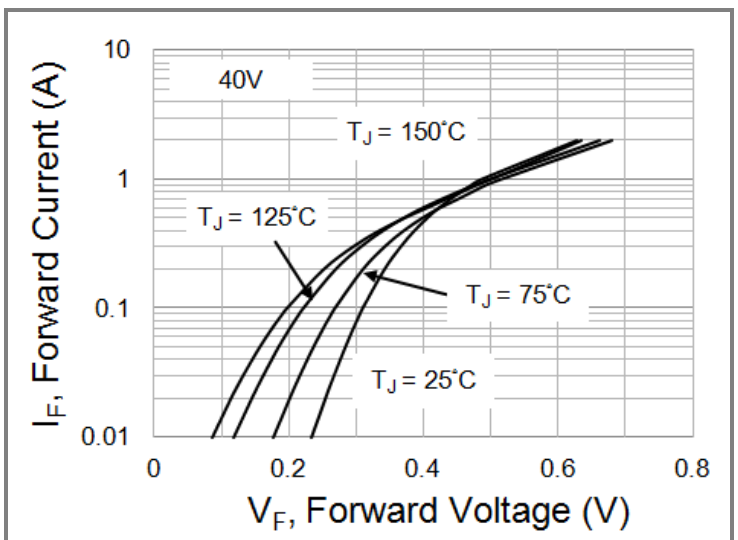


Fig.6 Typical Forward Characteristics

SBA120CH SERIES

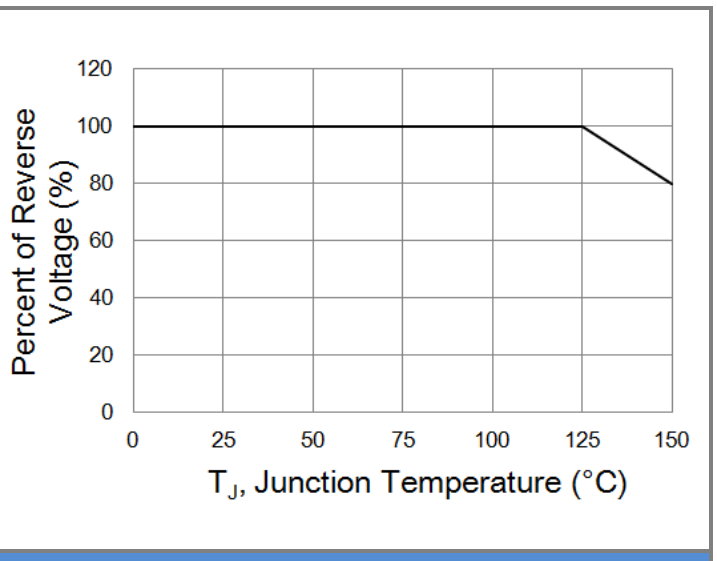


Fig.7 Operating Temperature Derating Curve

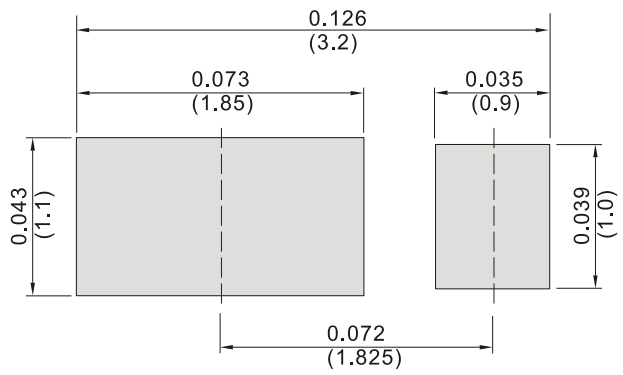
SBA120CH SERIES

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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