

1. Part No. Expression:

SPS201609N1R0M

(a) (b) (c) (d) (e)

(a) Series Code

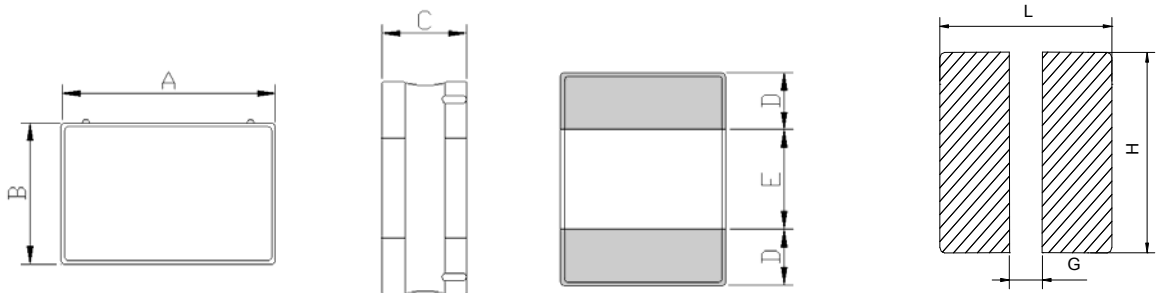
(b) Dimension Code

(c) Material Code

(d) Inductance Code

(e) Tolerance Code

2. Configuration & Dimensions : (Unit: mm)

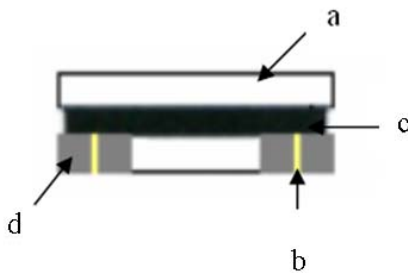


Recommended PCB Pattern

Unit: mm

A	B	C	D	E	L	G	H
2.0 -0.1/+0.2	1.6 -0.1/+0.2	0.95 Max.	0.60 Ref.	0.80 Ref.	2.30 Ref.	0.70 Ref.	1.70 Ref.

3. Material List

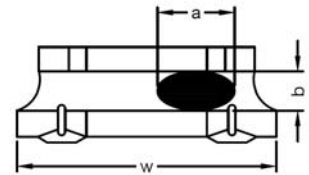


- a) Core
- b) Wire
- c) Glue
- d) Terminal

NOTE: Specifications subject to change without notice. Please check our website for latest information.

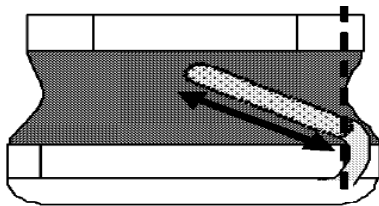
Exposed wire tolerance limit of coating resin part on product side:

1. Width direction (dimension a) : Acceptable when $a \leq w/2$;
 Nonconforming when $a > w/2$
2. Length direction (dimension b): Dimension b is not specified
3. The total area of exposed wire occurring to each sides is not greater than 50% of coating resin area and is acceptable



External appearance criterion for exposed wire

Exposed end of the winding wire at the secondary side should be 2mm and below.



