SBA0520Q / SBA0530Q / SBA0540Q

EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage	20-40 V	Current	0.5 A

Features

- Ultra low forward voltage, Low Power loss
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

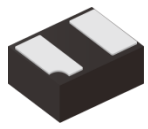
Applications

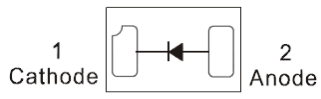
- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

Mechanical Data

- Case: DFN 2L, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00004 ounces, 0.0011 grams

DFN 2L





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

PARAMETER	SYMBOL	SBA0520Q	SBA0530Q	SBA0540Q	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	$I_{F(AV)}$	0.5			A
Peak forward surge current: 8.3ms single half sine-wave Superimposed on rated load	I_{FSM}	2			A
Typical thermal resistance	$R_{\theta JA}$ (1)	430			°C/W
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		SBA0520Q		SBA0530Q		SBA0540Q		UNIT
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward voltage	V_F	I_F = 10mA	T_J =25 °C	0.24	-	0.25	-	0.26	-	V
		I_F = 100mA		0.32	-	0.33	-	0.35	-	
		I_F = 500mA		-	0.48	-	0.52	-	0.6	
		I_F = 10mA	T_J =125 °C	0.13	-	0.13	-	0.15	-	V
		I_F = 100mA		0.23	-	0.24	-	0.29	-	
Reverse current	I_R (2)	V_R = 10V	T_J=25°C	4.6	-	4	-	1.3	-	μA
		V_R = 20V		-	100	9	-	1.9	-	
		V_R = 30V		-	-	-	100	3.1	-	
		V_R = 40V		-	-	-	-	-	50	
		V_R = 20V	T_J =125 °C	1.7	-	1.4	-	0.5	-	mA
		V_R = 30V		-	-	3.5	-	0.8	-	
		V_R = 40V		-	-	-	-	1.3	-	

Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

2. Short duration pulse test used to minimize self-heating effect.

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TYPICAL CHARACTERISTIC CURVES

