

SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP

Approval's condition: _____

Approved date: _____

KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME: _____

CUSTOMER'S MODEL NO. : _____

CUSTOMER'S PART NO. : _____

DESCRIPTION: Wire Wound Molded SMD Power Inductors

Semitel'S MODEL NO. : SMPC Series

VERSION: F

DATE: 2025/12/17

Attachments:

- Product Specification
- Sample Qty. :
- Test Data

Prepared By	Checked By	Approved By
Hebe Deng 2025/12/17	Liang Wong 2025/12/17	Eric Chang 2025/12/17

Semitel International Ltd.,	TEL: 886-2-86922121 FAX: 886-2-26483379
www.semitelint.com	12F, No.183, Sec.1, Datong Rd., Xizhi Dist., New Taipei City 22145, Taiwan

Revision Record

Version	Revision Date	Revision For Items	Reason For Revision
A	2020/3/26	New Revision	-
B	2021/5/25	<p>New series SMPC0401S series 、 SMPC0601S Series 、 SMPC0615S Series SMPC1003S Series 、 SMPC1005S Series 、 SMPC1265S Series SMPC1707S Series</p> <p>SMPC0604S-R68MT 、 SMPC0604S-1R0MT 、 SMPC0604S-1R5MT SMPC0604S-3R3MT 、 SMPC0604S-6R8MT 、 SMPC0604S-8R2MT</p> <p>SMPC0604S-100MT 、 SMPC0604S-200MT 、 SMPC0604S-330MT SMPC0604S-470MT 、 SMPC0518S-R68MT 、 SMPC1004S-820MT SMPC1004S-101MT 、 SMPC1205S-8R2MT</p>	-
C	2021/11/18	<p>Add B1 size</p> <p>Add SMPC1004S-5R6MT</p>	-
D	2022/9/15	Add SMPC1204S Series	-
E	2025/8/14	<p>Change the dimension notation from maximum values to tolerance values for the following part numbers.</p> <p>SMPC1003S 、 SMPC1004S 、 SMPC1005S 、 SMPC1204S SMPC1206S 、 SMPC1265S 、 SMPC1707S</p>	-
F	2025/12/17	Add working voltage and test spec	-

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Caution:

All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

1. Aircraft equipment
2. Aerospace equipment
3. Undersea equipment
4. nuclear control equipment
5. military equipment
6. Power plant equipment
7. Medical equipment
8. Transportation equipment (automobiles, trains, ships, etc.)
9. Traffic signal equipment
10. Disaster prevention / crime prevention equipment
11. Data-processing equipment
12. Applications of similar complexity or with reliability requirements comparable to the applications listed in the above

1. Scope

This specification applies to SMPC-S series of wire wound molded SMD power Inductors

2. Product Description and Identification (Part Number)

1) Description

Wire Wound Molded SMD Type Power Inductor, SMPCXXXX, XX μ H \pm X% @XXX KHz/XXXV, XXXm Ω , XXXm

2) Product Identification (Part Number)

S M P C XXXXX -XXX □ I
 ① ② ③ ④ ⑤

① Type	
SMPC	Wire wound molded SMD power Inductors

② External Dimensions (mm)	
0412S~1707S	

③ Nominal Inductance	
Example	Nominal Value
1R0	1.0 μ H
100	10 μ H
101	100 μ H

④ Inductance Tolerance	
M	\pm 20%



⑤ Packing	
T	Tape Carrier Package

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3. Electrical Characteristics

Please refer to Appendix A.

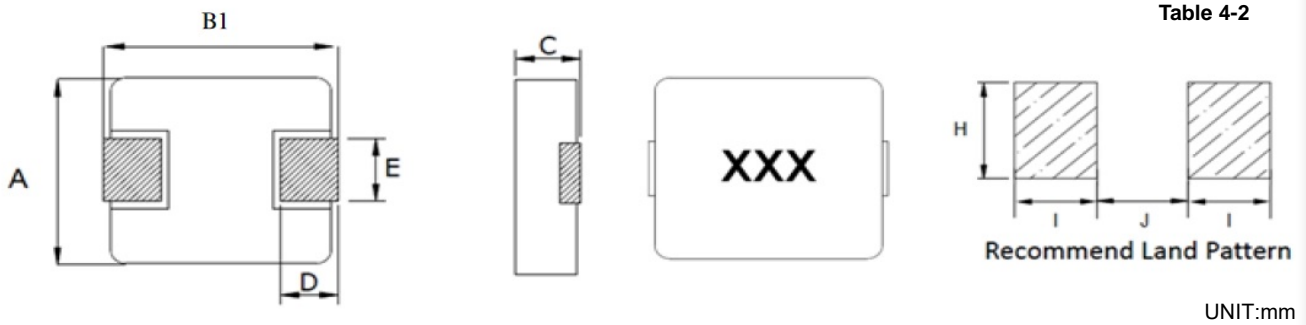
- 1) Operating temperature range (Including self-heating): -55°C~+125°C.
- 2) Storage temperature and humidity range (product with tapping): -10 ~+40°C, RH 70% Max.
- 3) working voltage and test.

External Dimensions	Working Voltage	Impluse Test	Making(Schematic)
SMPC0401S Series	30VDC	50V	
SMPC0402S Series	30VDC	50V	
SMPC0412S Series	30VDC	50V	
SMPC0503S Series	30VDC	50V	
SMPC0518S Series	30VDC	50V	
SMPC0601S Series	75VDC	200V	<p>"S" stands for high voltage resistant products.</p> 
SMPC0603S Series	75VDC	200V	
SMPC0604S Series	75VDC	200V	
SMPC0605S Series	75VDC	200V	
SMPC0615S Series	75VDC	200V	
SMPC0618S Series	75VDC	200V	
SMPC0624S Series	75VDC	200V	
SMPC1003S Series	75VDC	200V	
SMPC1004S Series	75VDC	200V	
SMPC1005S Series	75VDC	200V	
SMPC1204S Series	75VDC	200V	
SMPC1205S Series	75VDC	200V	
SMPC1206S Series	75VDC	200V	
SMPC1265S Series	75VDC	200V	
SMPC1707S Series	75VDC	200V	

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4. Shape and Dimensions

1) Dimensions and recommended PCB pattern for reflow soldering: See Fig.4-1 and Table 4-1.



