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℃ 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 T_A=25°C	I_R	1.0								mA
T_A=100°C		50								
Typical Junction Capacitance NOTE1	Cj	800		500						pF
Typical Thermal Resistance NOTE2	$R_{\theta JA}$	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

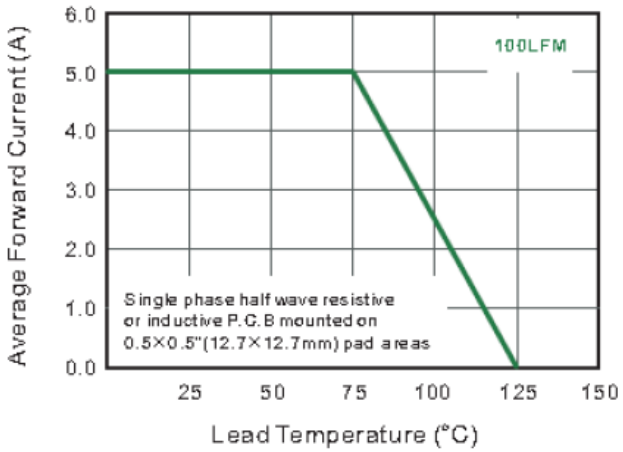


Figure. 2 Typical Reverse Characteristics

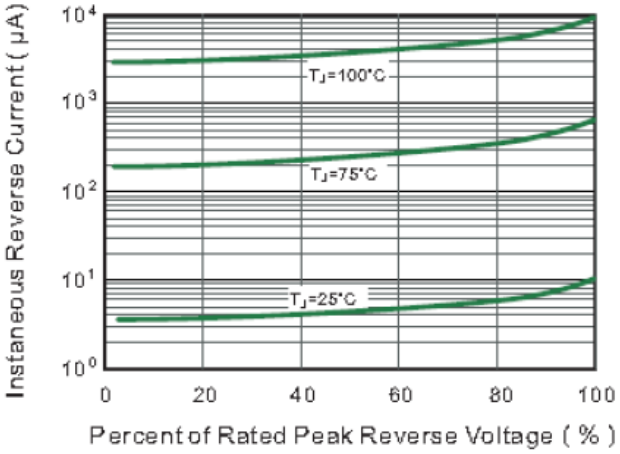


Figure. 3 Typical Forward Characteristic

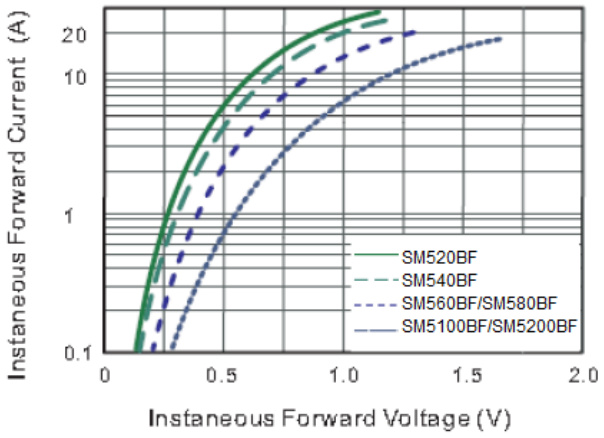


Figure. 4 Typical Junction Capacitance

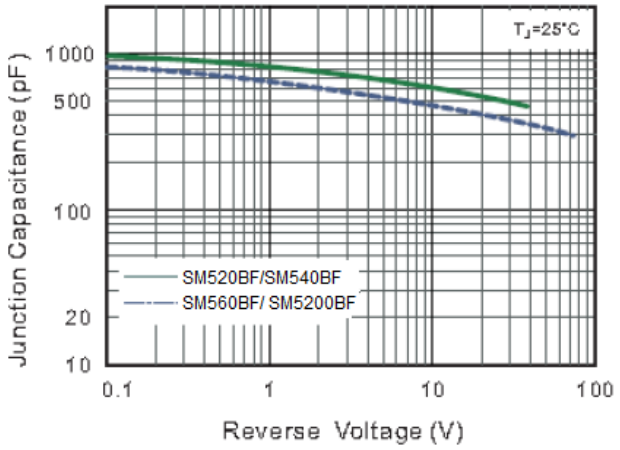


