

## 1. Part No. Expression:

**S P S 2 5 2 0 1 0 C R 4 7 Y F**

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

(a) Series code

(b) Dimension code

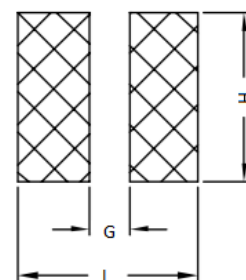
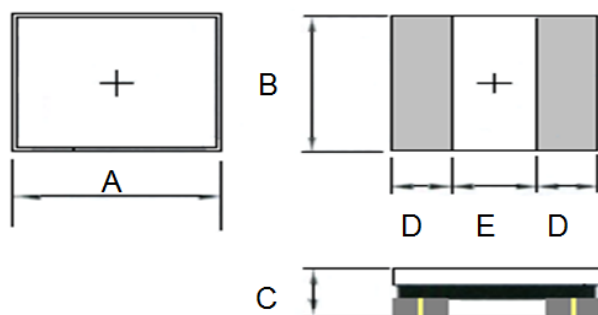
(c) Material code

(d) Inductance code

(e) Tolerance Code

(f) RoHS Compliant

## 2. Configuration & Dimensions : (Unit: mm)



Recommended PCB Pattern

Unit : mm

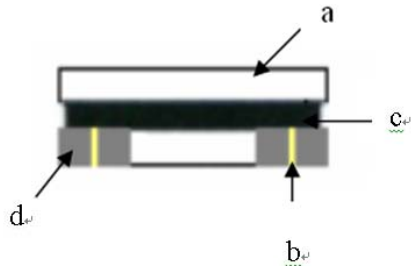
A	B	C	D	E	G	H	L
2.5 -0.1/+0.2	2.0 -0.05/+0.35	1.00 Max.	0.85 Ref.	0.80 Ref.	0.80	2.40	2.90

