



# SBA0520Q-AU / SBA0530Q-AU / SBA0540Q-AU

## EXTREME LOW VF SCHOTTKY RECTIFIER

<b>Voltage</b>	<b>20-40 V</b>	<b>Current</b>	<b>0.5 A</b>
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### Features

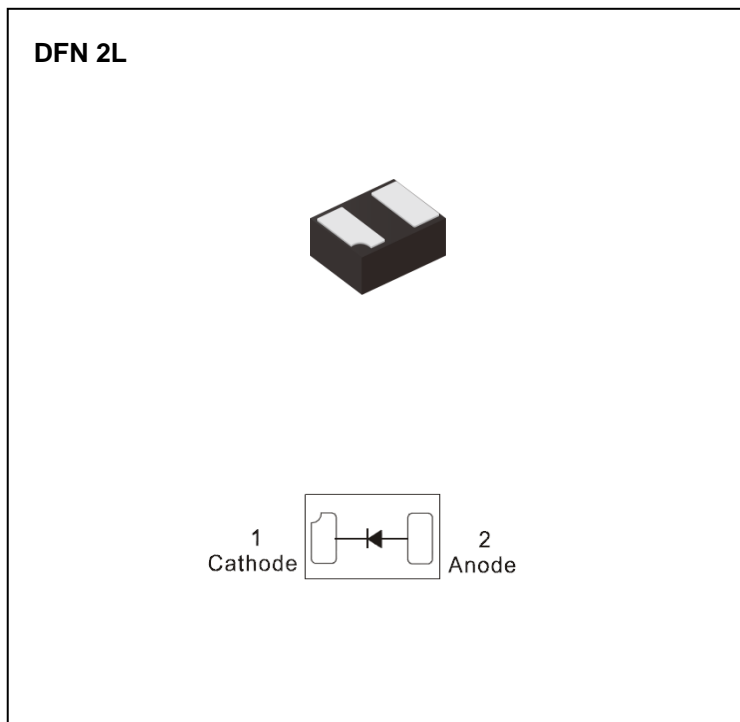
- Ultra low forward voltage, Low Power loss
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

### 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



### Maximum Ratings ( $T_A = 25^\circ\text{C}$ 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	$R_{\theta JA}^{(1)}$	430			$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150			$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150			$^\circ\text{C}$

### Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	SBA0520Q-AU		SBA0530Q-AU		SBA0540Q-AU		UNIT									
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.										
Forward voltage	$V_F$	$I_F = 10\text{mA}$	0.24	-	0.25	-	0.26	-	V									
		$I_F = 100\text{mA}$								0.32	-	0.33	-	0.35				
		$I_F = 500\text{mA}$													0.48	0.52	0.6	
		$T_J = 25^\circ\text{C}$																
Reverse current	$I_R^{(2)}$	$V_R = 10\text{V}$	1.7	-	1.4	-	0.5	-	$\mu\text{A}$									
		$V_R = 20\text{V}$								-	-	3.5	-	0.8				
		$V_R = 30\text{V}$													-	-	1.3	-
		$V_R = 40\text{V}$																
Reverse current	$I_R^{(2)}$	$V_R = 20\text{V}$	-	-	-	-	-	-	mA									
		$V_R = 30\text{V}$																
		$V_R = 40\text{V}$																