Figure. 5 Maximum Non-repetitive Peak Forward Surge Current

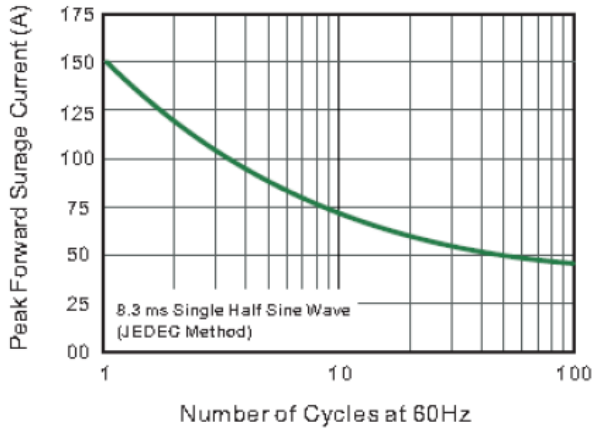
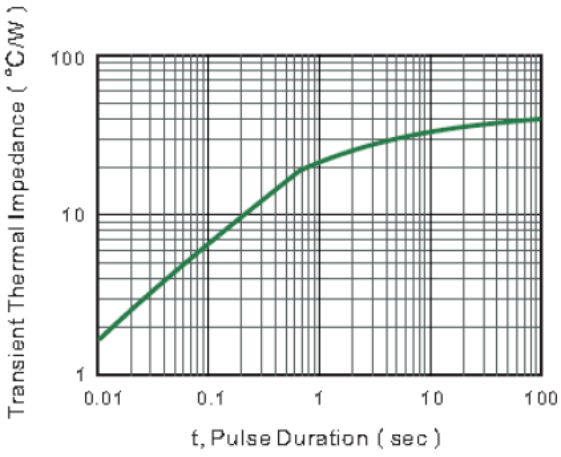


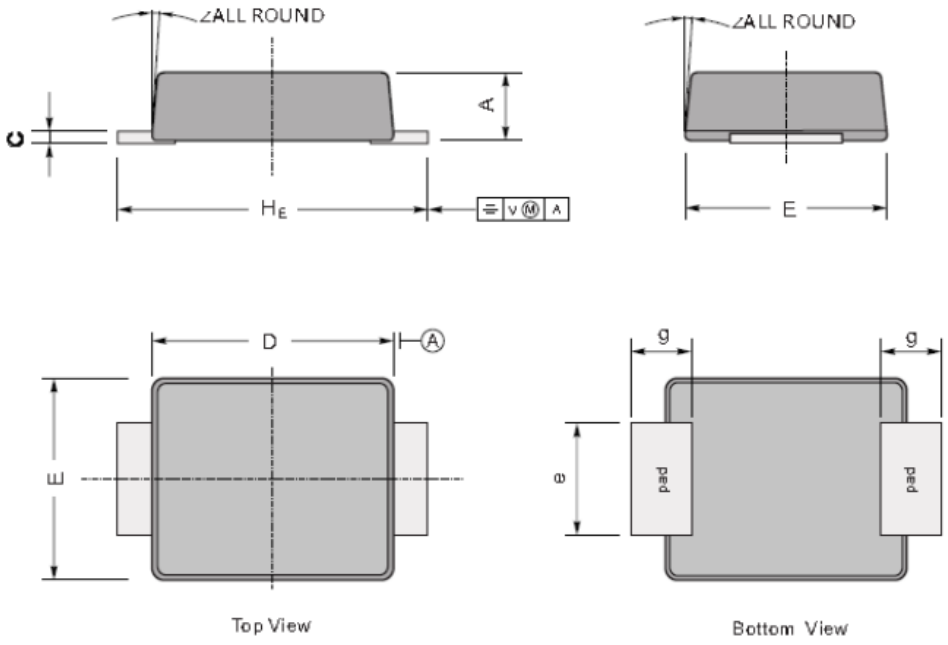
Figure. 6 Typical Transient Thermal Impedance



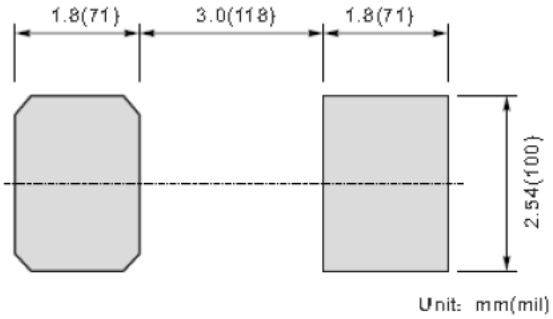
PACKAGE INFORMATION

Dimension in SMBF Package (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



UNIT		A	C	D	E	H_E	e	g	∠
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		

IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc.'s integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or servere property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.