



## DESCRIPTION

The SM520BF~SM5200BF are available in SMBF package.

## FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Available in SMBF package

## ORDERING INFORMATION

Package Type	Part Number
SMBF	SM520BF
	SM540BF
	SM560BF
	SM580BF
	SM5100BF
	SM5120BF
	SM5150BF
	SM5200BF
Note	5,000pcs/Reel
AiT provides all RoHS Compliant Products	

## MECHANICAL DATA

Case: SMBF

Terminals: Solderable per MIL-STD-750,  
Method 2026

Approx. Weight: 57mg / 0.002oz

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbol	SM 520BF	SM 540BF	SM 560BF	SM 580BF	SM 5100BF	SM 5120BF	SM 5150BF	SM 5200BF	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS Voltage	$V_{RMS}$	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0								A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	150								A
Max Instantaneous Forward Voltage at 5A	$V_F$	0.45	0.55	0.70			0.85			V
Maximum DC Reverse Current At Rated DC Reverse Voltage	$I_R$									mA
	$T_A=100^\circ\text{C}$	50								
Typical Junction Capacitance <sup>NOTE1</sup>	$C_j$	800			500					pF
Typical Thermal Resistance <sup>NOTE2</sup>	$R_{\theta JA}$	40								°C/W
Operating Junction Temperature Range	$T_J$	-55 ~ +125								°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150								°C

NOTE1: Measured at 1MHz and applied reverse voltage of 4 V D.C.

NOTE2: P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.