4. General Specification

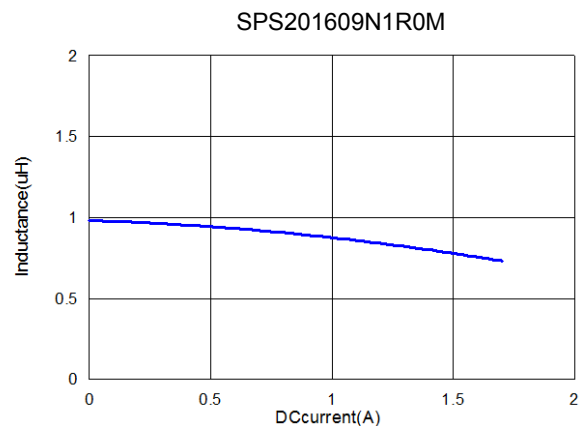
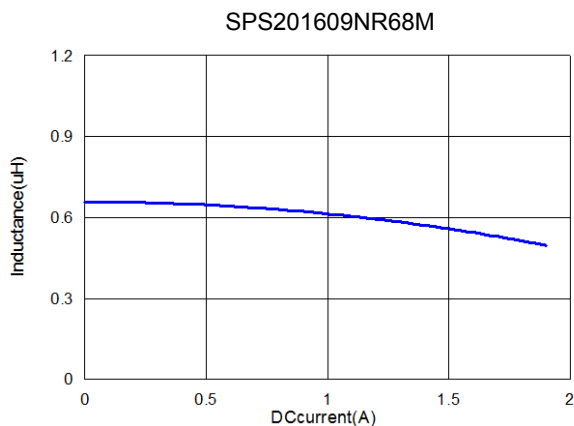
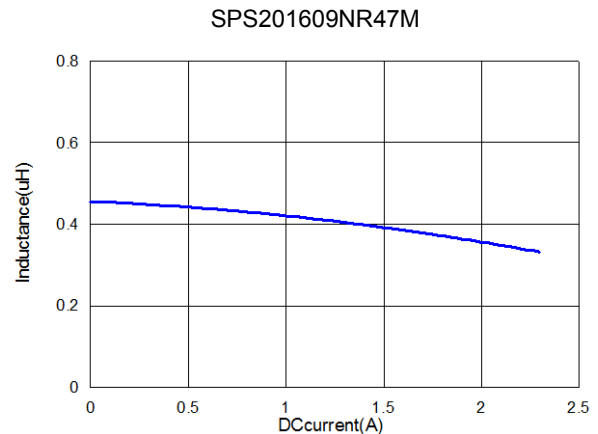
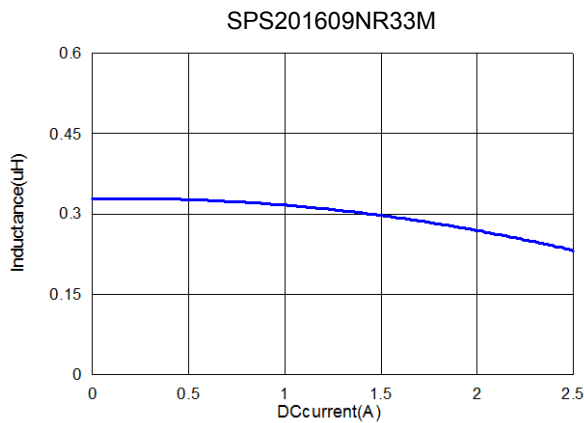
- (a) Operating Temp. : -40°C to $+125^{\circ}\text{C}$ (Including self - temperature rise).
- (b) Storage Temp. : -40°C to $+125^{\circ}\text{C}$ (on board).
- (c) Heat Rated Current (Irms) will cause the coil temperature rise approximately Δt of 40°C .
 - a) Saturation Current (Isat) will cause L0 to drop approximately 30%.
 - b) Humidity Range. : $85 \pm 2\%$ RH.
 - c) Storage Condition (component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity: 60% RH

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5. Electrical Characteristics

