



## SBA0520Q ~ SBA0540Q Series

### Extreme Low $V_F$ Schottky Rectifier

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

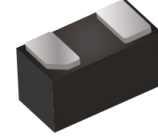
#### Features

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

#### Mechanical Data

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

DFN1006-2L



### Maximum Ratings ( $T_A = 25^\circ\text{C}$ 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 <sup>(Note 1)</sup>	$R_{\theta JA}$	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		SBA0530Q		SBA0540Q		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	
		$I_F = 10\text{mA}$	0.13	-	0.13	-	0.15	-	V
$I_F = 100\text{mA}$	0.23	-	0.24	-	0.29	-			
Reverse Current <sup>(Note 2)</sup>	$I_R$	$V_R = 10\text{V}$	4.6	-	4	-	1.3	-	$\mu\text{A}$
		$V_R = 20\text{V}$	-	100	9	-	1.9	-	
		$V_R = 30\text{V}$	-	-	-	100	3.1	-	
		$V_R = 40\text{V}$	-	-	-	-	-	50	
		$V_R = 20\text{V}$	1.7	-	1.4	-	0.5	-	mA
$V_R = 30\text{V}$	-	-	3.5	-	0.8	-			
$V_R = 40\text{V}$	-	-	-	-	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

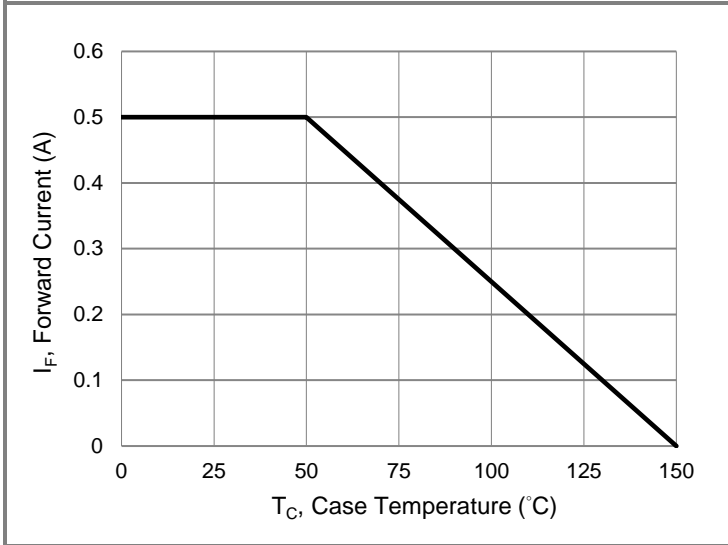


Fig.1 Forward Current Derating Curve

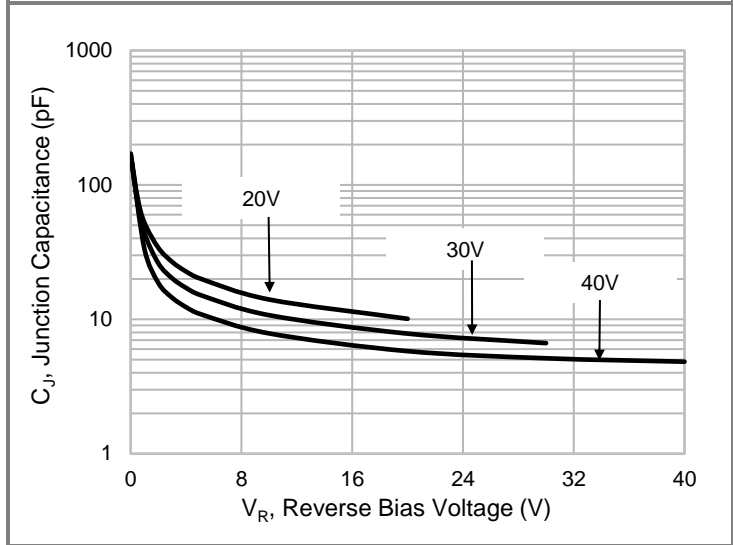


Fig. 2 Typical Junction Capacitance

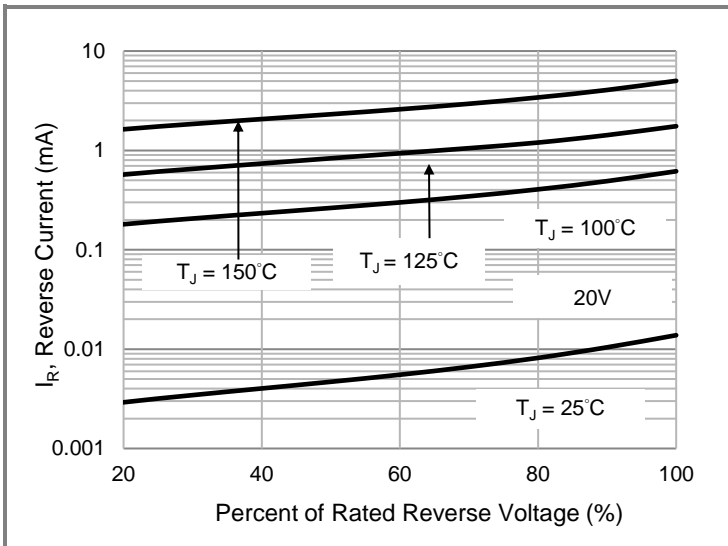


Fig.3 Typical Reverse Characteristics

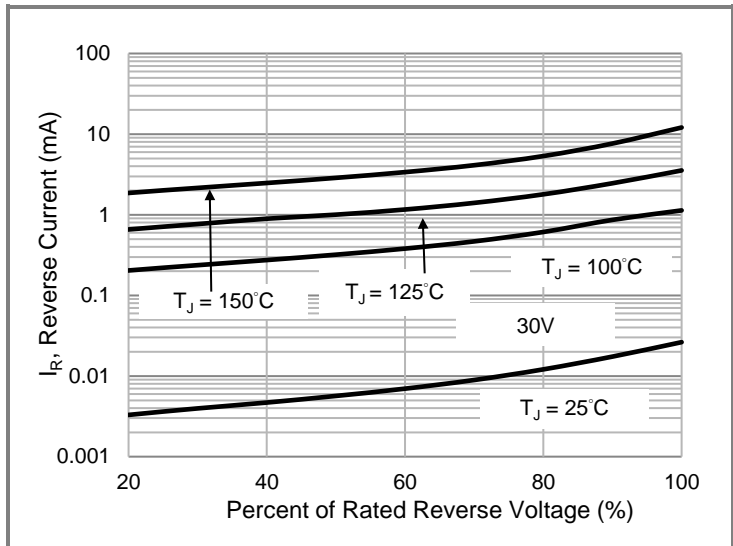


Fig.4 Typical Reverse Characteristics

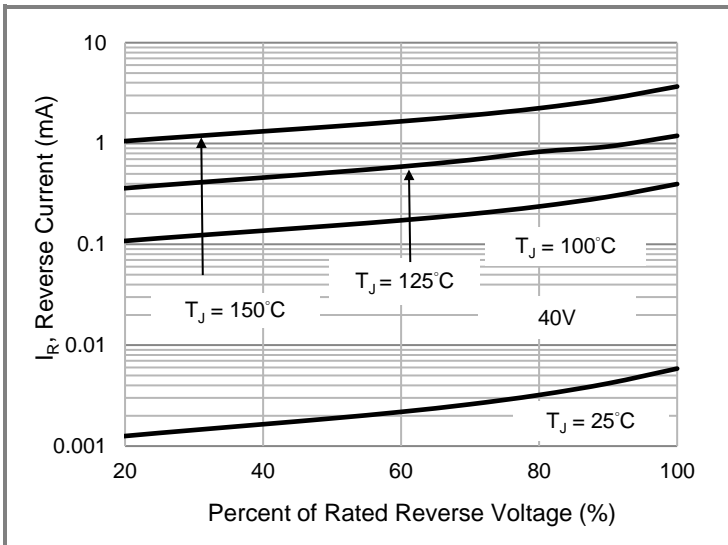


Fig.5 Typical Reverse Characteristics

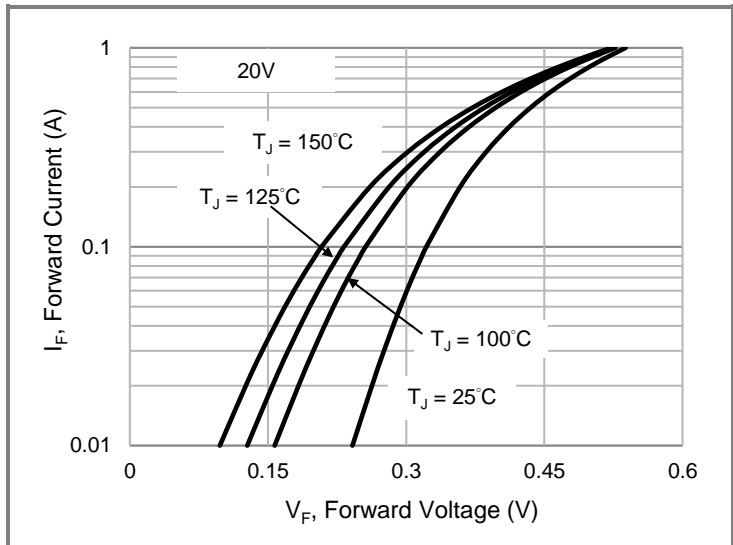


Fig.6 Typical Forward Characteristics



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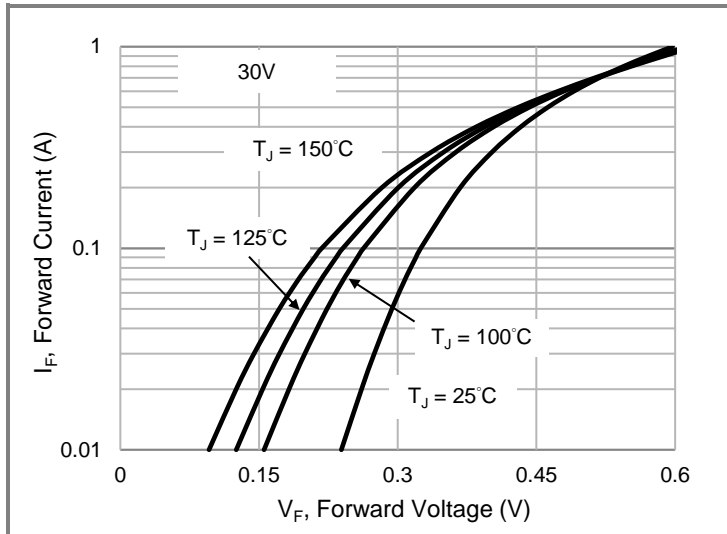


