

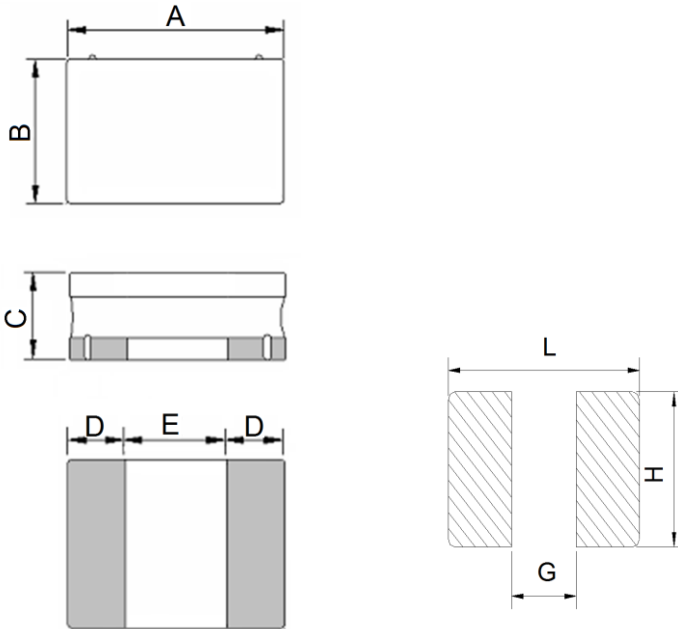
1. Part No. Expression:

S P S 2 5 2 0 1 2 D R 4 7 M 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:



Recommended PCB Pattern

Unit : mm

A	B	C	D	E	L	G	H
2.5 +0.2/-0.1	2.0 +0.35/-0.05	1.20 Max.	0.85 Ref.	0.80 Ref.	2.90 Ref.	0.80 Ref.	2.40 Ref.

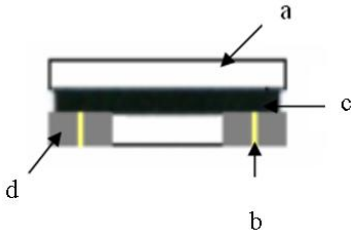
3. Schematic:



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

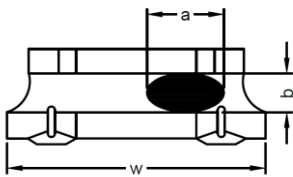


4. Material List:



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

Appearance of exposed wire tolerance limit:



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) Operating Temp. : -40°C to +125°C (Inclusive of coil temp rise).
- (b) Storage Temp. : -40°C to +125°C (on board).
- (c) Heat Rated Current (Irms) will cause the coil temperature rise approximately Δt of 40°C.
- (d) Saturation Current (Isat) will cause L0 to drop approximately 30%.
- (e) Storage condition (component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity : 60% RH