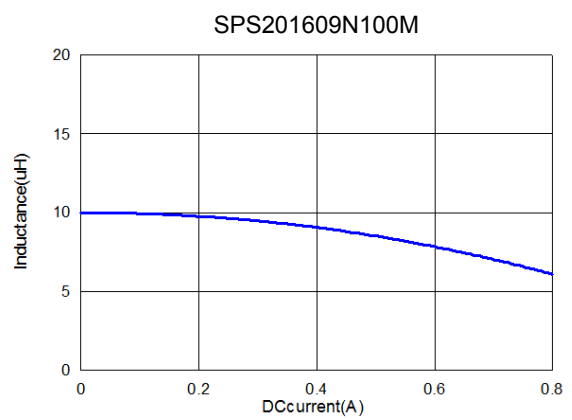
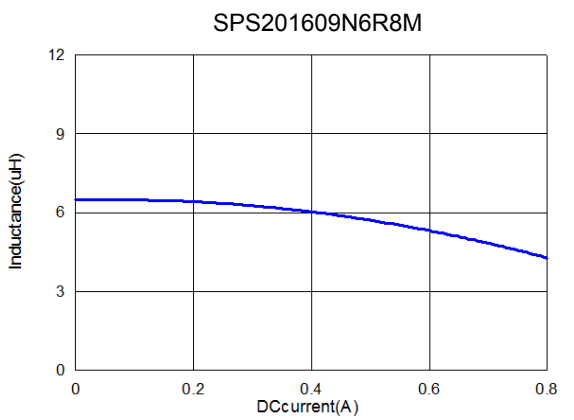
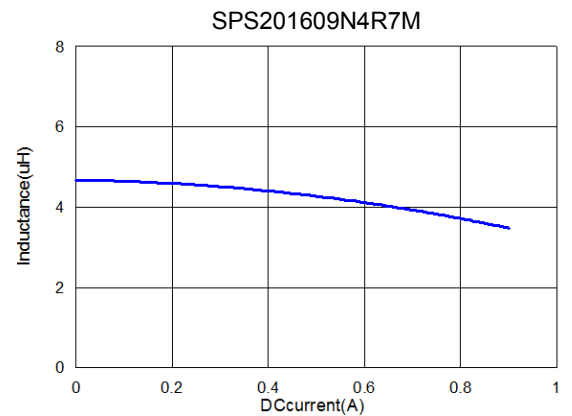
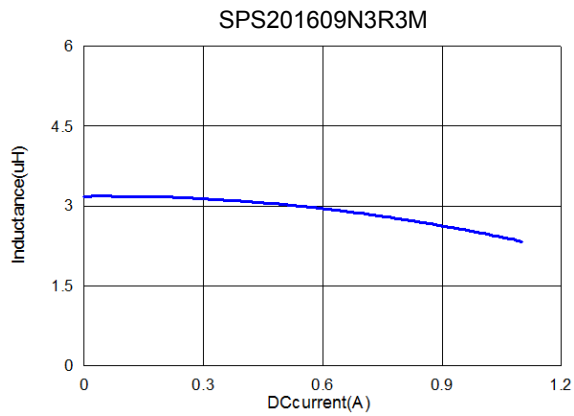
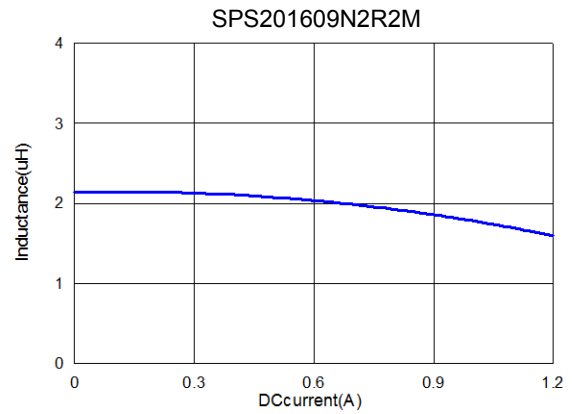
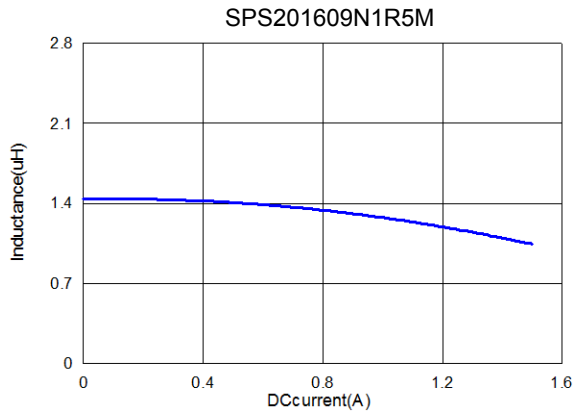
Part No.	Inductance (μ H) $\pm 20\%$	Test Frequency (Hz)	DCR (Ω) $\pm 20\%$	Isat (A) Typ.	Isat (A) Max.	Irms (A) Typ.	Irms (A) Max.
SPS201609NR33M	0.33	0.1V/1M	0.028	2.40	2.10	2.40	2.10
SPS201609NR47M	0.47	0.1V/1M	0.038	2.30	2.00	2.30	2.00
SPS201609NR68M	0.68	0.1V/1M	0.055	1.80	1.50	1.80	1.50
SPS201609N1R0M	1.0	0.1V/1M	0.065	1.70	1.40	1.70	1.40
SPS201609N1R5M	1.5	0.1V/1M	0.110	1.40	1.20	1.40	1.20
SPS201609N2R2M	2.2	0.1V/1M	0.160	1.10	0.90	1.10	0.90
SPS201609N3R3M	3.3	0.1V/1M	0.250	1.00	0.85	1.00	0.85
SPS201609N4R7M	4.7	0.1V/1M	0.400	0.90	0.75	0.90	0.75
SPS201609N6R8M	6.8	0.1V/1M	0.550	0.75	0.65	0.75	0.65
SPS201609N100M	10	0.1V/1M	1.00	0.70	0.60	0.60	0.55

6. Characteristics Curves



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7. Soldering

Mildly activated rosin fluxes are preferred. The terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

7-1 Solder Re-flow:

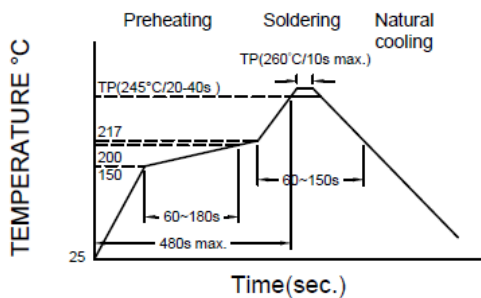
Recommended temperature profiles for re-flow soldering in Figure 1.

