SBA0520Q-AU / SBA0530Q-AU / SBA0540Q-AU

Surface Mount Extreme Low V_F Schottky Rectifier

Voltage 20-40 V **Current** 0.5 A

Features

- Ultra low forward voltage, low power loss
- Surface mount package
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

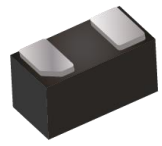
Applications

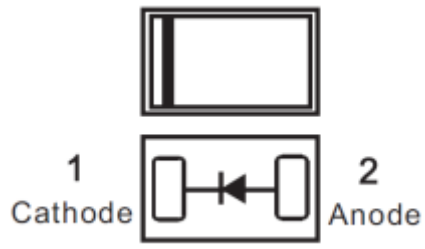
- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

Mechanical Data

- Case : DFN1006-2L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0006 grams

DFN1006-2L





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

PARAMETER	SYMBOL	SBA0520Q-AU	SBA0530Q-AU	SBA0540Q-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	$I_{F(AV)}$	0.5			A
Peak forward surge current : 8.3ms single half sine-wave Superimposed on rated load	I_{FSM}	2			A
Typical thermal resistance(Note 1)	$R_{\theta JA}$	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-AU		SBA0530Q-AU		SBA0540Q-AU		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(Note 2)	I_R	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	-	