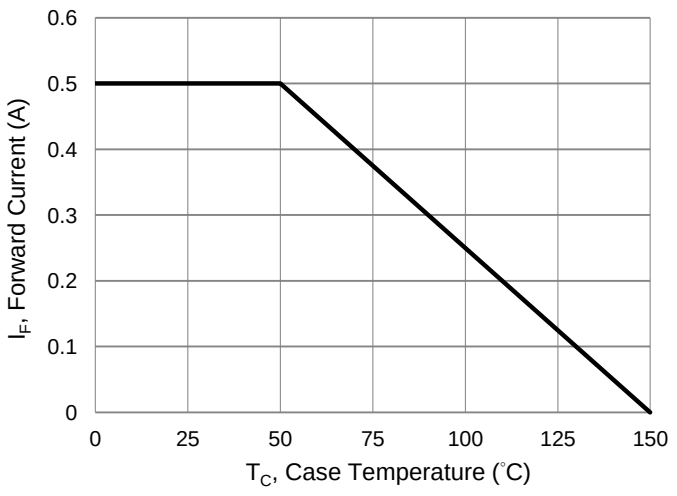

Fig.1 Forward Current Derating Curve

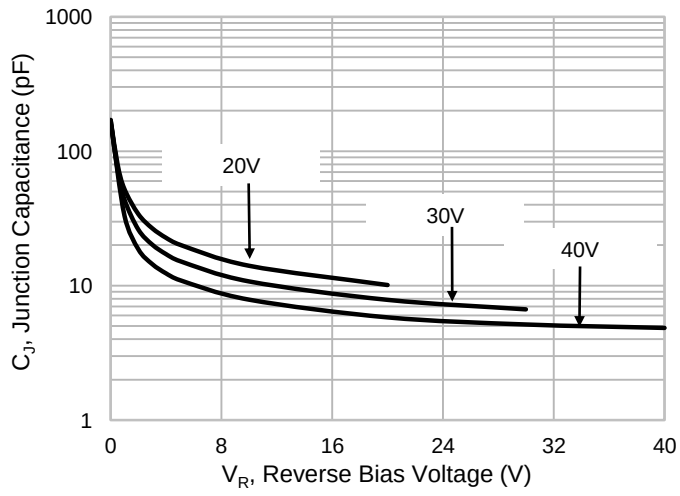

Fig. 2 Typical Junction Capacitance

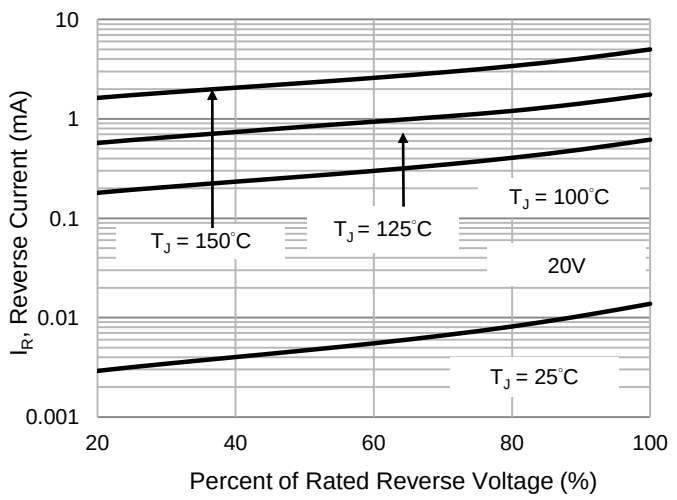

Fig.3 Typical Reverse Characteristics

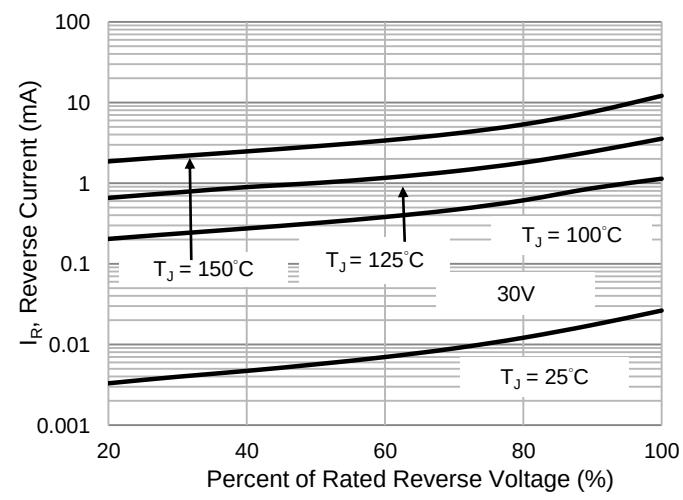

