1. Part No. Expression:

<u>SPS201610HR47YF</u>

- (a)
- (b)
- (c) (d) (e) (f)
- (a) Series code

(d) Inductance code

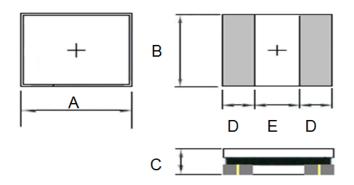
(b) Dimension code

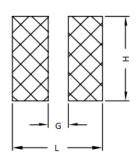
(e) Tolerance Code

(c) Material code

(f) RoHS Compliant

2. Configuration & Dimensions : (Unit: mm)





Recommended PCB Pattern

Unit: mm

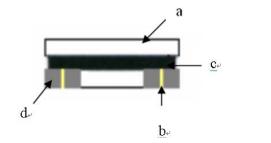
Α	В	С	D	E	G	Н	L
2.0 -0.1/+0.2	1.6 -0.1/+0.2	1.00 Max.	0.60 Ref.	0.80 Ref.	0.80	1.80	2.40

3. Schematic





4. Material List



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

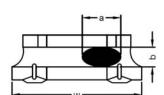
Exposed wire tolerance limit of coating resin part on product side:

1. Width direction (dimension a):

Acceptable when $a \le w/2$;

Nonconforming when a > w/2

- 2. Length direction (dimension b): Dimension b is not specified
- 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 (ΔL/Lo: ≤30% Typ.)
- b) Irms: Based on temperature rise (Approximately ΔT: 40°C)
- c) Operating Temperature: 40°C to +125°C (including self-temperature rise)
- d) Storage Temperature: 40°C to +125°C
- e) Storage Condition (component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity: 60% RH

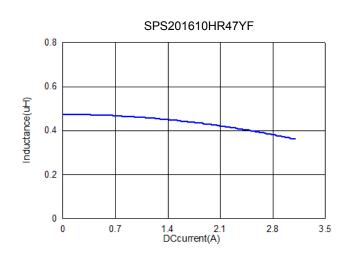
6. Electrical Characteristics

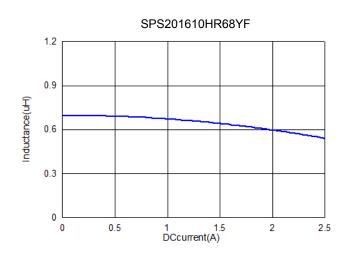
Part No.	Inductance (μH)	Test Frequency (Hz)	DCR (Ω) ± 20%	Isat (A) Max.	Irms (A) Max.
SPS201610HR47YF	0.47 ± 30%	0.1V/1M	0.044	2.70	2.35
SPS201610HR68YF	0.68 ± 30%	0.1V/1M	0.062	2.00	2.05
SPS201610H1R0YF	1.00 ± 30%	0.1V/1M	0.080	1.80	1.60
SPS201610H1R5YF	1.50 ± 30%	0.1V/1M	0.130	1.46	1.26
SPS201610H2R2MF	2.20 ± 20%	0.1V/1M	0.145	1.26	1.20
SPS201610H3R3MF	3.30 ± 20%	0.1V/1M	0.245	0.90	0.95
SPS201610H4R7MF	4.70 ± 20%	0.1V/1M	0.360	0.77	0.90
SPS201610H6R8MF	6.80 ± 20%	0.1V/1M	0.500	0.72	0.55
SPS201610H100MF	10.0 ± 20%	0.1V/1M	0.720	0.55	0.45

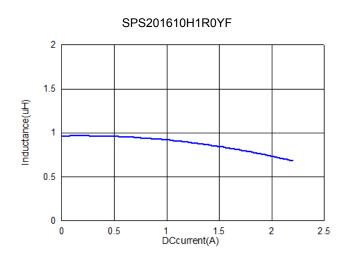


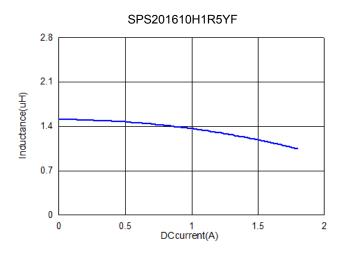
Part No.	Inductance (µH)	Test Frequency (Hz)	DCR (Ω) ± 20%	Isat (A) Max.	Irms (A) Max.
SPS201610H150MF	15.0 ± 20%	0.1V/1M	1.400	0.45	0.36
SPS201610H180MF	18.0 ± 20%	0.1V/1M	1.800	0.40	0.34
SPS201610H220MF	22.0 ± 20%	0.1V/1M	2.000	0.38	0.27