Fig.7 Typical Forward Characteristics

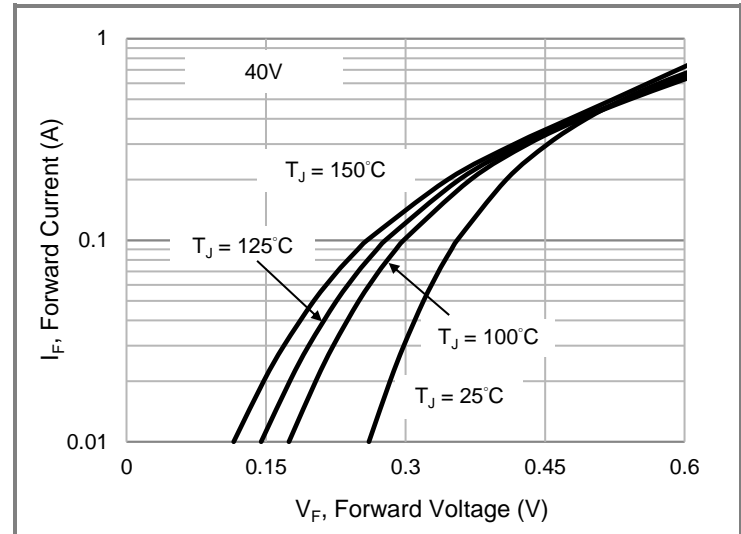


Fig.8 Typical Forward Characteristics

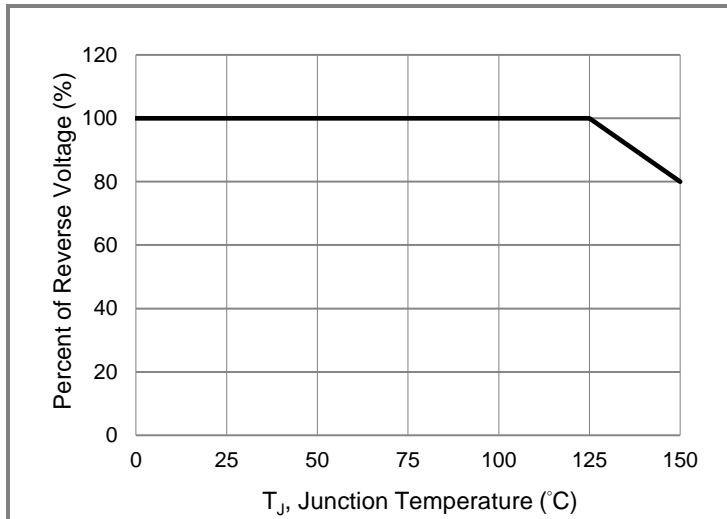


Fig.9 Operating Temperature Derating Curve

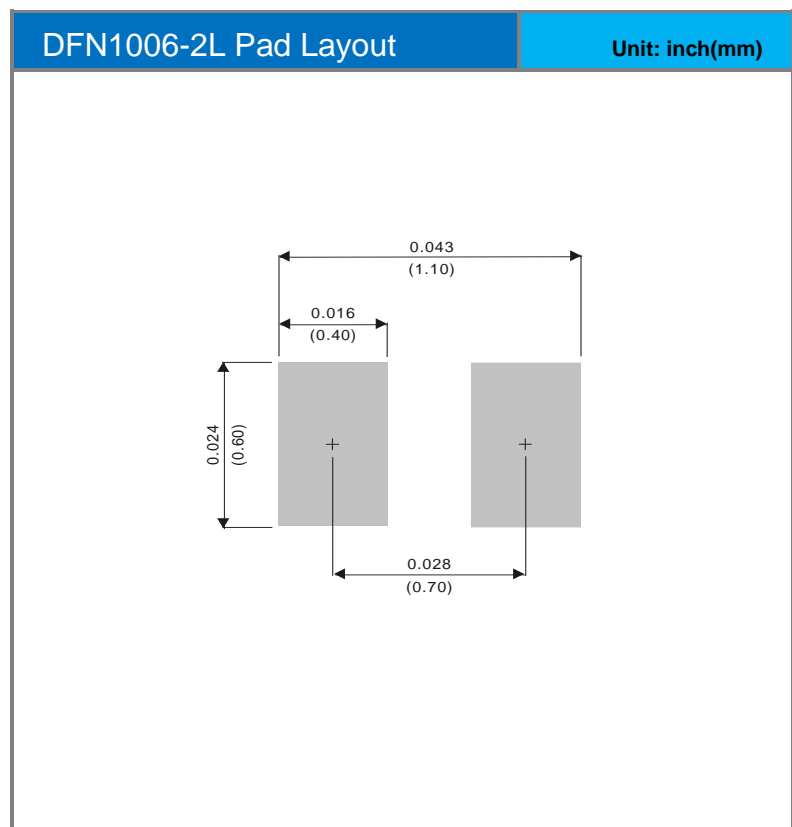
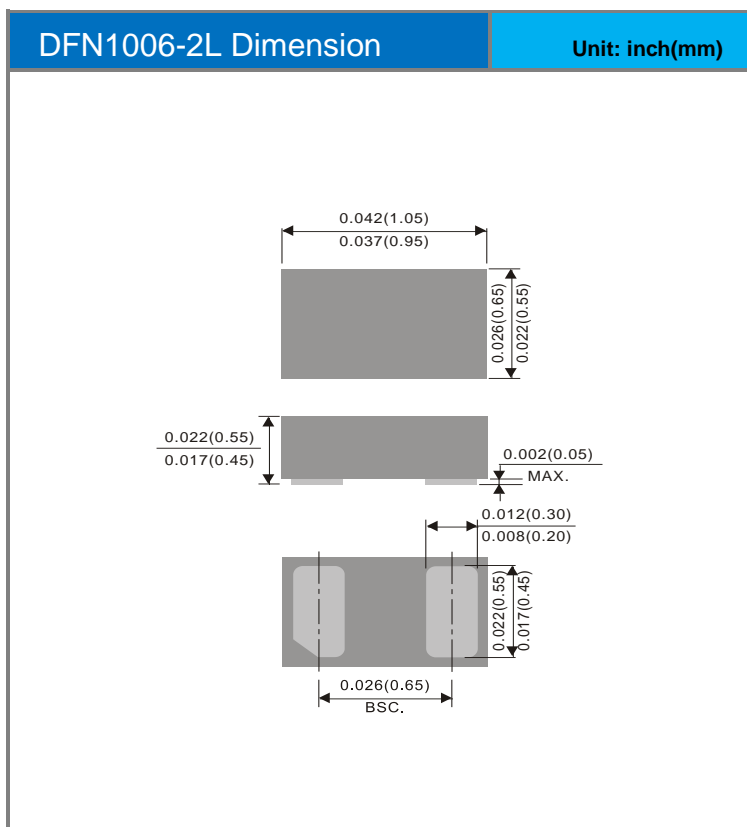


## SBA0520Q ~ SBA0540Q Series

### Product and Packing Information

Part No.	Package Type	Packing Type	Marking	Version
SBA0520Q	DFN1006-2L	10K pcs / 7" Reel	A7	Halogen free RoHS compliant
SBA0530Q	DFN1006-2L	10K pcs / 7" Reel	E7	Halogen free RoHS compliant
SBA0540Q	DFN1006-2L	10K pcs / 7" Reel	C7	Halogen free RoHS compliant

### Packaging Information & Mounting Pad Layout





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