7-2 Soldering Iron (Figure 2):

Products attachment with soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

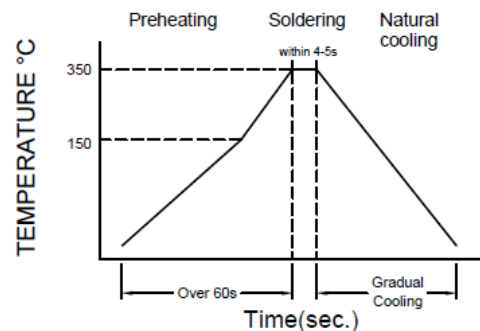
Note :

- a) Preheat circuit and products to 150°C.
- b) 355°C tip temperature (Max.)
- c) Never contact the ceramic with the iron tip
- d) 1.0mm tip diameter (Max.)
- e) Use a 20 watt soldering iron with tip diameter of 1.0mm
- f) Limit soldering time to 4~5 secs.



Reflow times: 3 times Max.

Fig.1



Iron Soldering times: 1 times Max.

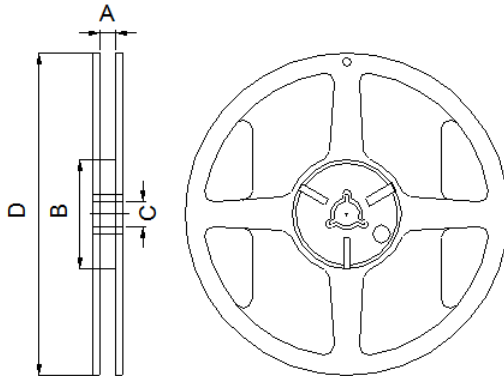
Fig.2

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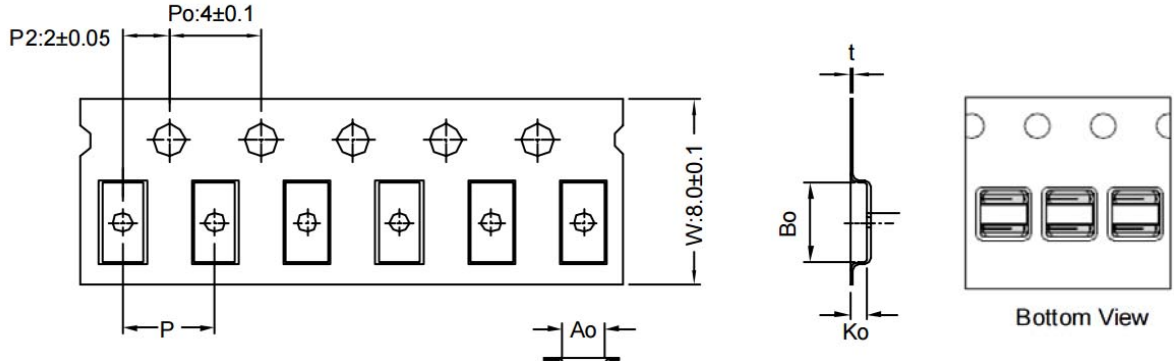
8. Packaging Information

8-1. Reel Dimension



Type	A (mm)	B (mm)	C (mm)	D (mm)
7" x 8mm	8.4 ± 1.0	50 Min.	13.0 ± 0.8	178 ± 2.0

8-2. Tape Dimension



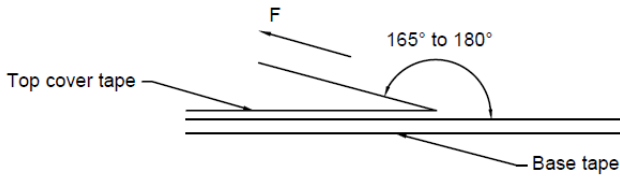
Series	Ao(mm)	Bo(mm)	Ko(mm)	P(mm)	t(mm)
SPS201609	2.00±0.10	2.50±0.10	1.20±0.10	4.00±0.10	0.22±0.05

8-3. Packaging Quantity

Size	201609
Chip/ Reel	2000

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8-4. Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

Room Temp (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed (mm/min)
5 - 35	45 - 85	860 - 1060	300

Application Notice:

1. Storage Conditions:

To maintain the solderability of terminal electrodes:

- a) Recommended products should be used within 12 months from the time of delivery.
- b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation:

- a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- b) Vacuum pick up is strongly recommended for individual components.
- c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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