



# SBT510VAFC

## Surface Mount Low Vf Schottky Barrier Rectifier

**Voltage** 100 V **Current** 5 A

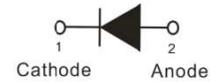
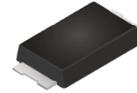
### Features

- Low forward voltage drop
- Low power loss, high efficiency
- High surge current capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC61249 Standard

### Mechanical Data

- Case : SMAF-C plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams

### SMAF-C



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum RMS Voltage	V <sub>RMS</sub>	70	V
Maximum DC Blocking Voltage	V <sub>R</sub>	100	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	5	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	80	A
Typical Thermal Resistance (Note 1)	R <sub>θJA</sub>	150	°C/W
(Note 2)	R <sub>θJC</sub>	25	
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



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## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	$V_F$	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.45	-	V
		$I_F = 2\text{ A}, T_J = 25^\circ\text{C}$	-	0.53	-	
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.71	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.36	-	
		$I_F = 2\text{ A}, T_J = 125^\circ\text{C}$	-	0.48	-	
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.62	-	
Reverse Current <sup>(Note 3)</sup>	$I_R$	$V_R = 80\text{ V}, T_J = 25^\circ\text{C}$	-	2	-	$\mu\text{A}$
		$V_R = 100\text{ V}, T_J = 25^\circ\text{C}$	-	-	20	
		$V_R = 100\text{ V}, T_J = 125^\circ\text{C}$	-	3	-	mA

**NOTES:**

1. Mounted on a FR4 PCB, single-sided copper, standard footprint
2. Mounted on 10cm\*10cm\*0.5mm copper pad area
3. Short duration pulse test used to minimize self-heating effect



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## TYPICAL CHARACTERISTIC CURVES