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

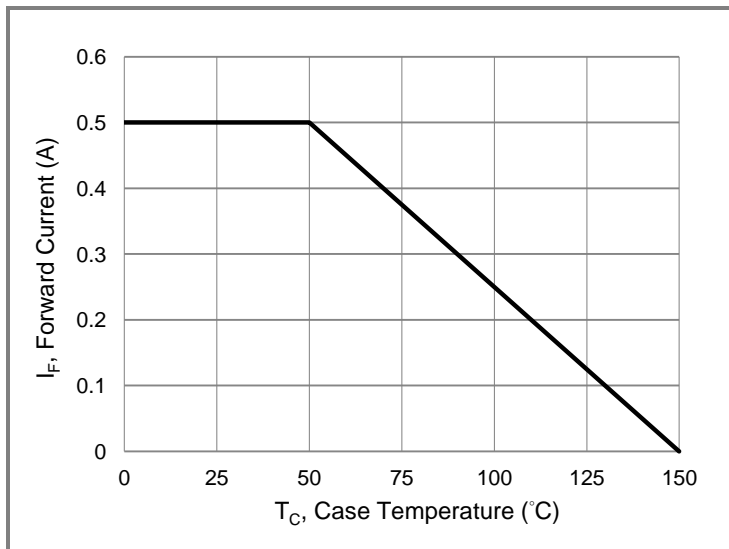


Fig.1 Forward Current Derating Curve

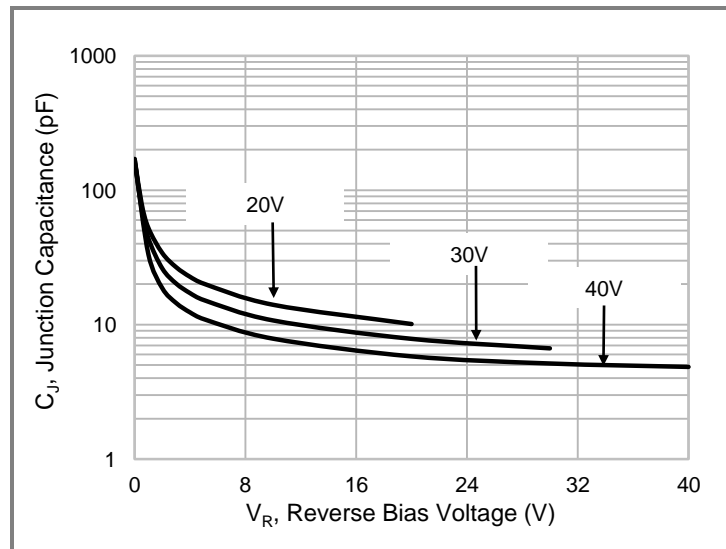


Fig. 2 Typical Junction Capacitance

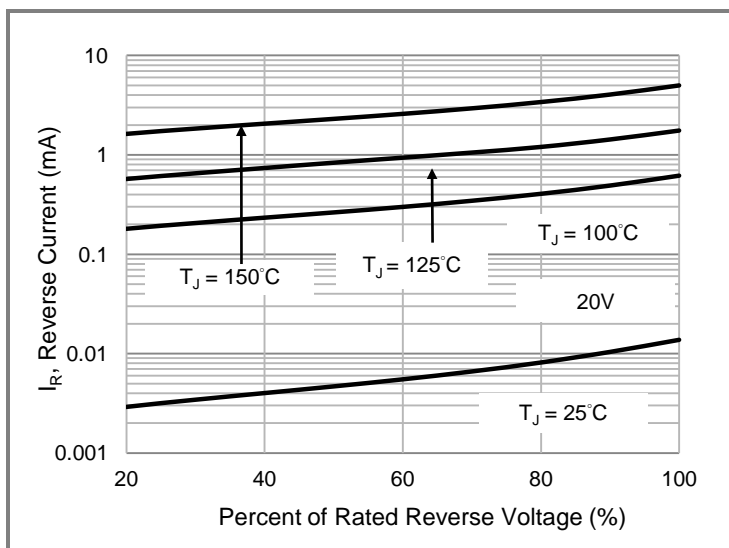