## 3. Schematic



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

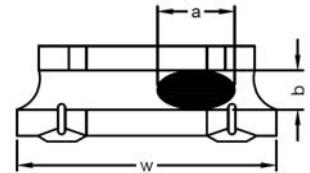
## 4. Material List



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

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



## 5. General Specification

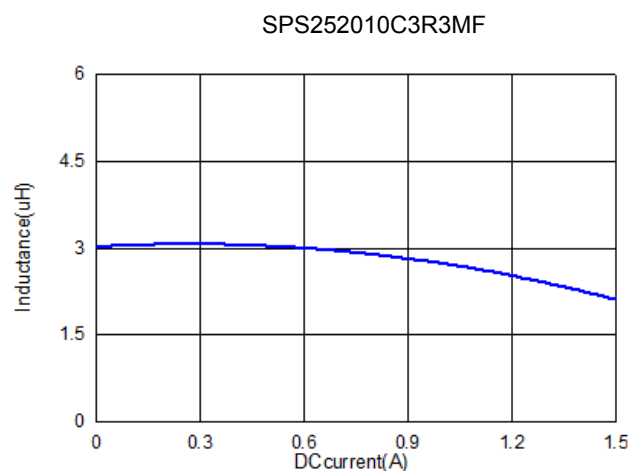
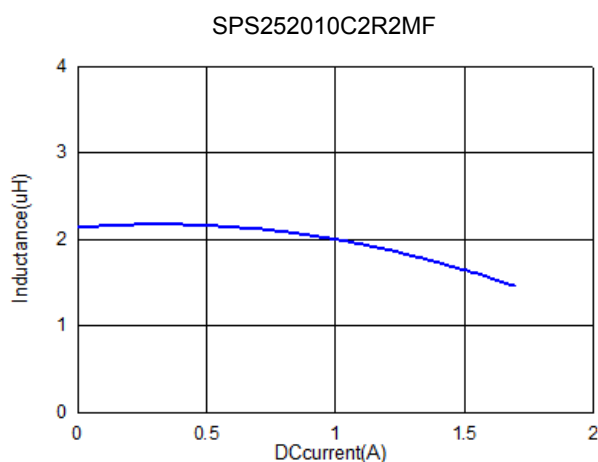
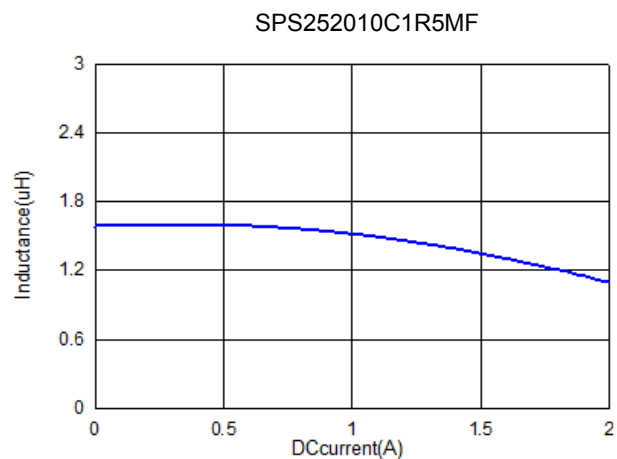
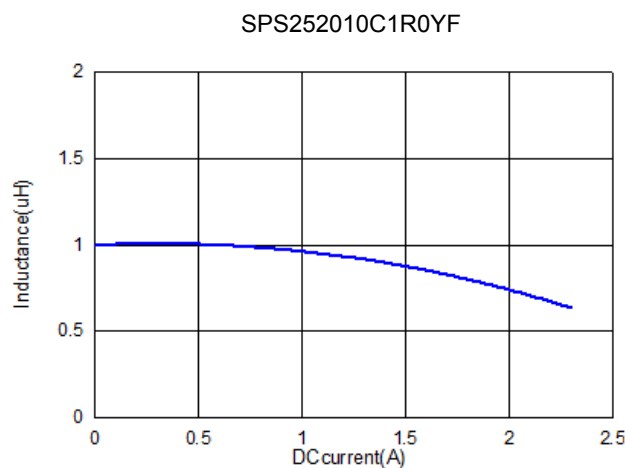
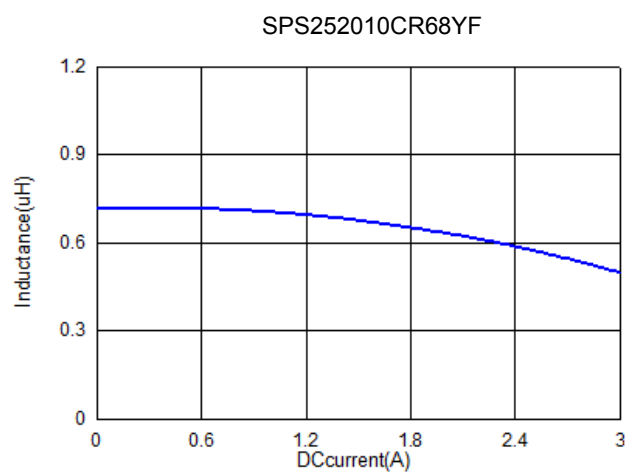
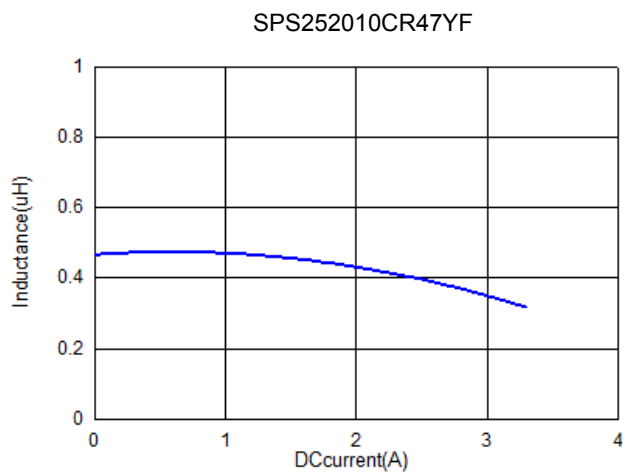
- a) Isat: Based on inductance change ( $\Delta L/L_0: \leq 30\%$  Typ.)
- b) Irms: Based on temperature rise ( $\Delta T: 40^\circ\text{C}$  Max.)
- c) Operating Temperature:  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$  (including self-temperature rise)
- d) Storage Temperature:  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$
- e) Storage Condition (component in its packaging)
  - i) Temperature: Less than  $40^\circ\text{C}$
  - ii) Humidity: 60% RH

## 6. Electrical Characteristics

Part No.	Inductance ( $\mu\text{H}$ )	Test Frequency (Hz)	DCR ( $\Omega$ ) $\pm 20\%$	Isat (A) Max.	Irms (A) Max.
SPS252010CR47YF	$0.47 \pm 30\%$	0.1V/1M	0.030	2.57	2.50
SPS252010CR68YF	$0.68 \pm 30\%$	0.1V/1M	0.039	2.45	2.20
SPS252010C1R0YF	$1.00 \pm 30\%$	0.1V/1M	0.055	2.05	1.80
SPS252010C1R5MF	$1.50 \pm 20\%$	0.1V/1M	0.090	1.70	1.55
SPS252010C2R2MF	$2.20 \pm 20\%$	0.1V/1M	0.114	1.55	1.40
SPS252010C3R3MF	$3.30 \pm 20\%$	0.1V/1M	0.170	1.10	1.10
SPS252010C4R7MF	$4.70 \pm 20\%$	0.1V/1M	0.250	0.95	0.92
SPS252010C6R8MF	$6.80 \pm 20\%$	0.1V/1M	0.370	0.80	0.76
SPS252010C100MF	$10.0 \pm 20\%$	0.1V/1M	0.470	0.65	0.67
SPS252010C150MF	$15.0 \pm 20\%$	0.1V/1M	0.750	0.45	0.50
SPS252010C220MF	$22.0 \pm 20\%$	0.1V/1M	1.120	0.40	0.45