NOTES : 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

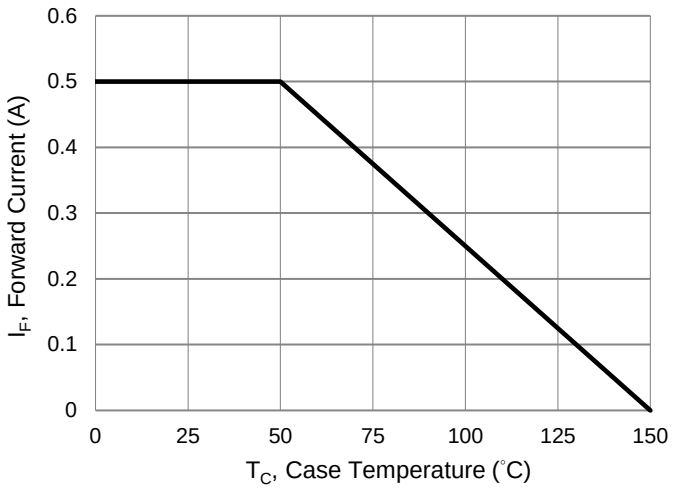

Fig.1 Forward Current Derating Curve

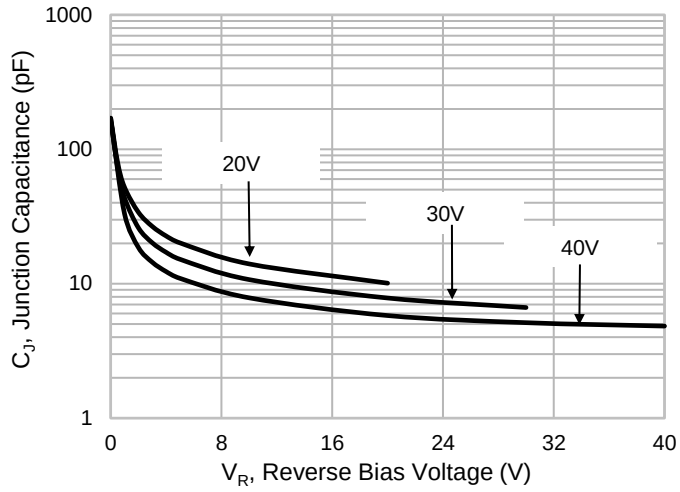

Fig. 2 Typical Junction Capacitance

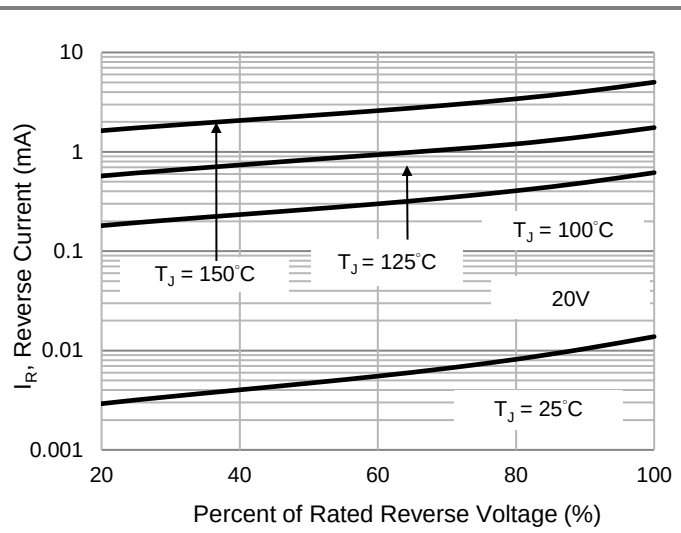

Fig.3 Typical Reverse Characteristics

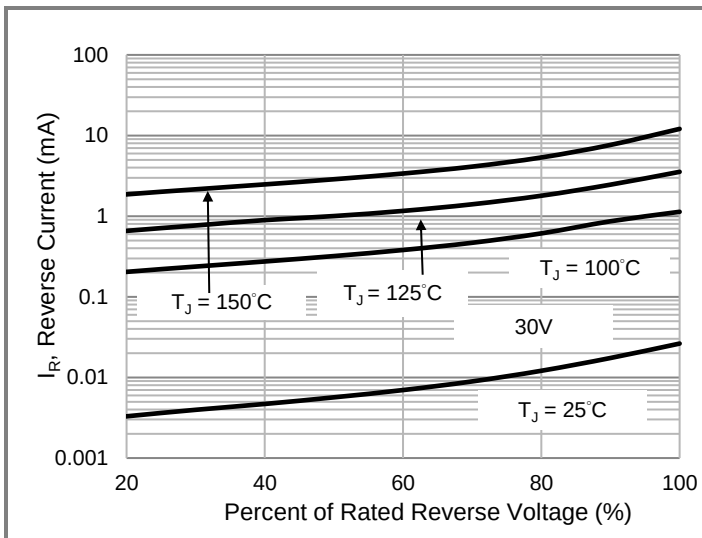

Fig.4 Typical Reverse Characteristics

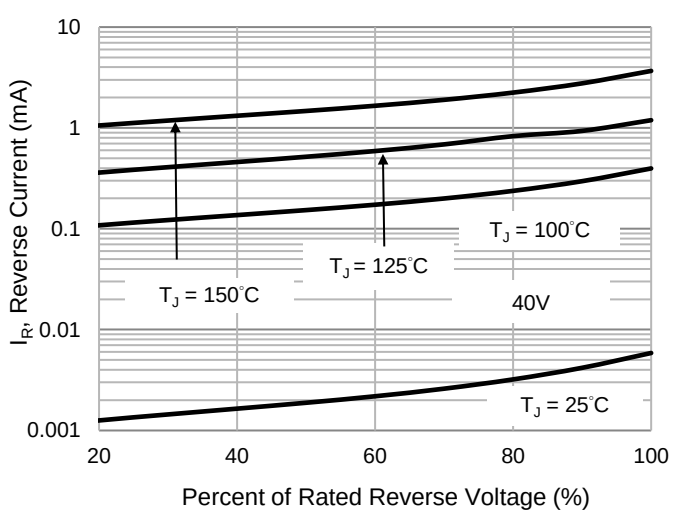

Fig.5 Typical Reverse Characteristics

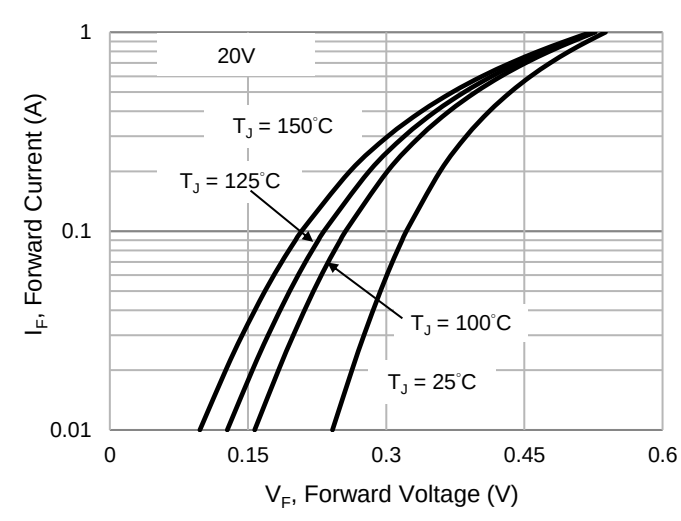

Fig.6 Typical Forward Characteristics

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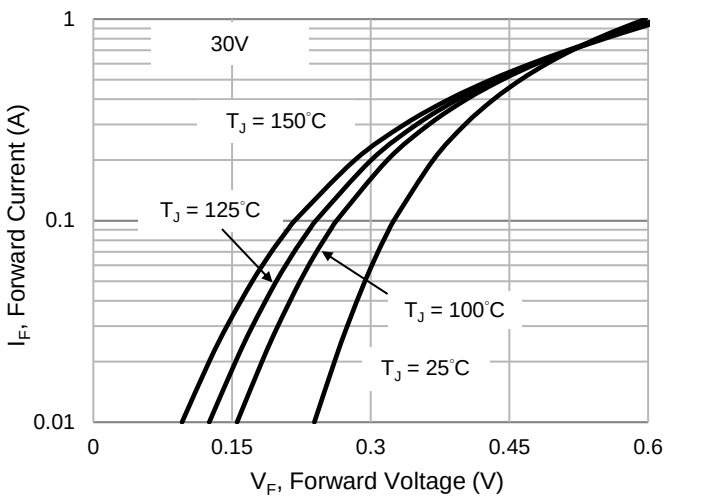