Fig.4 Typical Reverse Characteristics

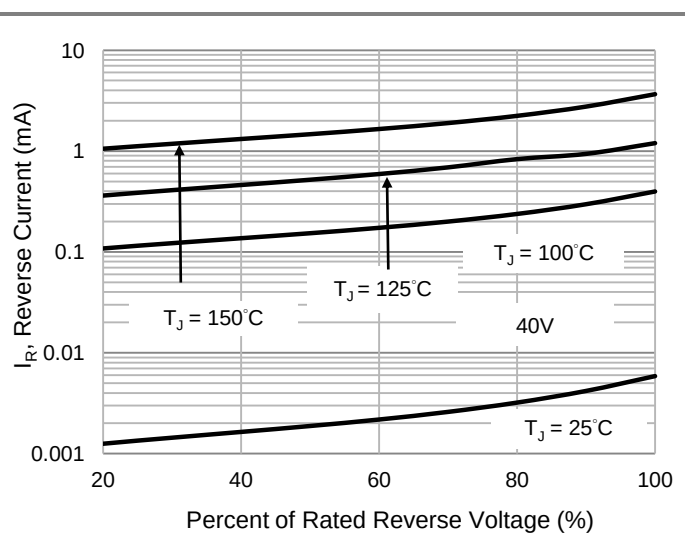

Fig.5 Typical Reverse Characteristics

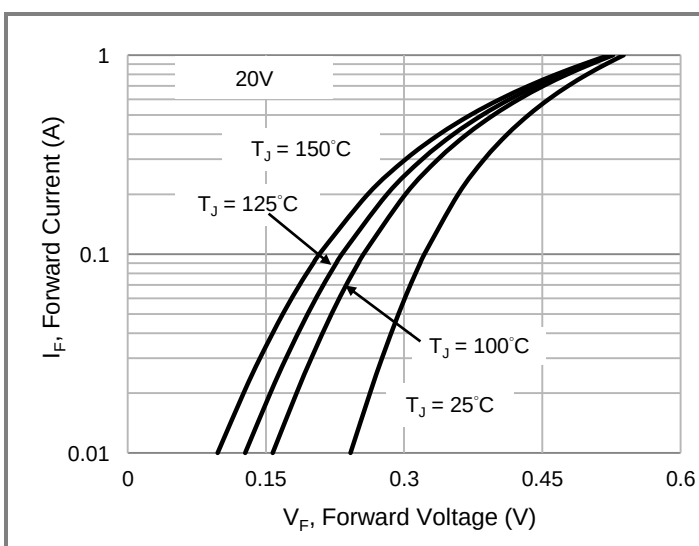

Fig.6 Typical Forward Characteristics

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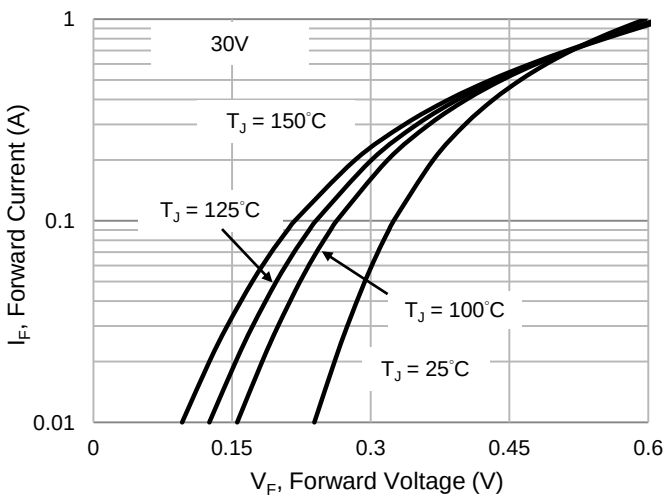