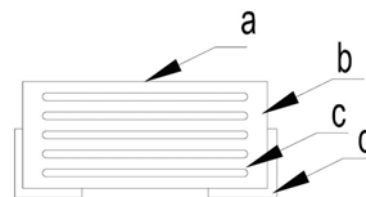
Series	A	B1	C	D	E	I Typ.	J Typ.	H Typ.
SMPC0412S	4.2±0.25	4.4±0.35	1.0±0.2	0.8±0.3	2.0±0.3	1.5	2.2	2.5
SMPC0401S	4.1±0.2	4.1±0.2	0.8±0.2	0.8±0.2	1.8±0.2	1.1	2.2	2.2
SMPC0402S	4.2±0.25	4.4±0.35	1.8±0.2	0.8±0.3	2.0±0.3	1.5	2.2	2.5
SMPC0518S	5.2±0.2	5.4±0.3 5	1.6±0.2	1.20±0.2	2.2±0.3	1.9	2.2	2.5
SMPC0503S	5.2±0.2	5.4±0.3 5	2.8±0.2	1.20±0.2	2.2±0.3	1.9	2.2	2.5
SMPC0615S	6.6±0.2	7.0±0.3	1.3±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC0618S	6.6±0.2	7.0±0.3	1.6±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC0624S	6.6±0.2	7.0±0.3	2.2±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC0601S	6.1±0.3	6.1±0.3	0.8±0.2	1.60±0.3	4.0±0.3	2.35	2.8	4.5
SMPC0603S	6.6±0.2	7.0±0.3	2.8±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC0604S	6.6±0.2	7.0±0.3	3.8±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC0605S	6.6±0.2	7.0±0.3	4.8±0.2	1.60±0.3	3.0±0.3	2.35	3.7	3.5
SMPC1003S	10.0±0.3	11.0±0.5	2.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
SMPC1004S	10.0±0.3	11.0±0.5	3.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
SMPC1005S	10.0±0.3	11.0±0.5	4.8±0.2	2.0±0.5	3.0±0.5	4.1	5.4	4.1
SMPC1204S	12.8±0.5	13.45±0.35	3.8±0.2	2.0±0.5	3.85±0.5	3.25	8.0	5.5
SMPC1205S	12.6±0.3	13.45±0.35	4.8±0.2	2.0±0.5	3.85±0.5	3.25	8.0	5.5
SMPC1206S	12.6±0.3	13.45±0.35	5.8±0.2	2.0±0.5	5.0±0.3	3.25	8.0	5.5
SMPC1265S	12.6±0.3	13.45±0.35	6.3±0.2	2.0±0.5	5.0±0.3	3.25	8.0	5.5
SMPC1707S	16.85±0.3	17.15±0.35	6.8±0.2	2.5±0.5	12.0±0.3	3.5	11.2	12.8

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Structure and Components: See **Table 4-2**

Table 4-2

Symbol	Components	Material
a	Marking	Ink(black)
b	Core	Alloy Sponge Powder
c	Wire	Polyurethane copper wire
d	Terminal	Copper plated with Sn



5. Test and Measurement Procedures

5.1 Test Conditions

5.1.1 Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

- a. Ambient Temperature: 20±15℃
- b. Relative Humidity: 65±20%
- c. Air Pressure: 86 KPa to 106 KPa

5.1.2 If any doubt on the results, measurements/tests should be made within the following limits:

- a. Ambient Temperature: 20±2℃
- b. Relative Humidity: 65±5%
- c. Air Pressure: 86KPa to 106 KPa

5.2 Visual Examination

- a. Inspection Equipment: 10 X magnifier

5.3 Electrical Test

5.3.1 DC Resistance (DCR)

- a. Refer to **Appendix A**.
- b. Test equipment (Analyzer): HIOKI3540 or equivalent.

5.3.2 Inductance (L)

- a. Refer to **Appendix A**.
- b. Test equipment: Wayne kerr3260+3265B or equivalent.

5.3.3 Rated Current

- a. Refer to **Appendix A**.
- b. Test equipment: Wayne kerr3260+3265B, Agilent E3633A, R2M-2H3 or equivalent.
- c. Definition of Rated Current (I_r): With the condition of the DC current pass, the inductance decrease approximate 30% of the standard value, compare to the temperature rise approximate 40℃, the smaller is Rated Current.(reference environment temperature:20℃)

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5.4 Reliability Test

Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	The surface of terminal immersed shall be minimum of 95% covered with a new coating of solder	Solder heat proof: 1. Preheating: 160 ± 10 °C 2. Retention time: 245 ± 5 °C for 2 ± 0.5 seconds
Vibration	Inductance change: Within ± 10% Without mechanical damage such as break	1. Vibration frequency: (10 Hz to 55 Hz to 10Hz) in 60 seconds as a period 2. Vibration time: Period cycled for 2 hours in each of 3 mutual perpendicular directions. 3. Amplitude: 1.5 mm max.

Shock	Inductance change: Within ± 10% Without mechanical damage such as break	1. Peak value: 100 G 2. Duration of pulse: 11ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions
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Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within ± 10% Without distinct damage in appearance	1. Repeat 100 cycles as follow: (-55 ± 2 °C; 30 ± 3 min) →(Room temp., 5 min) → (+125 ± 2 °C, 30 ± 3 min) → (Room temp., 5 min) 2. Recovery: 48 + 4 / -0 hours of recovery under the standard condition after the test.
High Temperature Resistance	Inductance change: Within ± 10% Without distinct damage in appearance	1. Environment condition: 85 ± 2 °C Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Humidity Resistance	Inductance change: Within ±10% Without distinct damage in appearance	1. Environment condition: 60 ± 2 °C Humidity: 90–95% Applied Current: Rated current 2. Duration: 1000 + 4 / -0 hours
Low Temperature Store	Inductance change: Within ± 10% Without distinct damage in appearance	Store temperature: -55 ± 2 °C, 1000 + 4 / -0 hours
High Temperature Store	Inductance change: Within ± 10% Without distinct damage in appearance	Store temperature: +125 ± 2 °C, 1000 + 4 / -0 hours