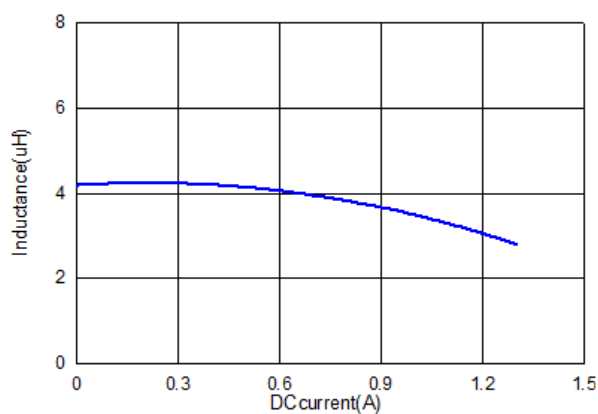
NOTE: Specifications subject to change without notice. Please check our website for latest information.

## 7. Characteristics Curves

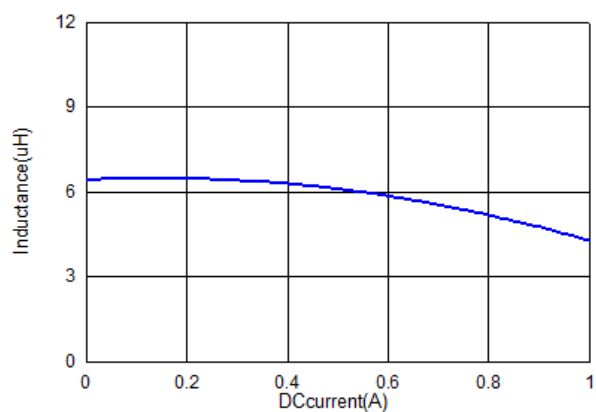


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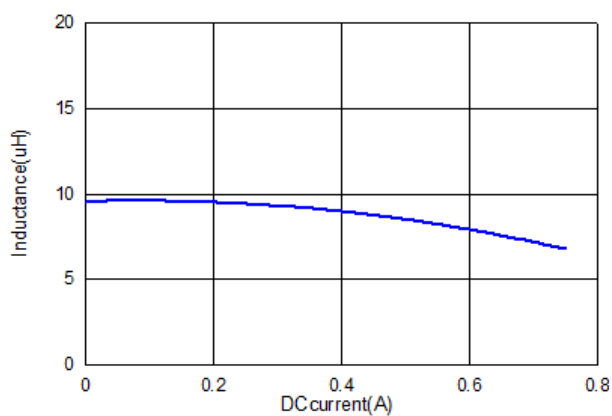
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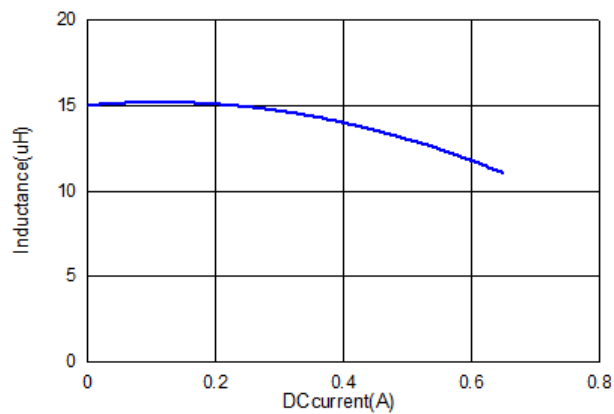
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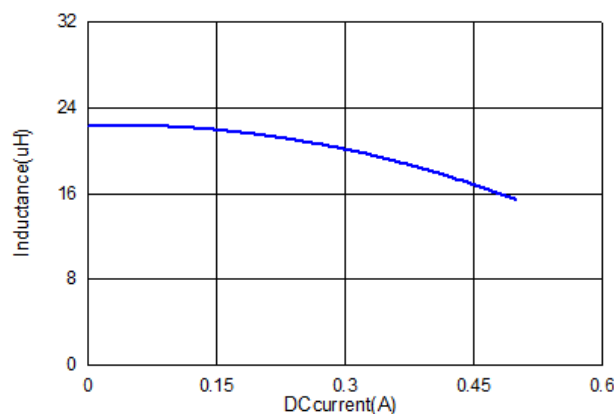
SPS252010C100MF



SPS252010C150MF



SPS252010C220MF



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## 8. 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.