Fig.7 Typical Forward Characteristics

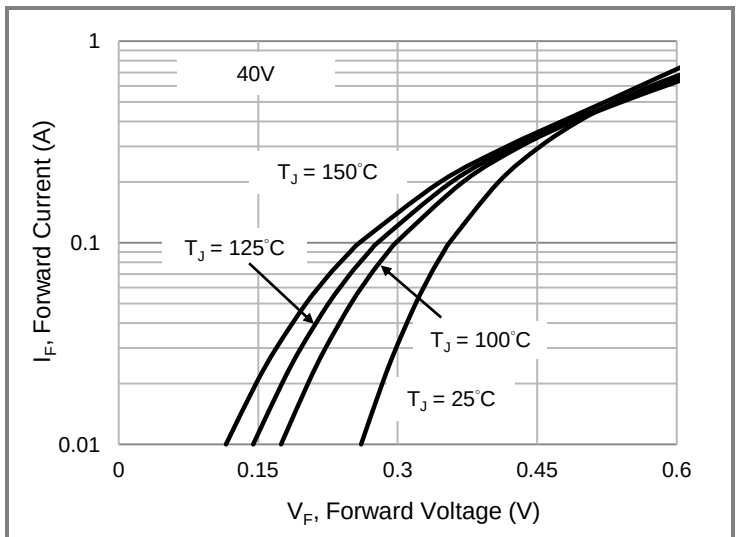

Fig.8 Typical Forward Characteristics

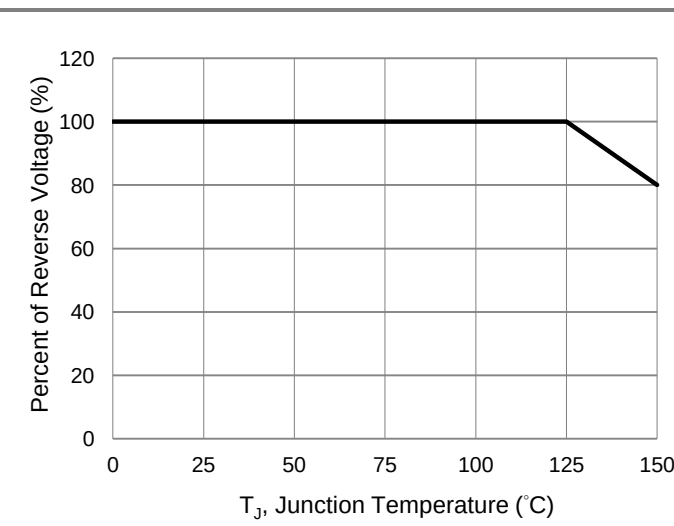

Fig.9 Operating Temperature Derating Curve

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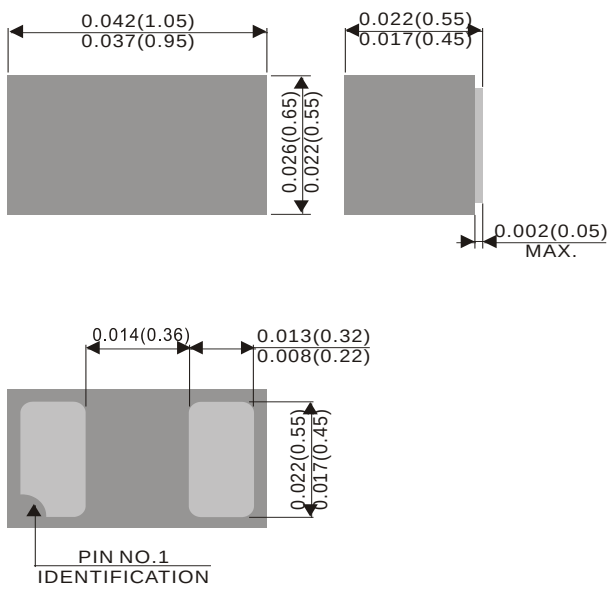
Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA0520Q_R1_00001	DFN 2L	8K / 7" Reel	A7	Halogen free
SBA0530Q_R1_00001	DFN 2L	8K / 7" Reel	E7	Halogen free
SBA0540Q_R1_00001	DFN 2L	8K / 7" Reel	C7	Halogen free

Packaging Information & Mounting Pad Layout

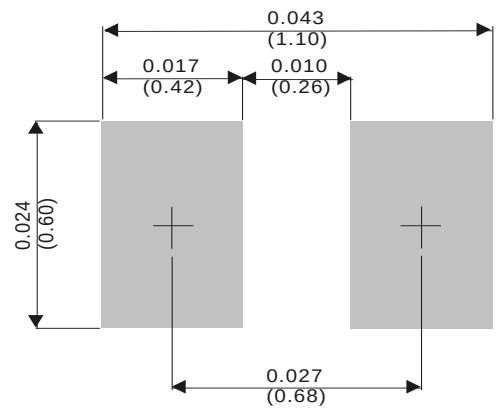
DFN 2L Dimension

Unit: inch(mm)



DFN 2L Pad Layout

Unit: inch(mm)



SBA0520Q / SBA0530Q / SBA0540Q

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