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6. Packaging, Storage and Transportation

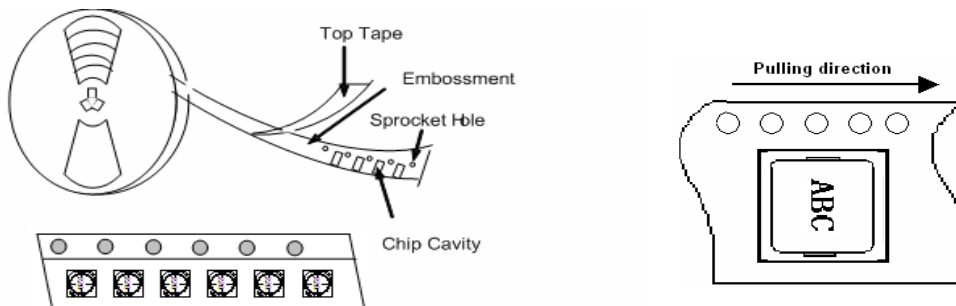
6.1 Tape Carrier Packaging:

Packaging code: T

- (1) Tape carrier packaging are specified in attached figure **Fig.6.1-1~2**
- (2) Tape carrier packaging quantity:

Type	Standard Quantity (pcs/reel)	Type	Standard Quantity (pcs/reel)
SMPC0412S	3000	SMPC0604S	1000
SMPC0401S	5000	SMPC0605S	1000
SMPC0402S	3000	SMPC1003S	800
SMPC0518S	2000	SMPC1004S	500
SMPC0503S	2000	SMPC1005S	500
SMPC0615S	2000	SMPC1204S	500
SMPC0618S	2000	SMPC1205S	500
SMPC0624S	1500	SMPC1206S	500
SMPC0601S	3000	SMPC1265S	500
SMPC0603S	1500	SMPC1707S	200

a. Taping Drawings (Unit: mm)



Remark: The sprocket holes are to the right as the tape is pulled toward the user.

Fig.6.1-1

b.Reel and Taping Dimensions (Unit: mm)

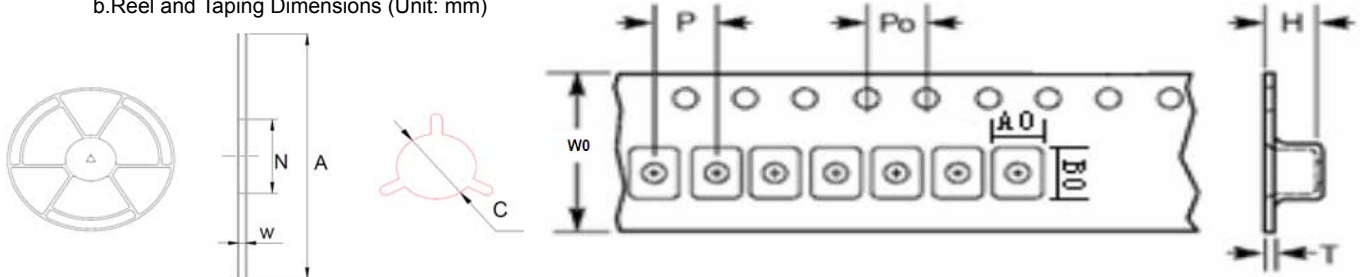
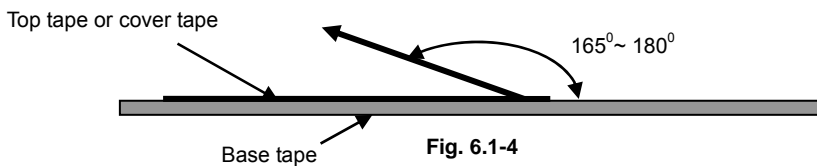


Fig.6.1-2

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Type	Reel dimensions (mm)				Tape dimensions (mm)						
	A	N	C	W	W0	P	P0	H	T	A0	B0
SMPC0401S	330±2.0	97±0.5	13±0.2	12.8±0.2	12±0.3	8±0.1	4±0.1	1.1±0.1	0.30±0.05	4.5±0.1	4.5±0.1
SMPC0412S	330±2.0	97±0.5	13±0.2	12.8±0.2	12±0.3	8±0.1	4±0.1	1.5±0.1	0.35±0.05	4.5±0.1	4.85±0.1
SMPC0402S	330±2.0	97±0.5	13±0.2	12.8±0.2	12±0.3	8±0.1	4±0.1	2.3±0.05	0.35±0.05	4.5±0.1	4.85±0.1
SMPC0518S	330±2.0	97±0.5	13±0.2	12.8±0.2	12±0.3	8±0.1	4±0.1	2.0±0.01	0.35±0.05	5.5±0.1	5.9±0.1
SMPC0503S	330±2.0	97±0.5	13±0.2	12.8±0.2	12±0.3	8±0.1	4±0.1	3.3±0.15	0.35±0.05	5.5±0.1	5.9±0.1
SMPC0615S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	1.7±0.10	0.35±0.05	6.9±0.1	7.5±0.1
SMPC0618S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	2.1±0.05	0.35±0.05	6.9±0.1	7.5±0.1
SMPC0624S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	2.7±0.05	0.35±0.05	6.9±0.1	7.5±0.1
SMPC0601S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	1.1±0.10	0.35±0.05	6.4±0.1	6.5±0.1
SMPC0603S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	3.3±0.10	0.35±0.05	6.9±0.1	7.5±0.1
SMPC0604S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	4.3±0.10	0.4±0.05	6.9±0.1	7.5±0.1
SMPC0605S	330±2.0	97±0.5	13±0.2	16.8±0.2	16±0.3	12±0.1	4±0.1	5.4±0.10	0.4±0.05	6.9±0.1	7.5±0.1
SMPC1003S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	3.3±0.10	0.4±0.05	10.4±0.1	11.6±0.1
SMPC1004S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	4.3±0.10	0.4±0.05	10.4±0.1	11.6±0.1
SMPC1005S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	5.4±0.1	0.35±0.05	10.4±0.1	11.6±0.1
SMPC1204S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	4.4±0.1	0.4±0.05	13.0±0.1	14.0±0.1
SMPC1205S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	5.3±0.1	0.5±0.05	13.1±0.1	14.4±0.1
SMPC1206S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	6.3±0.10	0.5±0.05	13.1±0.1	14.0±0.1
SMPC1265S	330±2.0	97±0.5	13±0.2	24±0.5	24±0.3	16±0.1	4±0.1	6.8±0.1	0.5±0.05	13.1±0.1	14.0±0.2
SMPC1707S	330±2.0	97±0.5	13±0.2	32.0±0.5	32±0.3	24±0.1	4±0.1	7.3±0.1	0.5±0.05	17.5±0.1	18.1±0.1

c. Peeling off force: 10gf to 130gf in the direction show below.



