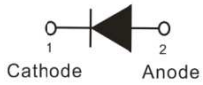
SBM54ALAFC

Surface Mount Extreme Low Vf Schottky Barrier Rectifier

Voltage	45 V	Current	5 A

SMAF-C



Features

- Extreme low forward voltage drop
- Low power loss, high efficiency
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

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

Maximum Ratings and Thermal Characteristics ($T_A = 25^oC$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	45	V
Maximum RMS Voltage	V_{RMS}	32	V
Maximum DC Blocking Voltage	V_R	45	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	80	A
Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4V$	C_J	220	pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	150	°C/W
(Note 2)	$R_{\theta JL}$	20	
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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Electrical Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	I_F = 1 A, T_J = 25 °C	-	0.34	-	V
		I_F = 2 A, T_J = 25 °C	-	0.38	-	
		I_F = 5 A, T_J = 25 °C	-	0.48	0.54	
		I_F = 1 A, T_J = 125 °C	-	0.26	-	
		I_F = 2 A, T_J = 125 °C	-	0.33	-	
		I_F = 5 A, T_J = 125 °C	-	0.5	-	
Reverse Current(Note 3)	I_R	V_R = 36 V, T_J = 25 °C	-	20	-	uA
		V_R = 45 V, T_J = 25 °C	-	-	210	
		V_R = 45 V, T_J = 100 °C	-	-	10	mA
		V_R = 45 V, T_J = 125 °C	-	7	-	

NOTES:

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

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TYPICAL CHARACTERISTIC CURVES

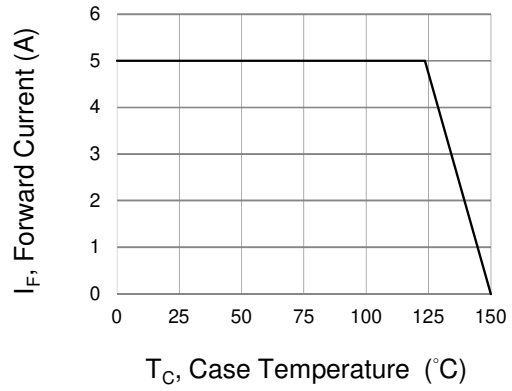


Fig.1 Forward Current Derating Curve

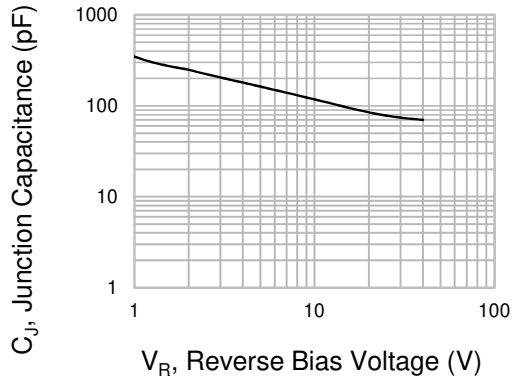


Fig.2 Typical Junction Capacitance

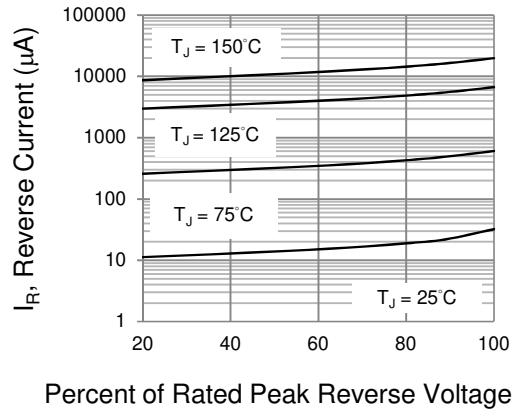


Fig.3 Typical Reverse Characteristics

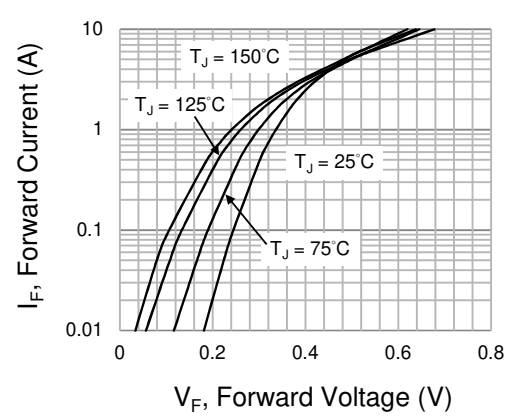


Fig.4 Typical Forward Characteristics

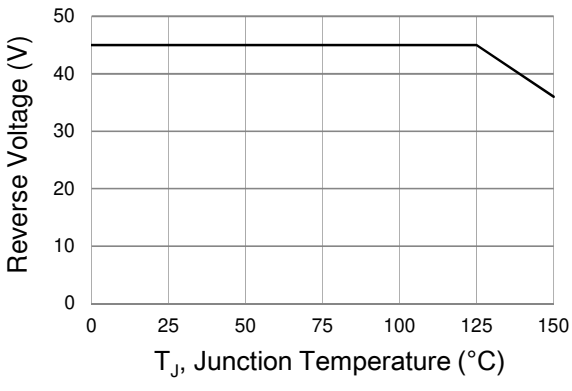


Fig.5 Operating Temperature Derating Curve

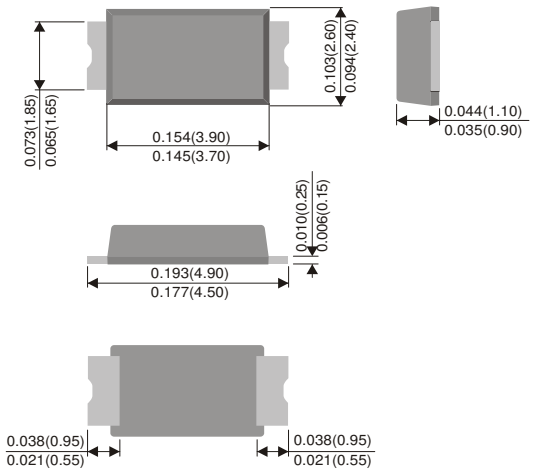
SBM54ALAFC

Part No. Packing Code Version

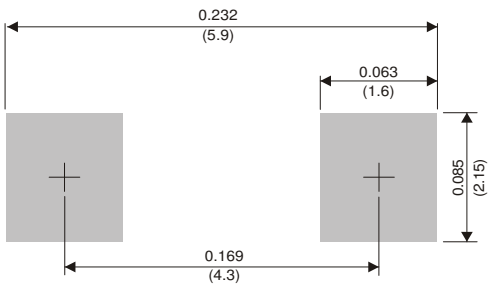
Part No. Packing Code	Package Type	Packing Type	Marking	Version
SBM54ALAFC_R1_00001	SMAF-C	3K pcs / 7” reel	SBM54AL	Halogen free

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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