### 8-1 Solder Re-flow:

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

### 8-2 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 :

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

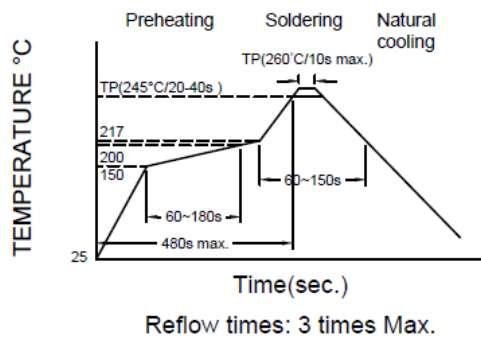


Fig.1

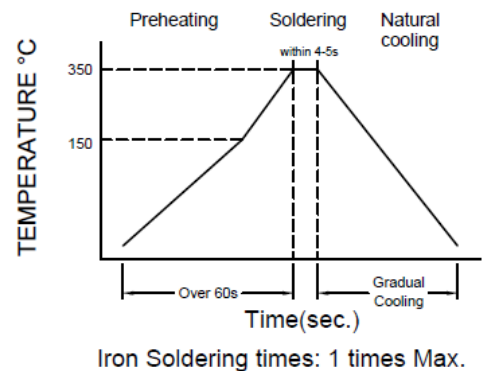
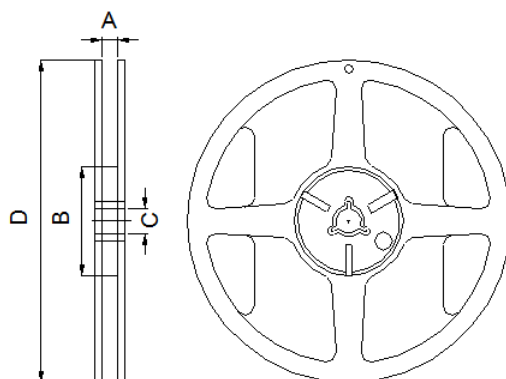


Fig.2

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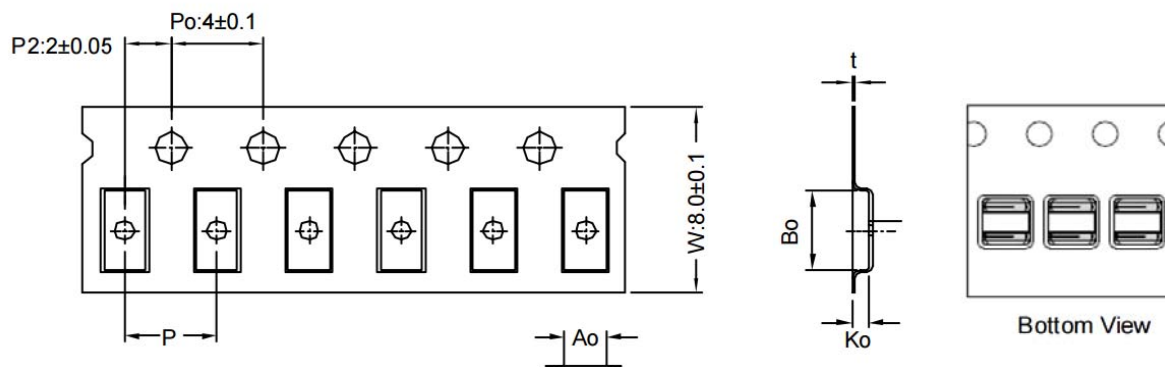
## 9. Packaging Information

### 9-1. Reel Dimension



Type	A (mm)	B (mm)	C (mm)	D (mm)
7" x 8mm	$8.4 \pm 1.0$	50 Min.	$13.0 \pm 0.8$	$178.0 \pm 2.0$

### 9-2. Tape Dimension



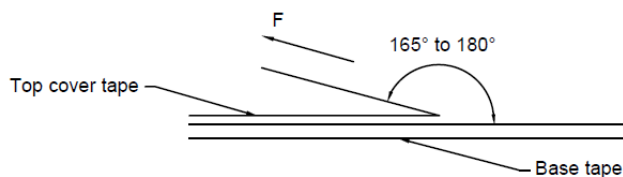
Series	Ao(mm)	Bo(mm)	Ko(mm)	P(mm)	t(mm)
SPS252010	$2.45 \pm 0.10$	$2.85 \pm 0.10$	$1.40 \pm 0.10$	$4.00 \pm 0.10$	$0.23 \pm 0.05$

### 9-3. Packaging Quantity

Size	252010
Chip/ Reel	2000

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## 9-4. 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:

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

### 2. Transportation:

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

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