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6.2 Storage

- (1) The solderability of the external electrodes may deteriorate if packages are stored in high humidity. Besides, to ensure packing material's good state, packages must be stored at -10°C to 40°C and 70% RH Max.
- (2) The solderability of the external electrodes may deteriorate if packages are exposed to dust or harmful gas (e.g. HCl, sulfurous gas of H₂S).
- (3) Packaging materials may deform if packages are exposed directly to sunlight.
- (4) Minimum packages, such as polyvinyl heat-seal packages shall not be opened until they are used. If opened, use the reels as soon as possible.
- (5) Solderability shall be guaranteed for a period of time from the date of delivery on condition that they are stored at the specified environment. For those parts, which passed more than the time shall be checked solderability before using.
- (6) For magnetic products, keep clear of anything that may generate magnetic fields to avoid change of products performance.
- (7) To avoid any damage to products, do not load mechanical force on products or place heavy goods on products, and exclude strong vibration or drop.
- (8) In case of storage over 12 months, solderability shall be checked before actual usage.

7. Warning and Attentions

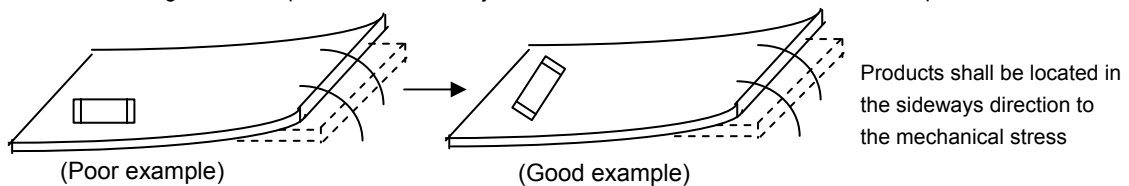
7.1 Precautions on Use

- (1) Always wear static control bands to protect against ESD.
- (2) Any devices used with the products (soldering irons, measuring instruments) should be properly grounded.
- (3) Keep bare hands and metal conductors (i.e., metal desk) away from electrodes or conductive areas that lead to electrodes.
- (4) Preheat when soldering.
- (5) Don't apply current in excess of the rated current value. It may reduce the impedance or inductance, or cause damage to components due to over-current.
- (6) For magnetic products, keep clear of anything that may generate magnetic fields such as speakers and coils. Use non-magnetic tweezers when handling the chips.
- (7) When soldering, the electrical characteristics may be varied due to hot energy and mechanical stress.
- (8) When coating products with resin, the relatively high resin curing stress may change the electrical characteristics. For exterior coating, select resin carefully so that electrical and mechanical performance of the product is not affected. Before using, please evaluate reliability with the product mounted in your application set.
- (9) When mount chips with adhesive in preliminary assembly, do appropriate check before the soldering stage, i.e., the size of land pattern, type of adhesive, amount applied, hardening of the adhesive on proper usage and amounts of adhesive to use.
- (10) Mounting density: Add special attention to radiating heat of products when mounting other components nearby. The excessive heat by other products may cause deterioration at joint of this product with substrate.
- (11) Since some products are constructed like an open magnetic circuit, narrow spacing between components may cause magnetic coupling.
- (12) Please do not give the product any excessive mechanical shocks in transportation.
- (13) Please do not touch wires by sharp terminals such as tweezers to avoid causing any damage to wires.
- (14) Please do not add any shock and power to the soldered product to avoid causing any damage to chip body.
- (15) Please do not touch the electrodes by naked hand as the solderability of the external electrodes may deteriorate by grease or oil on the skin.

7.2 PCB Bending Design

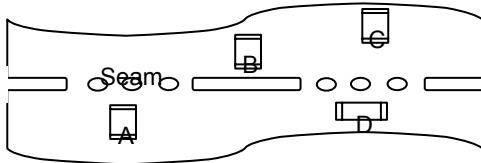
The following shall be considered when designing and laying out PCB's.

- (1) PCB shall be designed so that products are not subjected to the mechanical stress from board warp or deflection.



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(2) Products location on PCB separation.



Product shall be located carefully because they may be subjected to the mechanical stress in order of A>C=B>D.

(3) When splitting the PCB board, or insert (remove) connector, or fasten thread after mounting components, care is required so as not to give any stress of deflection or twisting to the board. Because mechanical force may cause deterioration of the bonding strength of electrode and solder, even crack of product body. Board separation should not be done manually, but by using appropriate devices.

7.3 Recommended PCB Design for SMT Land-Patterns

When chips are mounted on a PCB, the amount of solder used (size of fillet) can directly affect chip performance. Therefore, the following items must be carefully considered in the design of solder land patterns:

- (1) The amount of solder applied can affect the ability of chips to withstand mechanical stresses which may lead to breaking or cracking. Therefore, when designing land-patterns it is necessary to consider the appropriate size and configuration of the solder pads which in turn determines the amount of solder necessary to form the fillets.
- (2) When more than one part is jointly soldered onto the same land or pad, the pad must be designed that each component's soldering point is separated by solder-resist. Recommended land dimensions please refer to product specification.

