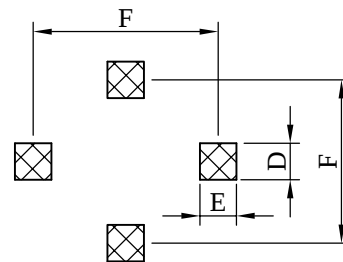
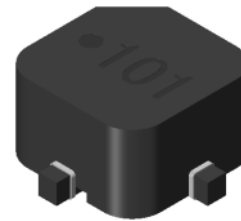
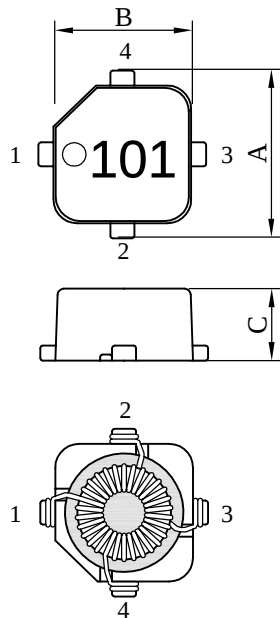


SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.		SF1407□□□□L□-□□□	
		REV.	20241206-E	PAGE	1

I . Configuration and dimensions :

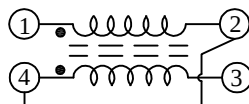


(PCB Pattern)

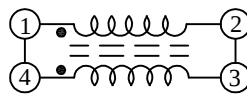
Unit : mm

A	B	C	D	E	F
14.00±0.50	11.50±0.50	6.70 max.	4.00 ref.	2.54 ref.	12.70 ref.

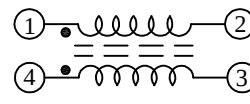
II . Schematic diagram :



Series Mode



Parallel Mode



1:1 Transformer
Dual Diff Mode

" ● " : Polarity

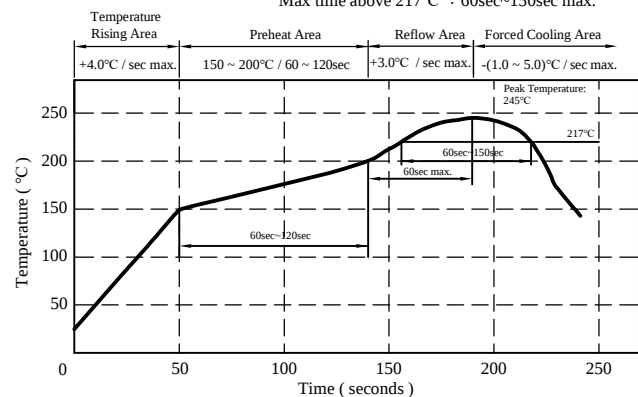
III . Description :

- a . Iron toroidal core construction
- b . Enamelled copper wire : H class
- c . Product weight : 1.90g (ref.)
- d . Moisture sensitivity Level 1
- e . Products comply with RoHS' requirements
- f . Halogen free

IV . General specification :

- a . Operating temp . : -55°C ~ +125°C
(Temp. rise included)
- b . Resistance to solder heat : 260°C. 10 sec.

Peak Temp : 245°C max.
Max. Peak Temp - 5°C : 30sec max.
Max time above 217°C : 60sec~150sec max.



AR-001C

SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.		SF1407□□□□L□-□□□			
		REV.	20241206-E	PAGE	2		

V . Electrical characteristics :