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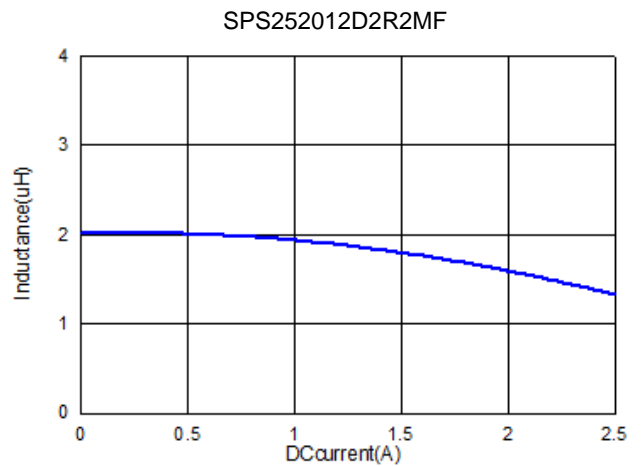
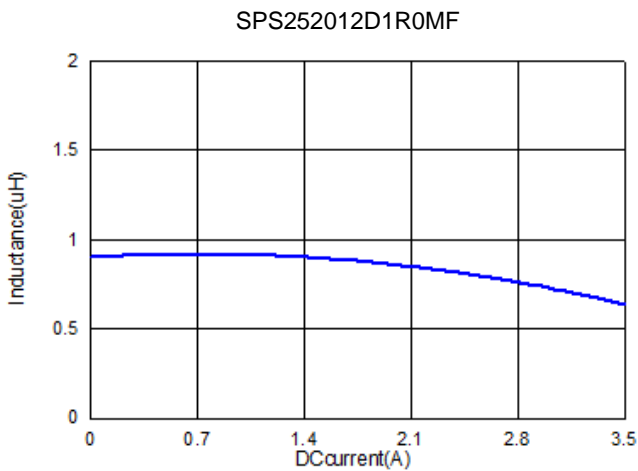
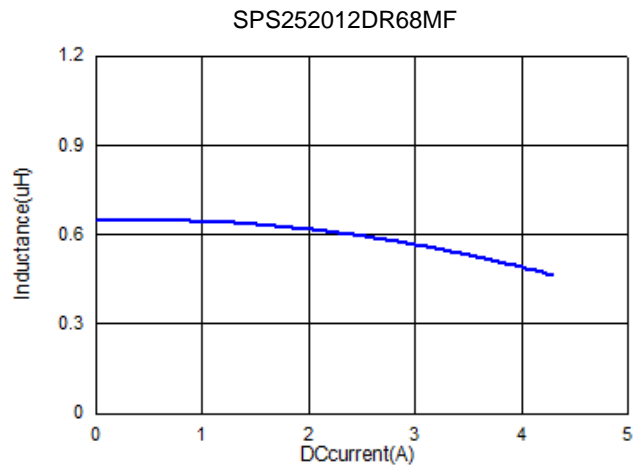
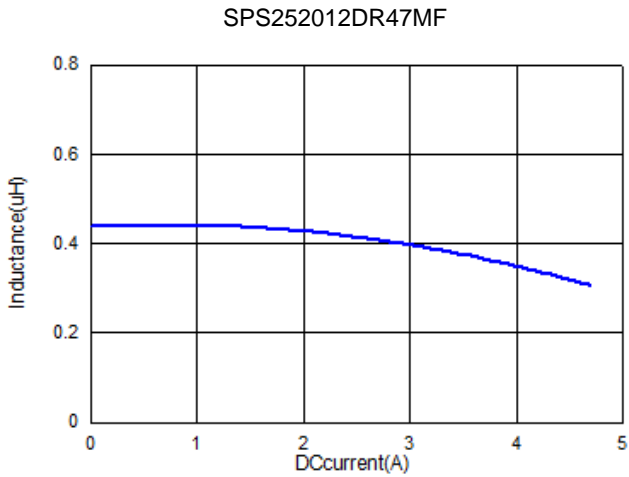


6. Electrical Characteristics:

Part No.	Inductance (μH) ± 20%	Test Frequency (Hz)	DCR (Ω) Typ.	DCR (Ω) Max.	Isat (A) Typ.	Isat (A) Max.	Irms (A) Typ.	Irms (A) Max.
SPS252012DR47MF	0.47	0.1V/1M	0.029	0.039	4.70	3.80	3.90	3.30
SPS252012DR68MF	0.68	0.1V/1M	0.042	0.055	4.40	3.70	3.50	2.90
SPS252012D1R0MF	1.00	0.1V/1M	0.047	0.062	3.80	3.00	3.00	2.70
SPS252012D2R2MF	2.20	0.1V/1M	0.098	0.117	2.30	2.00	2.20	1.90

Note: At all times, the current supplied to the product should not exceed Isat Max. value.