8 Recommended Soldering Technologies

8.1 Re-flowing Profile:

- △ Preheat condition: 150 ~200°C/60~120sec.
 - △ Allowed time above 217°C: 60~90sec.
 - △ Max temp: 260°C
 - △ Max time at max temp: 10sec.
 - △ Solder paste: Sn/3.0Ag/0.5Cu
 - △ Allowed Reflow time: 2x max
- Please refer to **Fig. 8.1**

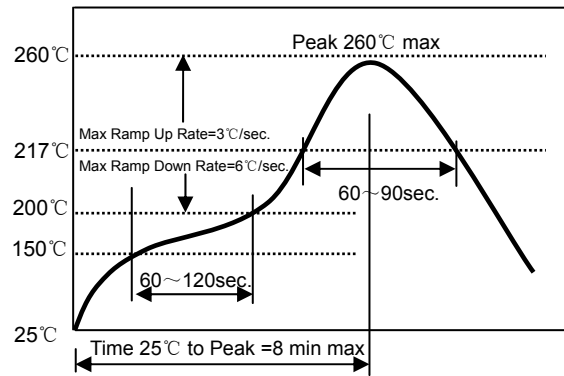


Fig. 8.1

[Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.]

8.2 Iron Soldering Profile

- △ Iron soldering power: Max. 30W
 - △ Pre-heating: 150°C/60sec.
 - △ Soldering Tip temperature: 350°C Max.
 - △ Soldering time: 3sec. Max.
 - △ Solder paste: Sn/3.0Ag/0.5Cu
 - △ Max.1 times for iron soldering
- Please refer to **Fig. 8.2**.

[Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.]

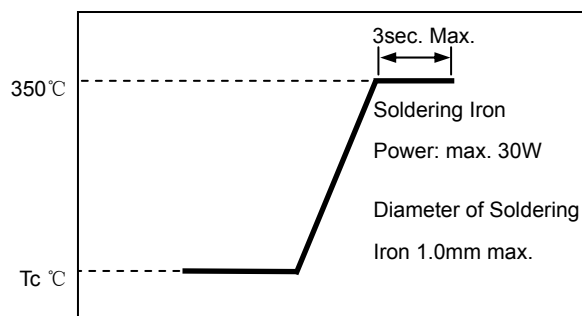


Fig. 8.2.

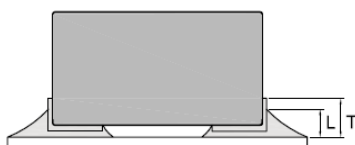
8.3 Recommended Soldering Technologies

Heat Gun Profile

- △ Soldering tip temperature: 350°C Max.
- △ Hot air time: <5sec (over 5sec may cause wiring inductor short)
- △ When repairing or reworking the component near inductors, take over-heat protection for Inductors

9. Solder Volume

Solder shall be used not to exceed as shown below. Exceeding solder volume may cause the failure of mechanical or electrical performance.



$$0 \leq L \leq T$$

(T: height of electrode)

Appendix A: Electrical Characteristics
SMPC0412S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
★SMPC0412S-R15MT	0.15±20%	9	15.00	7.50
★SMPC0412S-R22MT	0.22±20%	11	11.00	7.00
★SMPC0412S-R33MT	0.33±20%	19	8.40	6.50
★SMPC0412S-R47MT	0.47±20%	21	6.80	6.00
★SMPC0412S-R68MT	0.68±20%	36	6.00	4.70
★SMPC0412S-1R0MT	1.0±20%	47	5.50	4.50
★SMPC0412S-1R5MT	1.5±20%	75	4.00	3.25
★SMPC0412S-2R2MT	2.2±20%	83.5	3.00	2.75
★SMPC0412S-4R7MT	4.7±20%	195	2.20	1.80

△For specifications marked with ★, please contact our sales department.

SMPC0401S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
★SMPC0401S-2R2MT	2.2±20%	100	4.30	3.40
★SMPC0401S-4R7MT	4.7±20%	160	2.50	2.60
★SMPC0401S-100MT	10±20%	336	1.80	1.50

△For specifications marked with ★, please contact our sales department.

SMPC0402S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0402S-R10MT	0.10±20%	4	22.00	13.00
SMPC0402S-R22MT	0.22±20%	6.6	12.50	9.50
SMPC0402S-R33MT	0.33±20%	11	12.00	10.00
SMPC0402S-R47MT	0.47±20%	14	9.50	7.50
SMPC0402S-R56MT	0.56±20%	16	9.00	7.00
SMPC0402S-R68MT	0.68±20%	18	8.00	7.00
SMPC0402S-1R0MT	1.0±20%	27	7.00	6.00
SMPC0402S-1R2MT	1.2±20%	27	6.50	6.00
SMPC0402S-1R5MT	1.5±20%	46	5.50	5.00
SMPC0402S-2R2MT	2.2±20%	58	5.00	4.50
SMPC0402S-3R3MT	3.3±20%	87	3.50	3.30
SMPC0402S-4R7MT	4.7±20%	105	3.00	2.80
SMPC0402S-6R8MT	6.8±20%	175	2.50	2.40
SMPC0402S-100MT	10±20%	282	2.00	1.60
SMPC0402S-220MT	22±20%	363	1.40	1.20

SMPC0518S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0518S-R47MT	0.47±20%	9	15.50	10.50
SMPC0518S-R56MT	0.56±20%	10	15.00	9.50
SMPC0518S-R68MT	0.68±20%	13.8	11.20	8.90
SMPC0518S-1R0MT	1.0±20%	17	9.00	8.00
SMPC0518S-1R5MT	1.5±20%	26	8.00	7.50
SMPC0518S-2R2MT	2.2±20%	35	6.50	5.00
SMPC0518S-3R3MT	3.3±20%	58	5.00	4.50
SMPC0518S-4R7MT	4.7±20%	85	4.00	3.50
SMPC0518S-6R8MT	6.8±20%	120	3.40	2.80
SMPC0518S-100MT	10±20%	155	3.00	2.50