Fig.3 Typical Reverse Characteristics

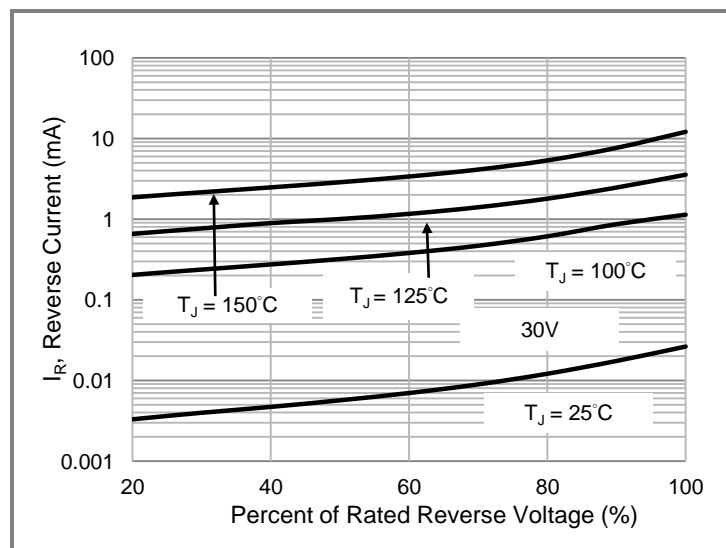


Fig.4 Typical Reverse Characteristics

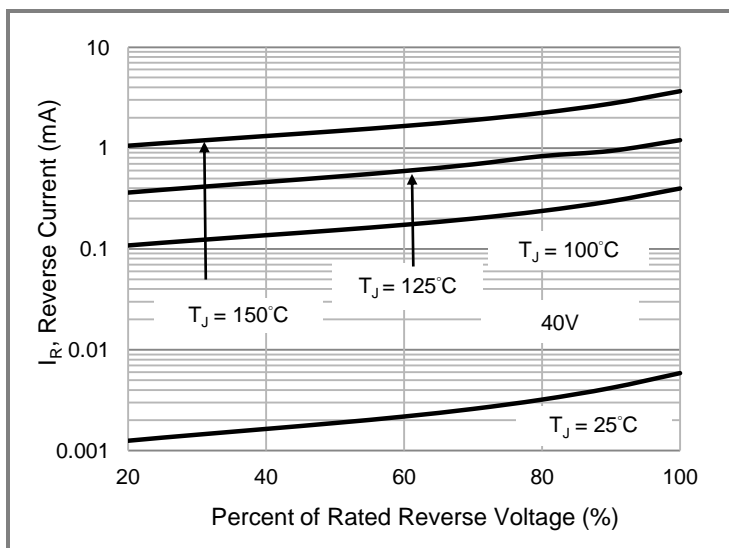


Fig.5 Typical Reverse Characteristics

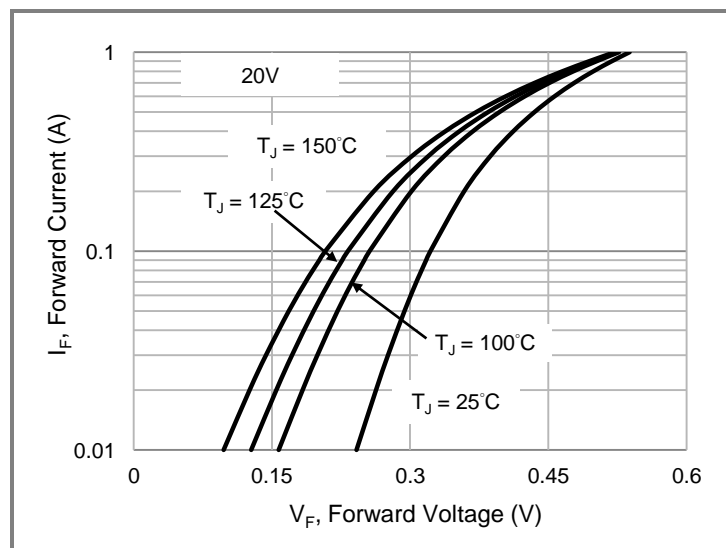
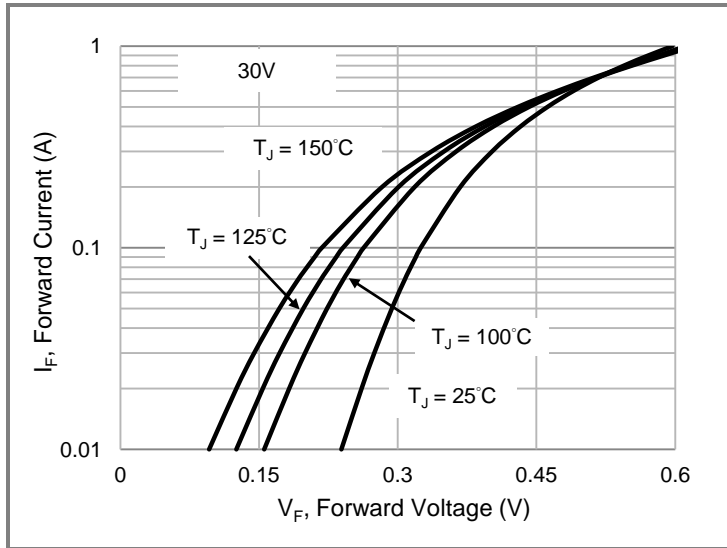