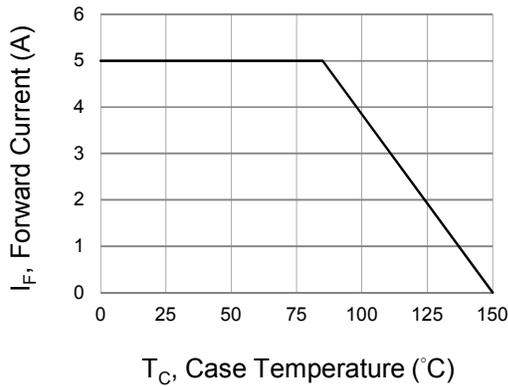


Fig.1 Forward Current Derating Curve

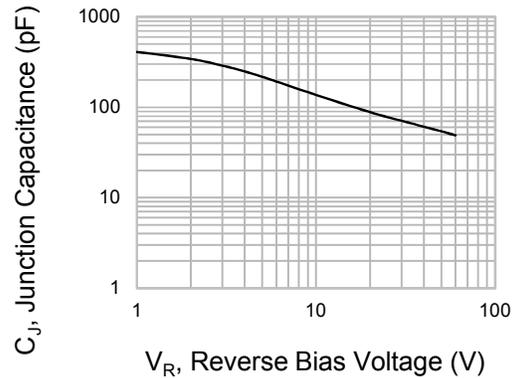


Fig.2 Typical Junction Capacitance

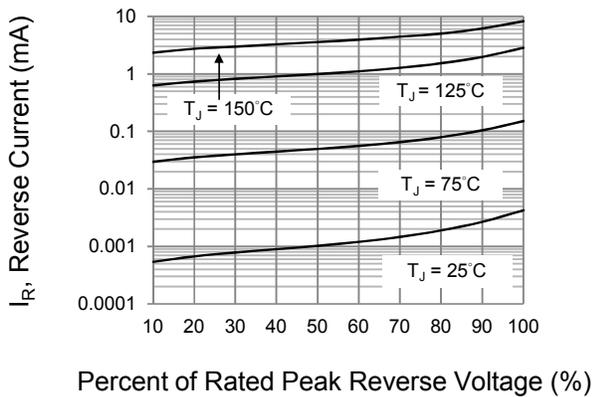


Fig.3 Typical Reverse Characteristics

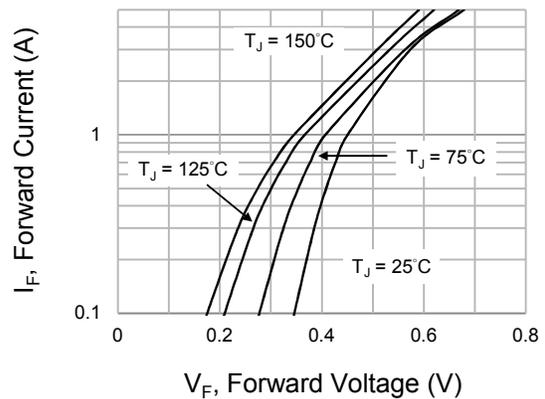


Fig.4 Typical Forward Characteristics

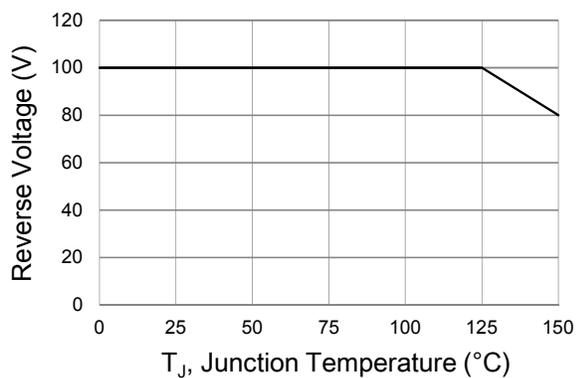


Fig.5 Operating Temperature Derating Curve

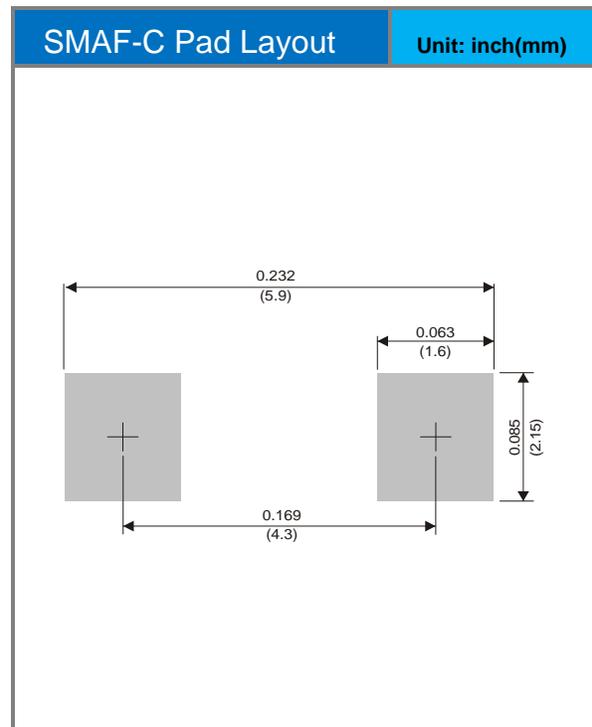
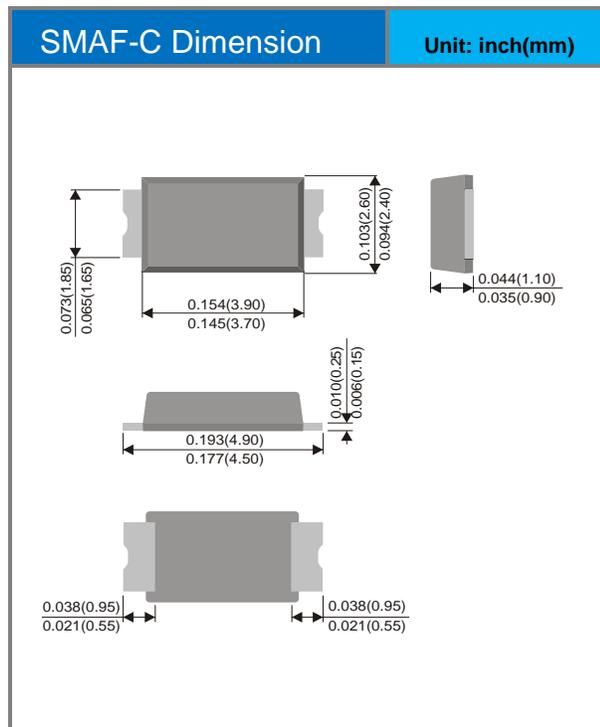


# SBT510VAFC

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBT510VAFC_R1_00001	SMAF-C	3K pcs / 7" reel	SBT510V	Halogen free

## Packaging Information & Mounting Pad Layout





## SBT510VAFC

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