SMPC0503S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0503S-R10MT	0.10±20%	3.0	30.00	25.00
SMPC0503S-R20MT	0.20±20%	3.9	20.00	14.00
SMPC0503S-R33MT	0.33±20%	5.5	18.00	14.00
SMPC0503S-R47MT	0.47±20%	8.5	15.00	11.00
SMPC0503S-R68MT	0.68±20%	12	11.50	9.00
SMPC0503S-1R0MT	1.0±20%	14	10.00	8.50
SMPC0503S-1R2MT	1.2±20%	16	9.50	8.50
SMPC0503S-1R5MT	1.5±20%	25	9.00	8.20
SMPC0503S-2R2MT	2.2±20%	29	7.00	7.00
SMPC0503S-3R3MT	3.3±20%	38	6.00	5.50
SMPC0503S-4R7MT	4.7±20%	60	4.60	4.50
SMPC0503S-6R8MT	6.8±20%	90	3.60	3.50
SMPC0503S-100MT	10±20%	125	3.50	3.20

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
VERSION:	F	CUSTOMER'S PART NO. :	
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SMPC0615S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0615S-R47MT	0.47±20%	8.5	16.00	10.00
SMPC0615S-R56MT	0.56±20%	11.0	14.00	9.00
SMPC0615S-R68MT	0.68±20%	12.0	12.00	8.50
SMPC0615S-R82MT	0.82±20%	17.0	10.00	8.00
SMPC0615S-1R0MT	1.0±20%	21.0	9.00	6.00
SMPC0615S-2R2MT	2.2±20%	54.0	7.00	3.80
SMPC0615S-3R3MT	3.3±20%	63.0	5.50	3.50
SMPC0615S-4R7MT	4.7±20%	85.0	5.00	3.20
SMPC0615S-6R8MT	6.8±20%	135.0	4.00	2.50
SMPC0615S-100MT	10±20%	175.0	3.00	2.00

SMPC0618S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0618S-R10MT	0.10±20%	2.3	38.00	25.00
SMPC0618S-R22MT	0.22±20%	3.5	24.00	22.00
SMPC0618S-R47MT	0.47±20%	8.4	18.00	11.50
SMPC0618S-R68MT	0.68±20%	12	16.50	9.50
SMPC0618S-1R0MT	1.0±20%	16	12.00	8.50
SMPC0618S-1R5MT	1.5±20%	26	9.20	8.00
SMPC0618S-2R2MT	2.2±20%	35	8.00	7.00
SMPC0618S-3R3MT	3.3±20%	50	6.00	4.50
SMPC0618S-4R7MT	4.7±20%	62	5.00	4.00
SMPC0618S-6R8MT	6.8±20%	110	4.50	3.00
SMPC0618S-100MT	10±20%	155	4.00	2.30
★SMPC0618S-220MT	22±20%	350	2.30	1.80

△For specifications marked with ★, please contact our sales department.

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VERSION:	F	CUSTOMER'S PART NO. :	
DATE:	2025/12/17		

SMPC0624S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0624S-R22MT	0.22±20%	3.00	34.00	21.00
SMPC0624S-R33MT	0.33±20%	4.10	24.50	18.00
SMPC0624S-R47MT	0.47±20%	5.10	22.00	15.00
SMPC0624S-R56MT	0.56±20%	6.50	17.00	13.00
SMPC0624S-R68MT	0.68±20%	7.00	16.00	12.00
SMPC0624S-1R0MT	1.0±20%	13.50	15.00	9.00
SMPC0624S-1R5MT	1.5±20%	20.00	13.50	8.20
SMPC0624S-2R2MT	2.2±20%	28.00	10.00	7.00
SMPC0624S-3R3MT	3.3±20%	39.00	8.00	5.50
SMPC0624S-4R7MT	4.7±20%	50.00	6.50	5.00
SMPC0624S-6R8MT	6.8±20%	70.00	6.00	4.00
SMPC0624S-100MT	10±20%	101.00	4.00	3.10
SMPC0624S-150MT	15±20%	160.00	3.30	2.50
SMPC0624S-220MT	22±20%	230.00	2.50	2.00

SMPC0601S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
★SMPC0601S-4R7MT	4.7±20%	172	2.80	2.20
★SMPC0601S-6R8MT	6.8±20%	197.0	2.50	2.00
★SMPC0601S-100MT	10±20%	310.0	2.10	1.60

△For specifications marked with ★, please contact our sales department.

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
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SMPC0603S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	µH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0603S-R15MT	0.15±20%	2.4	41.00	26.00
SMPC0603S-R22MT	0.22±20%	3	34.00	24.00
SMPC0603S-R33MT	0.33±20%	3.5	25.00	21.00
SMPC0603S-R47MT	0.47±20%	4.1	20.00	18.00
SMPC0603S-R56MT	0.56±20%	4.5	18.00	16.50
SMPC0603S-R68MT	0.68±20%	5.3	17.00	16.00
SMPC0603S-R82MT	0.82±20%	6.0	16.00	14.00
SMPC0603S-1R0MT	1.0±20%	7.4	15.00	12.00
SMPC0603S-1R5MT	1.5±20%	12.1	12.00	12.00
SMPC0603S-2R2MT	2.2±20%	15	10.00	9.50
SMPC0603S-3R3MT	3.3±20%	22	9.50	8.50
SMPC0603S-4R7MT	4.7±20%	33	9.00	6.00
SMPC0603S-5R6MT	5.6±20%	42	6.50	5.50
SMPC0603S-6R8MT	6.8±20%	48	6.00	5.00
SMPC0603S-8R2MT	8.2±20%	60	5.50	5.00
SMPC0603S-100MT	10±20%	68	5.50	4.50
SMPC0603S-150MT	15±20%	113	4.00	3.00
SMPC0603S-220MT	22±20%	170	3.00	2.50
SMPC0603S-330MT	33±20%	270	2.50	2.00
SMPC0603S-470MT	47±20%	385	2.00	1.50