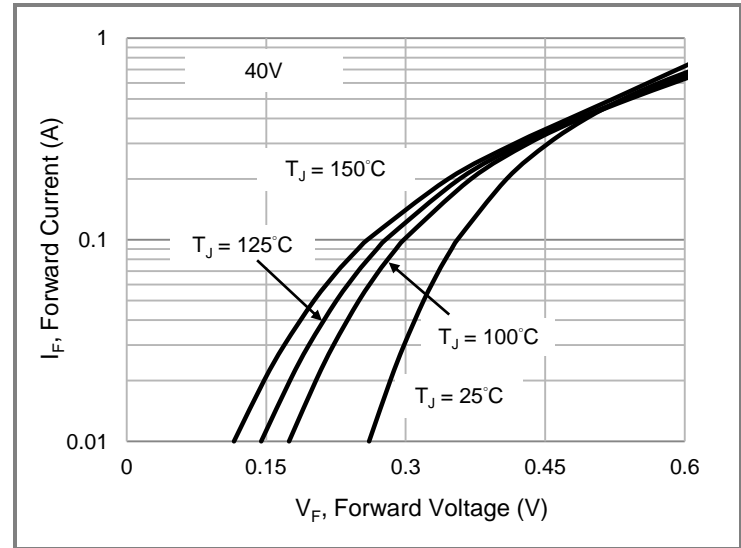
Fig.6 Typical Forward Characteristics



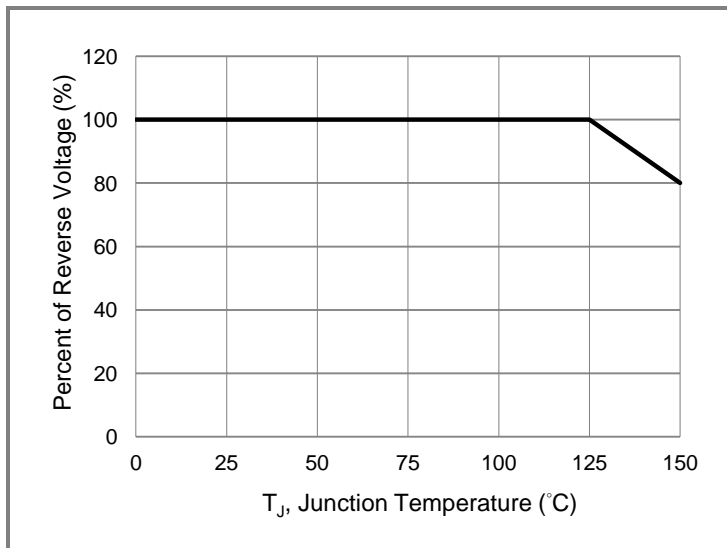
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**Fig.7 Typical Forward Characteristics**



