



DESCRIPTION

The SM520C~SM5200C are available in SMC Package

ORDERING INFORMATION

Package Type	Part Number
SMC	SM520C
	SM540C
	SM560C
	SM580C
	SM5100C
	SM5120C
	SM5150C
	SM5200C
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

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 SMC Package

MECHANICAL DATA

Case: SMC

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

Approx. Weight: A 0.22g / 0.0077oz

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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 520C	SM 540C	SM 560C	SM 580C	SM 5100C	SM 5120C	SM 5150C	SM 5200C	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}	175				150				A
Maximum Instantaneous Forward Voltage at 5A	V _F	0.45	0.55	0.70		0.85				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	T _A =25°C		1.0						mA
		T _A =100°C		50						
Typical Junction Capacitance ^{NOTE1}	C _J	600		400						pF
Typical Thermal Resistance ^{NOTE2}	R _{θJA}	35								°C/W
Operating Junction Temperature Range	T _J	-55 ~ +150								°C
Storage Temperature Range	T _{STG}	-55 ~ +150								°C

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

NOTE2: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



TYPICAL CHARACTERISTICS

Figure. 1 Typical Forward Current Derating Curve

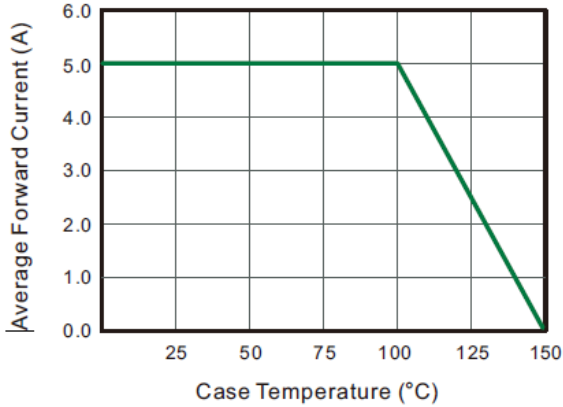


Figure. 2 Typical Reverse Characteristics

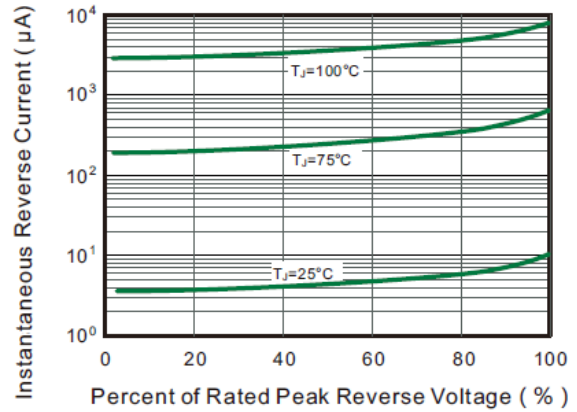


Figure. 3 Typical Forward Characteristic

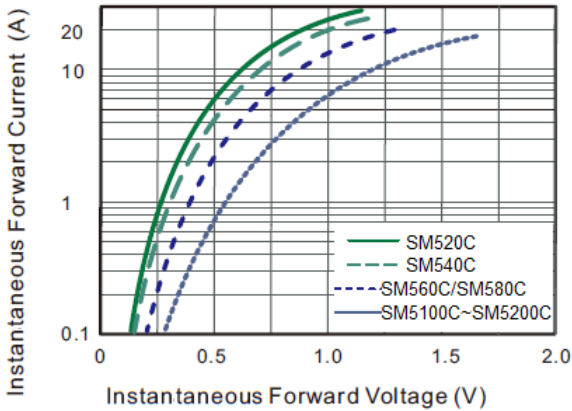


Figure. 4 Typical Junction Capacitance

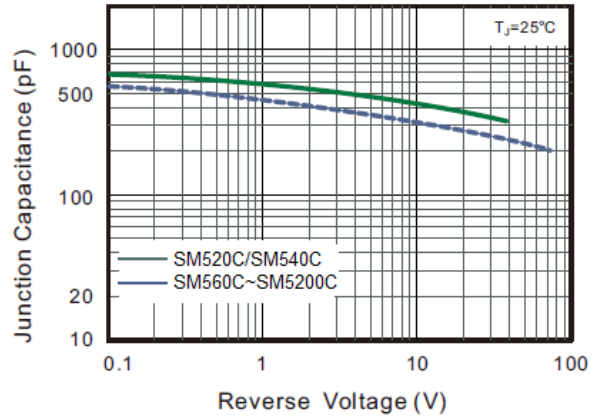


Figure. 5 Maximum Non-Repetitive Peak Forward Surge Current

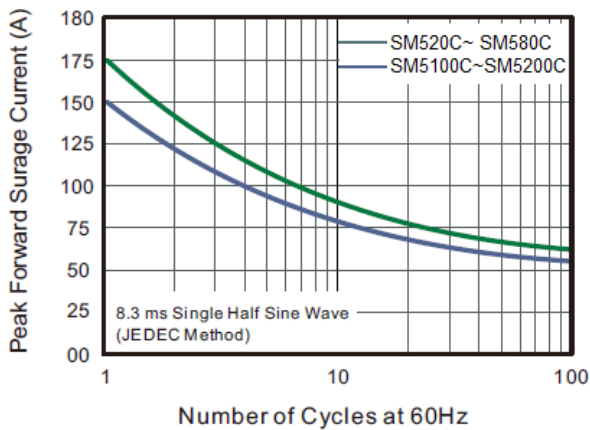
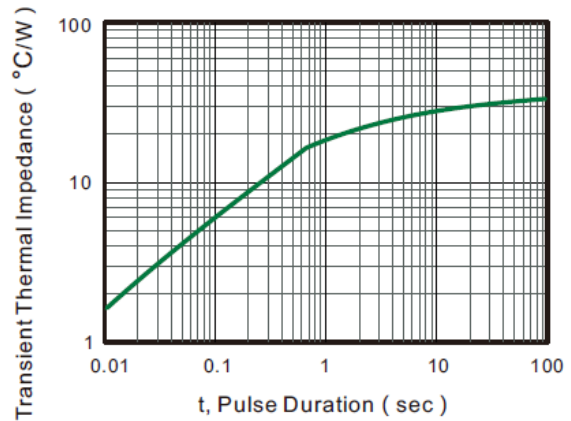


Figure. 6 Typical Transient Thermal Impedance

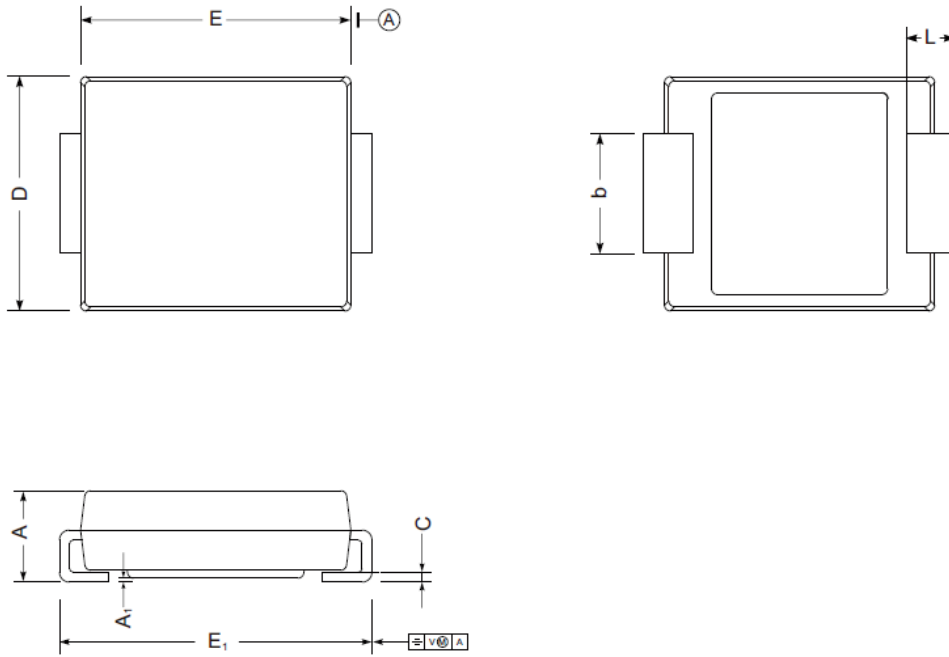




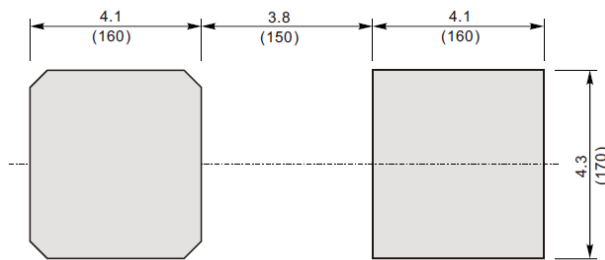
PACKAGE INFORMATION

Dimension in SMC (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



Unit : $\frac{\text{mm}}{\text{mil}}$

UNIT		A	E	D	E ₁	A ₁	C	L	b
mm	Max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	Min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	Max	103	276	244	315	8.3	12	63	128
	Min	79	256	220	299	2.0	5.9	35	108



IMPORTANT NOTICE

AiT Semiconductor (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' 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 server 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 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.