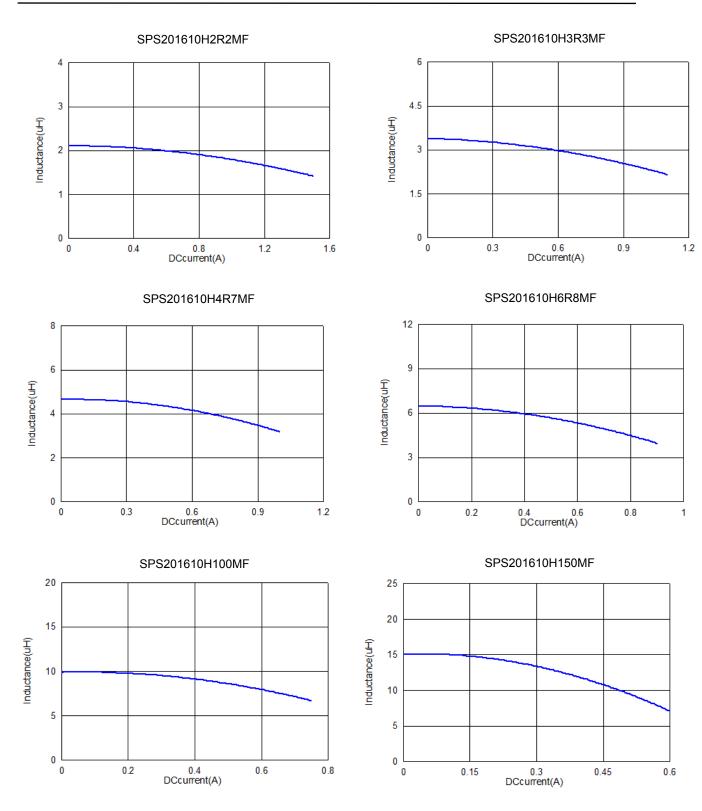
7. Characteristics Curves



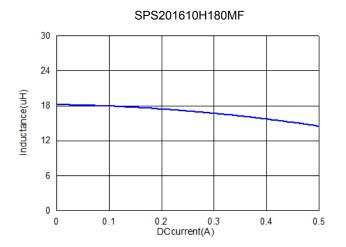


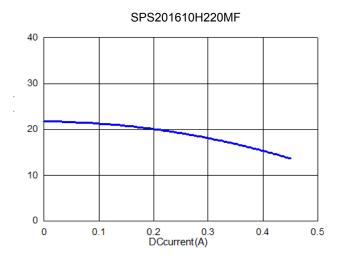












8. Soldering

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:

- 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.

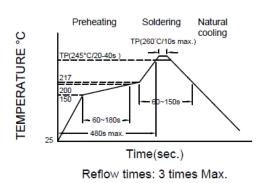
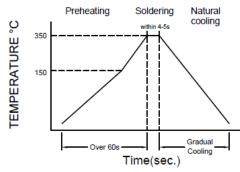


Fig.1



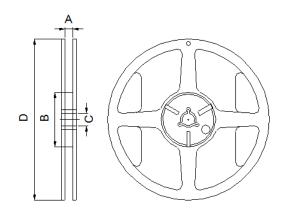
Iron Soldering times: 1 times Max.

Fig.2



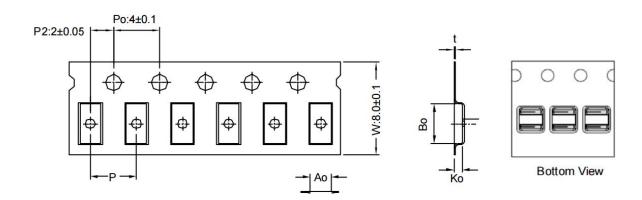
9. Packaging Information

9-1. Reel Dimension



Туре	A (mm)	B (mm)	C (mm)	D (mm)
7" x 8mm	8.4 ± 1.0	50 Min.	13.0 ± 0.8	178.0± 2.0

9-2. Tape Dimension



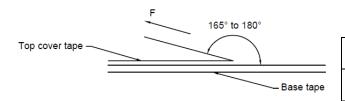
Series	Ao(mm)	Bo(mm)	Ko(mm)	P(mm)	t(mm)
SPS201610	2.00±0.10	2.50±0.10	1.05±0.10	4.00±0.10	0.23±0.05

9-3. Packaging Quantity

Size	201610	
Chip/ Reel	2000	



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	Room	Room atm	Tearing Speed (mm/min)
(°C)	Humidity (%)	(hPa)	
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.