**Fig.8 Typical Forward Characteristics**



**Fig.9 Operating Temperature Derating Curve**

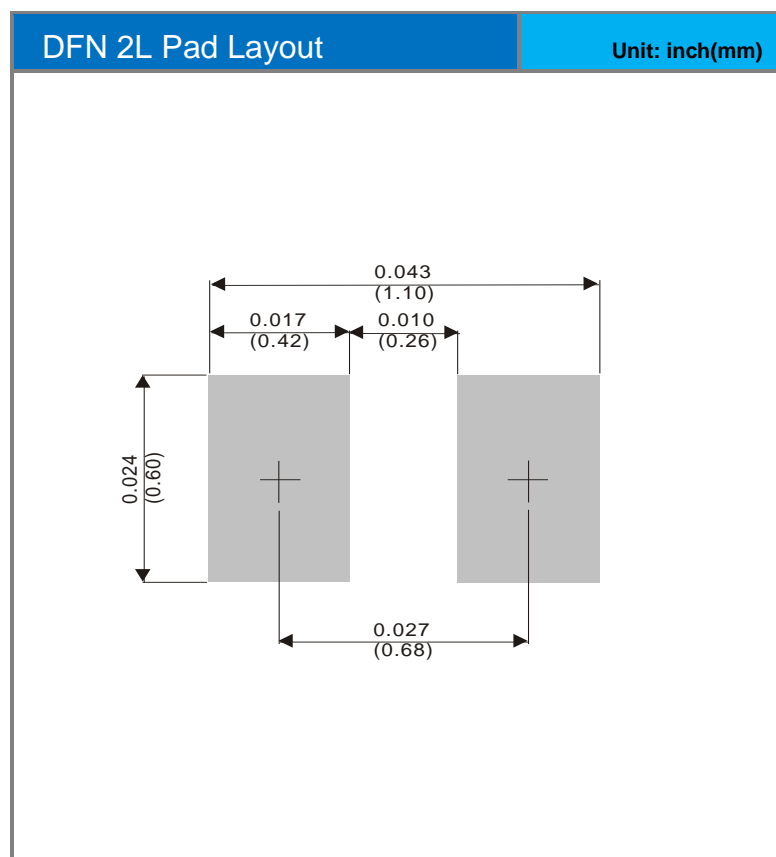
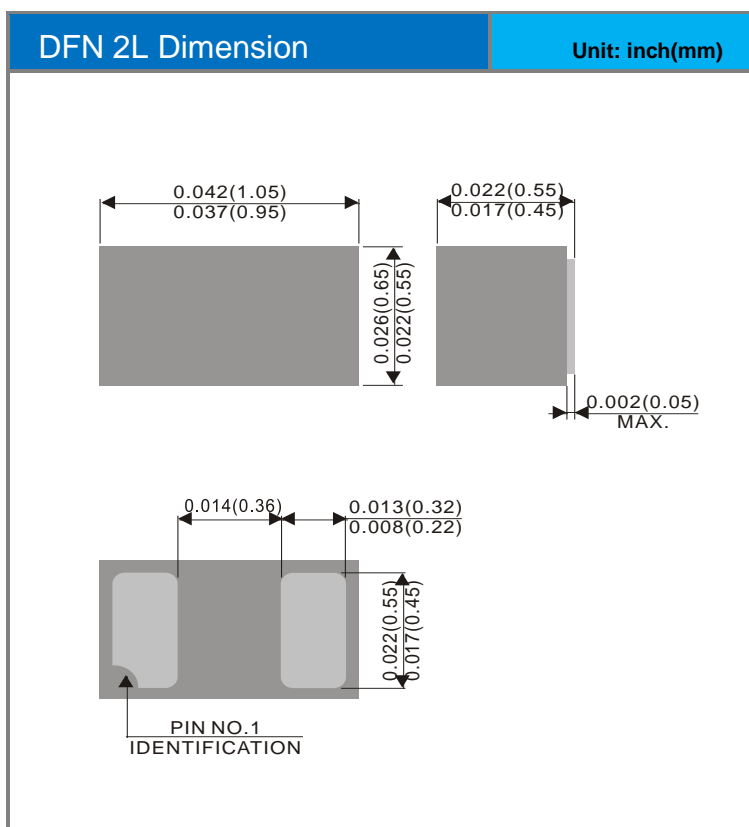


# SBA0520Q-AU / SBA0530Q-AU / SBA0540Q-AU

## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA0520Q-AU_R1_000A1	DFN 2L	8K / 7" Reel	A7	Halogen free
SBA0530Q-AU_R1_000A1	DFN 2L	8K / 7" Reel	E7	Halogen free
SBA0540Q-AU_R1_000A1	DFN 2L	8K / 7" Reel	C7	Halogen free

## Packaging Information & Mounting Pad Layout





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