SMPC0604S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	µH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0604S-R68MT	0.68±20%	4.8	19.0	17.00
SMPC0604S-1R0MT	1.0±20%	6.6	16.0	13.50
SMPC0604S-1R5MT	1.5±20%	10	12.5	12.40
SMPC0604S-2R2MT	2.2±20%	14	11.0	10.00
SMPC0604S-3R3MT	3.3±20%	20	9.5	8.50
SMPC0604S-4R7MT	4.7±20%	30	9.0	6.50
SMPC0604S-6R8MT	6.8±20%	45	6.5	5.50
SMPC0604S-8R2MT	8.2±20%	55	6.0	5.20
SMPC0604S-100MT	10±20%	65	6.0	4.80
SMPC0604S-150MT	15±20%	95	4.5	3.70
SMPC0604S-220MT	22±20%	125	4.0	3.30
SMPC0604S-330MT	33±20%	240	3.0	2.20
SMPC0604S-470MT	47±20%	320	2.5	1.80

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
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SMPC0605S Series

Part Number	Inductance	DC Resistance	Saturation Current ³	Heat Rating Current ⁴
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC0605S-R47MT	0.47±20%	3.90	21.00	20.00
SMPC0605S-R68MT	0.68±20%	4.50	18.00	16.50
SMPC0605S-1R0MT	1.0±20%	6.60	16.00	12.00
SMPC0605S-1R5MT	1.5±20%	10.0	13.00	9.50
SMPC0605S-2R2MT	2.2±20%	12.50	11.00	9.00
SMPC0605S-3R3MT	3.3±20%	22.00	10.00	8.50
SMPC0605S-4R7MT	4.7±20%	29.00	8.00	6.00
SMPC0605S-6R8MT	6.8±20%	41.00	6.30	5.80
SMPC0605S-8R2MT	8.2±20%	48.00	5.50	5.50
SMPC0605S-100MT	10±20%	60.00	5.30	4.50
SMPC0605S-150MT	15±20%	90.00	4.00	3.10
SMPC0605S-220MT	22±20%	140.00	3.50	2.60
SMPC0605S-330MT	33±20%	190.00	3.00	2.30
SMPC0605S-470MT	47±20%	230.00	2.60	2.00

SMPC1003S Series

Part Number	Inductance	DC Resistance	Saturation Current ³	Heat Rating Current ⁴
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1003S-R22MT	0.22±20%	1.2	50.00	33.00
SMPC1003S-R33MT	0.33±20%	1.6	32.00	23.00
SMPC1003S-R36MT	0.36±20%	1.6	28.00	23.00
SMPC1003S-R47MT	0.47±20%	2.5	26.00	22.00
SMPC1003S-R82MT	0.82±20%	3.7	23.00	18.00
SMPC1003S-1R0MT	1.0±20%	6.0	21.00	15.00
SMPC1003S-2R2MT	2.2±20%	9.0	14.00	11.00
SMPC1003S-3R3MT	3.3±20%	16.0	12.00	9.00
SMPC1003S-4R7MT	4.7±20%	24.0	10.00	7.00
SMPC1003S-8R2MT	8.2±20%	45.0	7.00	5.00
SMPC1003S-330MT	33±20%	160.0	4.00	2.60

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
VERSION:	F	CUSTOMER'S PART NO. :	
DATE:	2025/12/17		

SMPC1004S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1004S-R15MT	0.15±20%	0.65	75.00	45.00
SMPC1004S-R22MT	0.22±20%	1.00	60.00	35.00
SMPC1004S-R30MT	0.30±20%	1.10	45.00	35.00
SMPC1004S-R36MT	0.36±20%	1.20	45.00	30.00
SMPC1004S-R47MT	0.47±20%	1.70	40.00	30.00
SMPC1004S-R56MT	0.56±20%	1.80	33.00	25.00
SMPC1004S-R68MT	0.68±20%	2.40	30.00	23.00
SMPC1004S-R80MT	0.80±20%	2.70	29.00	23.00
SMPC1004S-1R0MT	1.0±20%	3.30	28.00	19.00
SMPC1004S-1R5MT	1.5±20%	4.20	24.00	16.00
SMPC1004S-2R2MT	2.2±20%	7.00	16.50	12.00
SMPC1004S-3R3MT	3.3±20%	11.80	16.00	11.00
SMPC1004S-4R7MT	4.7±20%	20.00	13.00	9.00
SMPC1004S-5R6MT	5.6±20%	22.00	12.00	8.50
SMPC1004S-6R8MT	6.8±20%	25.00	12.00	8.50
SMPC1004S-8R2MT	8.2±20%	27.00	9.00	8.00
SMPC1004S-100MT	10±20%	30.00	8.50	7.80
SMPC1004S-150MT	15±20%	45.00	7.00	6.50
SMPC1004S-220MT	22±20%	66.00	5.50	5.00
SMPC1004S-330MT	33±20%	92.00	4.80	4.40
SMPC1004S-470MT	47±20%	145.00	3.50	3.30
SMPC1004S-680MT	68±20%	195.00	3.00	2.50
SMPC1004S-820MT	82±20%	285.00	2.80	2.30
SMPC1004S-101MT	100±20%	340.00	2.30	2.00

SMPC1005S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1005S-R22MT	0.22±20%	0.80	65.00	37.00
SMPC1005S-1R0MT	1.0±20%	3.00	30.00	23.00
SMPC1005S-1R5MT	1.5±20%	3.80	25.00	21.00
SMPC1005S-2R2MT	2.2±20%	6.00	19.00	15.00
SMPC1005S-3R3MT	3.3±20%	10.00	16.00	13.00
SMPC1005S-4R7MT	4.7±20%	14.00	15.00	11.00
SMPC1005S-5R6MT	5.6±20%	17.00	14.00	9.50
SMPC1005S-6R8MT	6.8±20%	18.50	14.00	9.00
SMPC1005S-100MT	10±20%	28.00	10.00	8.00
SMPC1005S-150MT	15±20%	42.00	7.50	6.50
SMPC1005S-220MT	22±20%	50.00	6.00	5.50
SMPC1005S-330MT	33±20%	86.00	5.20	4.80
SMPC1005S-470MT	47±20%	127.00	4.50	3.70
SMPC1005S-101MT	100±20%	290.00	2.80	2.10