7. Characteristics Curves:



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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:

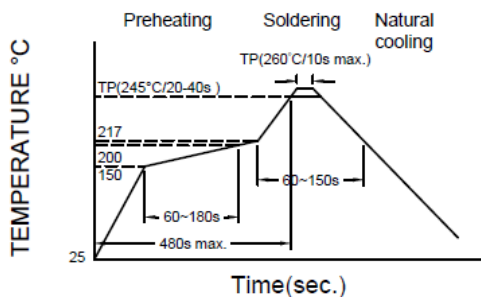
Recommended temperature profiles for re-flow soldering in Figure 1.

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.

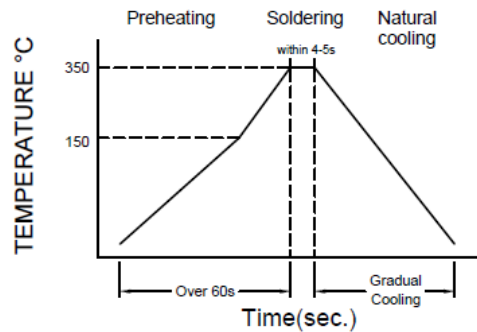
Note :

- 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.

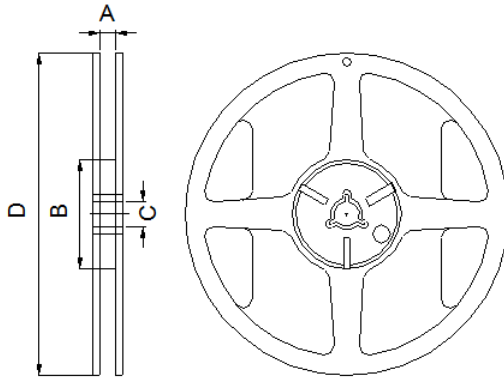
Fig.2

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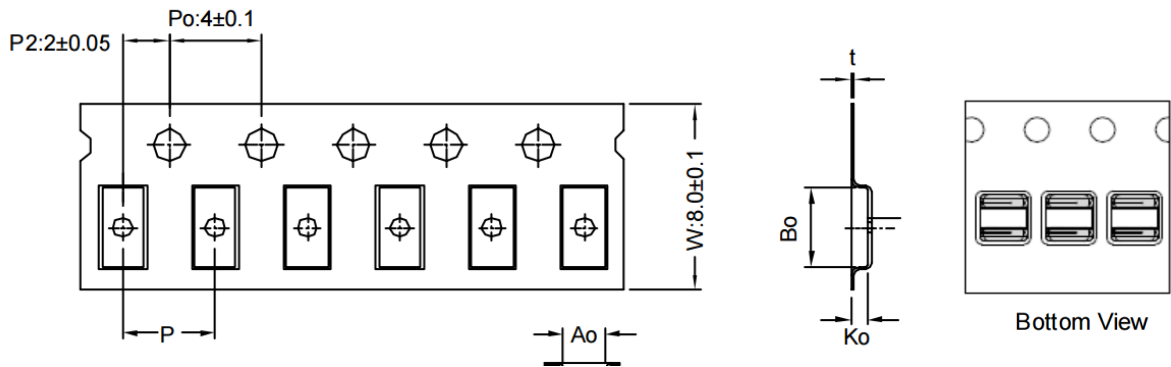
9. Packaging Information:

9-1. Reel Dimension



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

9-2. Tape Dimension



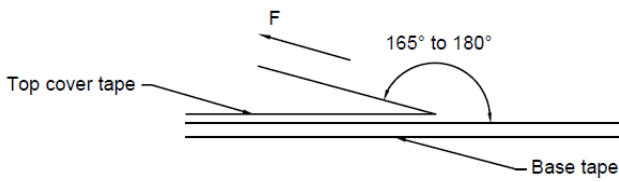
Series	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
SPS252012	3.10±0.10	2.45±0.10	1.40±0.10	4.00±0.10	0.23±0.05

9-3. Packaging Quantity

Size	SPS252012
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:

- 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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