Fig.7 Typical Forward Characteristics

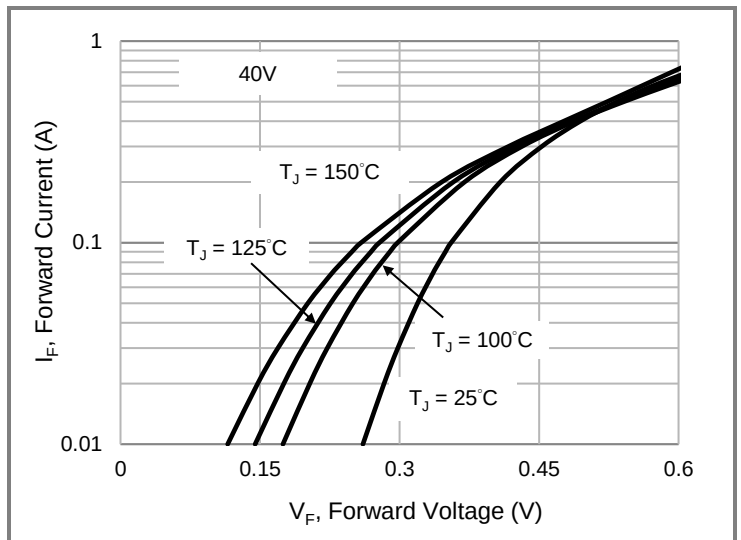

Fig.8 Typical Forward Characteristics

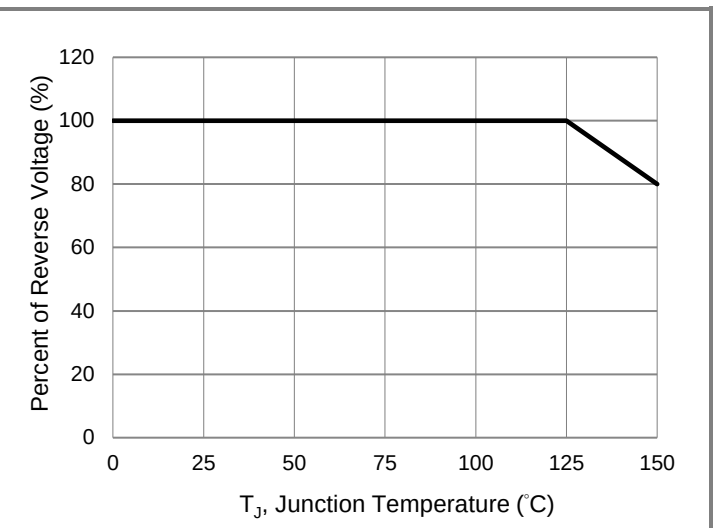

Fig.9 Operating Temperature Derating Curve

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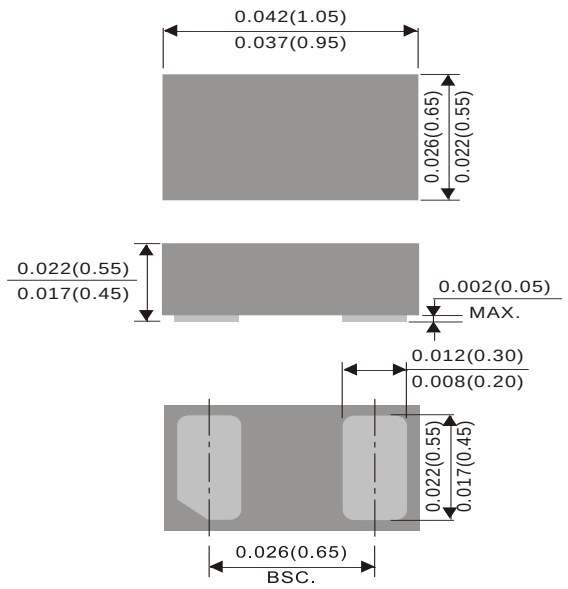
Product and Packing Information

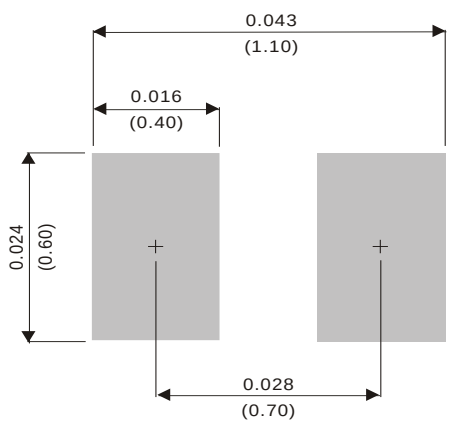
Part No.	Package Type	Packing Type	Marking
SBA0520Q-AU	DFN1006-2L	10K pcs / 7" reel	A7
SBA0530Q-AU	DFN1006-2L	10K pcs / 7" reel	E7
SBA0540Q-AU	DFN1006-2L	10K pcs / 7" reel	C7

Packaging Information & Mounting Pad Layout

DFN1006-2L Dimension — Unit: inch(mm)



DFN1006-2L Pad Layout — Unit: inch(mm)



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