



EXTREME LOW VF SCHOTTKY RECTIFIER

Voltage

20-40 V

Current

0.5 A

Features

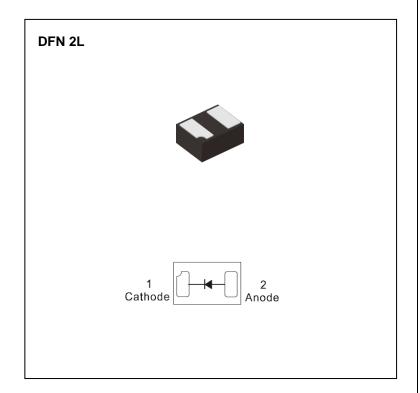
- Ultra low forward voltage, Low Power loss
- Surface mount package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

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



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				
Peak forward surge current: 8.3ms single half sinewave Superimposed on rated load	I _{FSM}	2				
Typical thermal resistance	R _{eJA} ⁽¹⁾	430				
Operating junction temperature range	TJ	-55 to +150				
Storage temperature range	T _{STG}	-55 to +150				

Electrical Characteristics

DADAMETED	SYMBOL	TEST CONDITION		SBA0520Q		SBA0530Q		SBA0540Q		шит
PARAMETER				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	UNIT
Forward voltage	I _I	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	-	
		V _R = 10V		4.6	-	4	-	1.3	-	
Reverse current	$I_{R}^{(2)} \qquad V_{R} = V_{R} $	V _R = 20V	T _J =25°C	-	100	9	-	1.9	-	μА
		$V_{R} = 30V$		-	-	-	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	-	

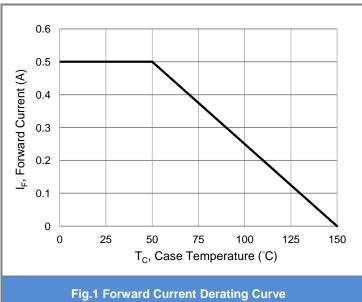
Note: 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

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





TYPICAL CHARACTERISTIC CURVES



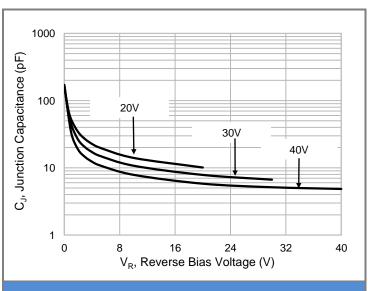


Fig. 2 Typical Junction Capacitance

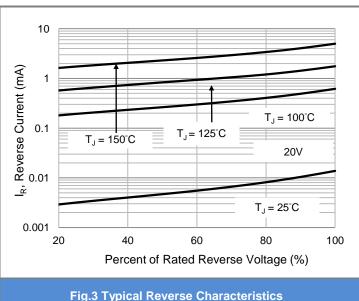
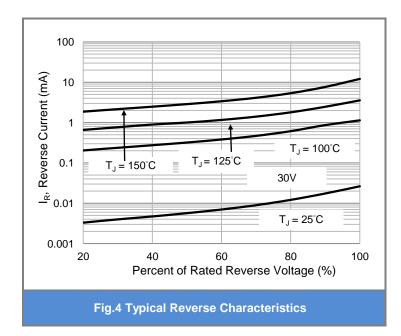
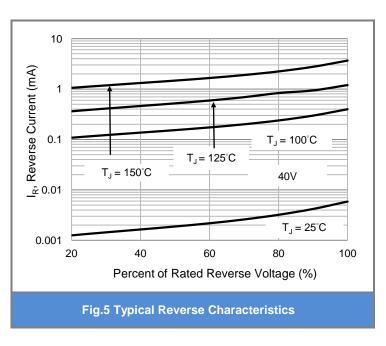
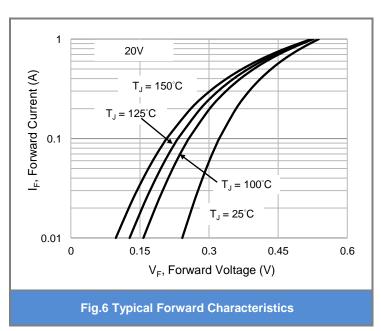


Fig.3 Typical Reverse Characteristics

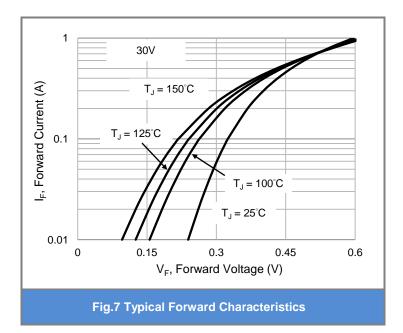


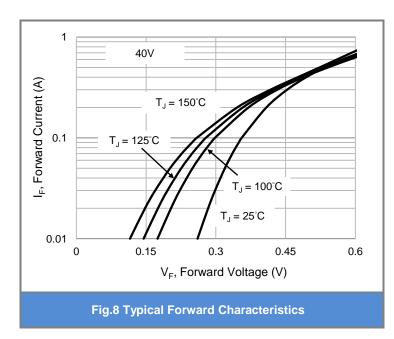


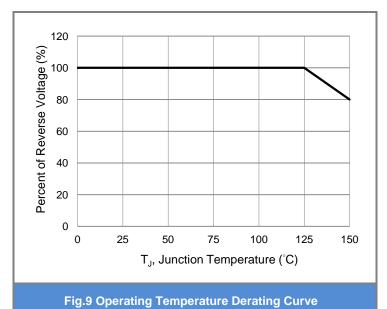












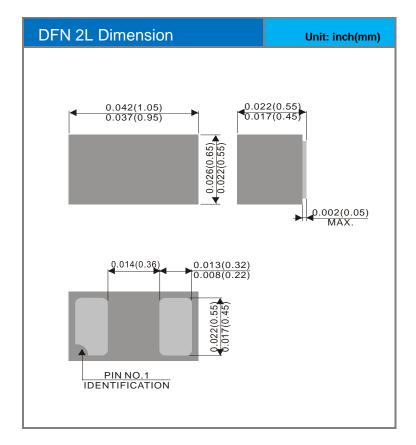


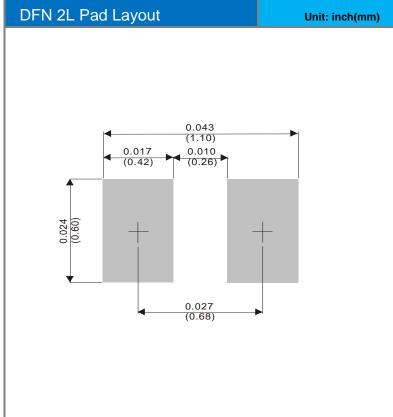


Part No Packing Code Version

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









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