SMPC1204S Series

Part Number	Inductance	DC Resistance	Saturation Current ³	Heat Rating Current ⁴
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1204S-R22MT	0.22±20%	0.90	50.00	42.00
SMPC1204S-R47MT	0.47±20%	2.00	48.00	33.00
SMPC1204S-R68MT	0.68±20%	3.50	47.00	28.00
SMPC1204S-R82MT	0.82±20%	4.50	40.00	28.00
SMPC1204S-1R0MT	1.0±20%	7.50	35.00	24.00
SMPC1204S-1R5MT	1.5±20%	9.50	30.50	20.00
SMPC1204S-2R2MT	2.2±20%	11.50	26.00	18.00
SMPC1204S-3R3MT	3.3±20%	13.00	21.00	15.00
SMPC1204S-4R7MT	4.7±20%	14.50	18.00	13.00
SMPC1204S-6R8MT	6.8±20%	20.00	14.00	9.00
SMPC1204S-100MT	10±20%	25.00	10.00	8.00
SMPC1204S-150MT	15±20%	39.00	7.50	6.50
SMPC1204S-220MT	22±20%	51.00	6.00	4.50

SMPC1205S Series

Part Number	Inductance	DC Resistance	Saturation Current ³	Heat Rating Current ⁴
	@100KHZ, 1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1205S-R22MT	0.22±20%	0.70	75.00	50.00
SMPC1205S-R36MT	0.36±20%	0.85	50.00	42.00
SMPC1205S-R50MT	0.50±20%	1.15	48.00	38.00
SMPC1205S-R68MT	0.68±20%	1.55	46.00	33.00
SMPC1205S-R82MT	0.82±20%	1.67	39.00	30.00
SMPC1205S-1R0MT	1.0±20%	2.20	35.00	26.00
SMPC1205S-1R5MT	1.5±20%	3.20	33.00	23.00
SMPC1205S-2R2MT	2.2±20%	5.00	24.00	15.00
SMPC1205S-3R3MT	3.3±20%	7.00	22.00	14.00
SMPC1205S-4R7MT	4.7±20%	9.00	20.00	13.00
SMPC1205S-6R8MT	6.8±20%	18.00	16.00	12.00
SMPC1205S-8R2MT	8.2±20%	20.00	13.00	9.50
SMPC1205S-100MT	10±20%	22.00	12.00	9.00
SMPC1205S-150MT	15±20%	30.00	10.00	8.00
SMPC1205S-220MT	22±20%	58.00	6.50	4.50
SMPC1205S-330MT	33±20%	84.00	6.00	3.50
SMPC1205S-470MT	47±20%	130.00	5.00	3.00

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
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SMPC1206S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1206S-4R7MT	4.7±20%	9.00	24.00	15.00
SMPC1206S-5R6MT	5.6±20%	11.00	22.50	13.00
SMPC1206S-6R8MT	6.8±20%	13.50	19.00	12.00
SMPC1206S-8R2MT	8.2±20%	16.00	13.50	11.00
SMPC1206S-100MT	10±20%	20.70	12.50	10.00
SMPC1206S-120MT	12±20%	23.00	10.00	9.00
SMPC1206S-150MT	15±20%	29.00	9.00	8.50
SMPC1206S-180MT	18±20%	35.00	8.00	7.50
SMPC1206S-220MT	22±20%	39.50	7.50	7.00
SMPC1206S-270MT	27±20%	56.00	6.50	6.00
SMPC1206S-330MT	33±20%	75.00	6.00	5.50
SMPC1206S-470MT	47±20%	90.00	5.50	5.00
SMPC1206S-680MT	68±20%	140.00	4.50	4.00
SMPC1206S-101MT	100±20%	200.00	3.50	3.00
SMPC1206S-121MT	120±20%	235.00	3.20	2.00
SMPC1206S-151MT	150±20%	350.00	2.70	1.50

SMPC1265S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1265S-4R7MT	4.7±20%	8.5	24.00	16.00
SMPC1265S-5R6MT	5.6±20%	10.5	22.50	14.00
SMPC1265S-6R8MT	6.8±20%	12.0	19.00	13.00
SMPC1265S-8R2MT	8.2±20%	14.0	16.00	12.00
SMPC1265S-100MT	10±20%	16.5	15.00	11.00
SMPC1265S-150MT	15±20%	26.0	11.00	9.50
SMPC1265S-220MT	22±20%	36.0	9.00	8.00
SMPC1265S-330MT	33±20%	65.0	8.00	6.50
SMPC1265S-470MT	47±20%	70.0	6.80	5.50
SMPC1265S-680MT	68±20%	120.0	5.20	4.80
SMPC1265S-820MT	82±20%	135.0	4.50	4.00
SMPC1265S-101MT	100±20%	170.0	4.00	3.50

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SMPC1707S Series

Part Number	Inductance	DC Resistance	Saturation Current ^{*3}	Heat Rating Current ^{*4}
	@100KHZ,1V	Max.	Typ.	Typ.
Units	μH	mΩ	A	A
Symbol	L	DCR	Isat	Irms
SMPC1707S-2R2MT	2.2±20%	2.50	34.00	29.00
SMPC1707S-3R3MT	3.3±20%	3.95	30.00	24.00
SMPC1707S-4R7MT	4.7±20%	4.75	24.00	21.00
SMPC1707S-6R8MT	6.8±20%	7.50	22.00	17.00
SMPC1707S-8R2MT	8.2±20%	8.70	20.00	13.00
SMPC1707S-100MT	10±20%	9.90	19.00	12.00
SMPC1707S-150MT	15±20%	17.00	14.50	11.00
SMPC1707S-220MT	22±20%	23.00	11.50	8.50
SMPC1707S-330MT	33±20%	37.00	10.00	8.00
SMPC1707S-470MT	47±20%	47.00	7.50	6.00
SMPC1707S-680MT	68±20%	85.00	6.50	5.20

- ※1: All test data is referenced to 20°C ambient;
- ※2: Rated current: Isat or Irms, whichever is smaller;
- ※*3: Isat: DC current at which the inductance drops approximate 30% from its value without current;
- ※*4: Irms: DC current that causes the temperature rise ($\Delta T = 40^{\circ}\text{C}$) from 20°C ambient.

Semitel'S MODEL NO. :	SMPC Series	CUSTOMER'S MODEL NO. :	
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