## TYPICAL PERFORMANCE CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

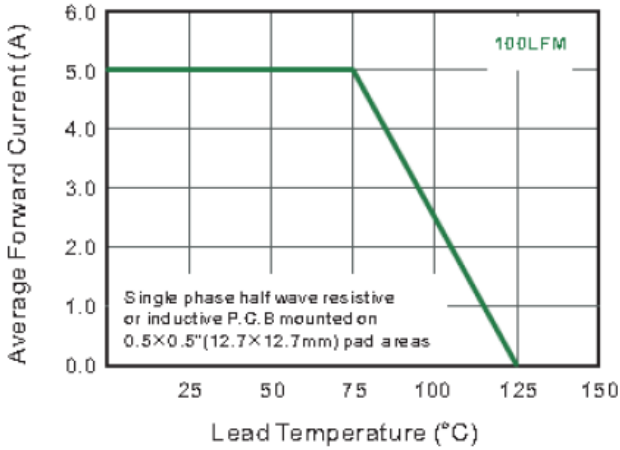


Figure. 2 Typical Reverse Characteristics

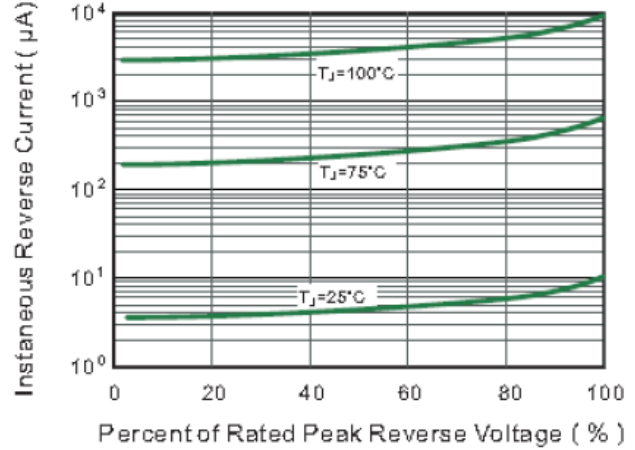


Figure. 3 Typical Forward Characteristic

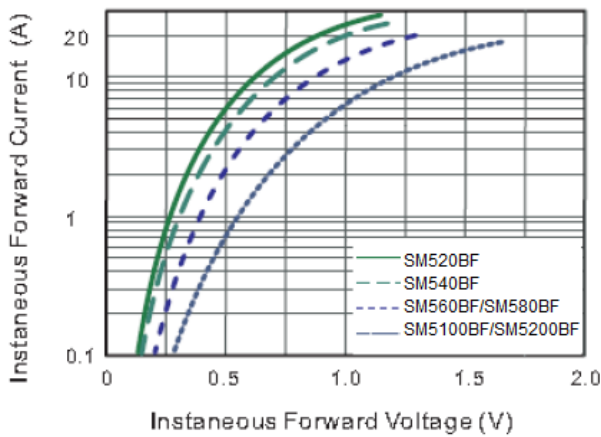


Figure. 4 Typical Junction Capacitance

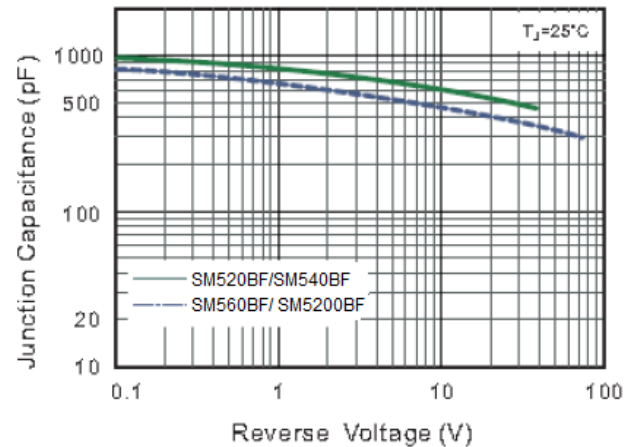


Figure. 5 Maximum Non-repetitive Peak Forward Surge Current

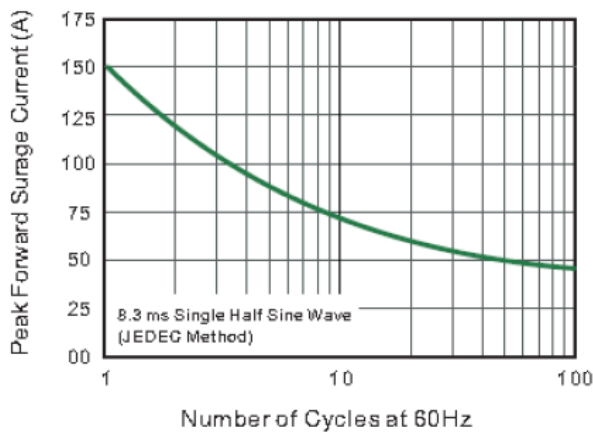
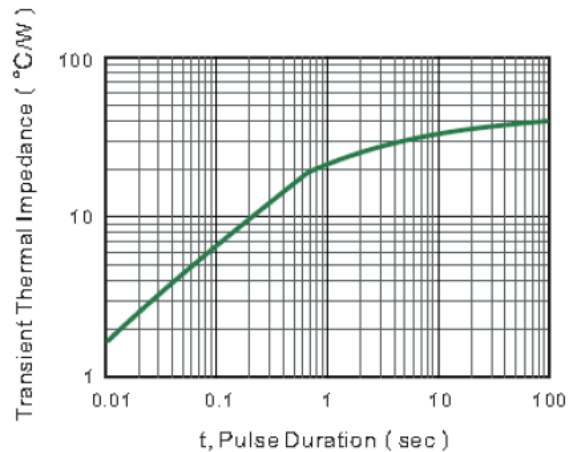


Figure. 6 Typical Transient Thermal Impedance

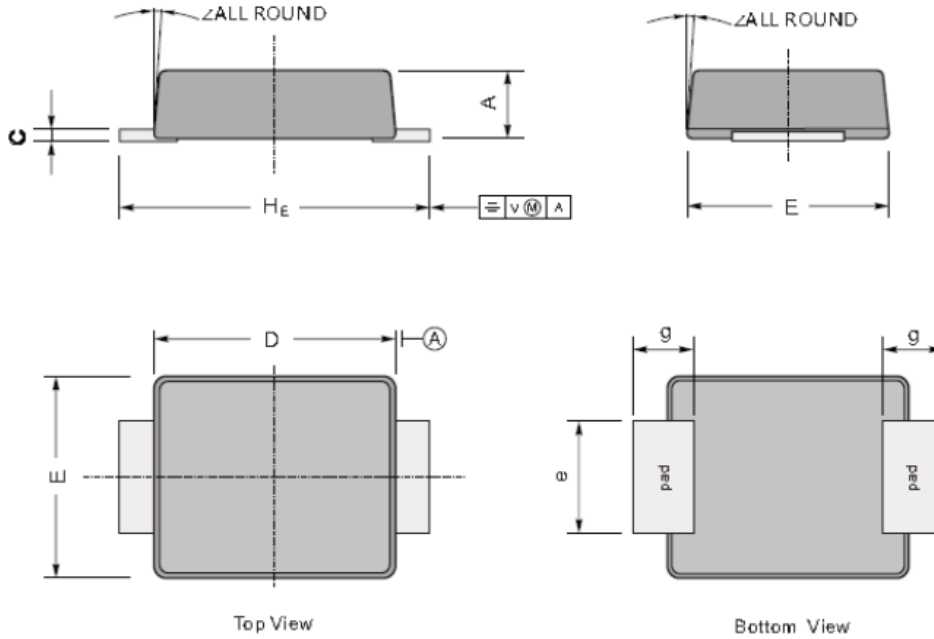




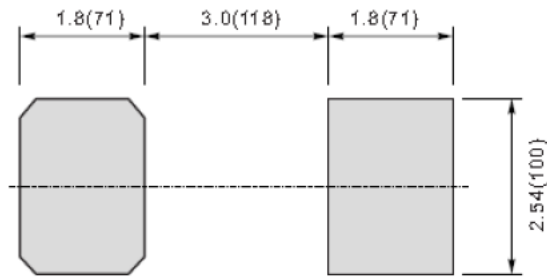
**PACKAGE INFORMATION**

Dimension in SMBF Package (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



Unit: mm(mil)

UNIT		A	C	D	E	H <sub>E</sub>	e	g	$\angle$
mm	Max	1.3	0.26	4.4	3.7	5.5	2.2	1.0	9°
	Min	1.1	0.18	4.2	3.5	5.1	1.9		
mil	Max	51	10	173	146	216	86	40	
	Min	43	7	165	138	200	75		



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