Parallel					Series			
Dwg. No.	L (uH) 1k/0.1V	Irms (A)	L (uH) @rated I	RDC (Ω) max.	L (uH) 1k/0.1V	Irms (A)	L (uH) @rated I	RDC (Ω) max.
SF14075R0ML□-□□□	5 ±20%	3.30	3.8 ±20%	0.019	20 ±20%	1.65	15.2 ±20%	0.076
SF14078R0ML□-□□□	8 ±20%	3.00	5.8 ±20%	0.024	32 ±20%	1.50	23.2 ±20%	0.096
SF1407100ML□-□□□	10 ±20%	2.70	7.3 ±20%	0.028	40 ±20%	1.35	29.2 ±20%	0.110
SF1407150ML□-□□□	15 ±20%	2.20	11.0 ±20%	0.041	60 ±20%	1.10	44.0 ±20%	0.160
SF1407200ML□-□□□	20 ±20%	2.02	14.2 ±20%	0.049	80 ±20%	1.01	56.8 ±20%	0.200
SF1407250ML□-□□□	25 ±20%	1.91	17.0 ±20%	0.054	100 ±20%	0.96	68.0 ±20%	0.220
SF1407330ML□-□□□	33 ±20%	1.60	23.1 ±20%	0.078	132 ±20%	0.80	92.4 ±20%	0.310
SF1407500ML□-□□□	50 ±20%	1.28	35.5 ±20%	0.120	200 ±20%	0.64	142.0 ±20%	0.480
SF1407680ML□-□□□	68 ±20%	1.19	46.2 ±20%	0.140	272 ±20%	0.60	184.8 ±20%	0.560
SF1407101ML□-□□□	100 ±20%	0.98	68.0 ±20%	0.210	400 ±20%	0.49	272.0 ±20%	0.840
SF1407151ML□-□□□	150 ±20%	0.78	103.5 ±20%	0.320	600 ±20%	0.39	414.0 ±20%	1.280
SF1407201ML□-□□□	200 ±20%	0.65	140.0 ±20%	0.470	800 ±20%	0.33	560.0 ±20%	1.880
SF1407251ML□-□□□	250 ±20%	0.60	172.5 ±20%	0.530	1000 ±20%	0.30	690.0 ±20%	2.120
SF1407301ML□-□□□	300 ±20%	0.52	213.0 ±20%	0.730	1200 ±20%	0.26	852.0 ±20%	2.920

- 1). Electrical specifications at 25°C
- 2). Irms : Base on temp. rise 35°C max.

AR-001C

SPECIFICATION FOR APPROVAL

REF. :

PROD.	SMD Power Inductor	ABC'S DWG NO.		SF1407□□□□L□-□□□	
NAME		REV.	20241206-E	PAGE	3

VI . Curve(Parallel) :

SF14075R0ML□

Graph showing Inductance (L) in % of L0A versus DC Current (IDC) in Amperes (A) for SF14075R0ML. The y-axis ranges from 0% to 120% in 20% increments. The x-axis ranges from 0.0 to 8.0 in 2.0 increments. The curve starts at 100% at 0.0A and decreases to approximately 55% at 8.0A.

IDC(A)	L/L0A (%)
0.0	100
2.0	85
4.0	70
6.0	60
8.0	55

Graph showing Temperature Rise (ΔT) in °C versus DC Current (IDC) in Amperes (A) for SF14075R0ML. The y-axis ranges from 0.0 to 60.0 in 10.0 increments. The x-axis ranges from 0.0 to 8.0 in 2.0 increments. The curve starts at 0.0°C at 0.0A and rises to approximately 58°C at 8.0A.

IDC(A)	ΔT(°C)
0.0	0.0
2.0	5.0
4.0	15.0
6.0	30.0
8.0	58.0

SF1407250ML□

Graph showing Inductance (L) in % of L0A versus DC Current (IDC) in Amperes (A) for SF1407250ML. The y-axis ranges from 0% to 120% in 20% increments. The x-axis ranges from 0.0 to 4.0 in 1.0 increments. The curve starts at 100% at 0.0A and decreases to approximately 40% at 4.0A.

IDC(A)	L/L0A (%)
0.0	100
1.0	75
2.0	60
3.0	48
4.0	40

Graph showing Temperature Rise (ΔT) in °C versus DC Current (IDC) in Amperes (A) for SF1407250ML. The y-axis ranges from 0.0 to 50.0 in 10.0 increments. The x-axis ranges from 0.0 to 4.0 in 1.0 increments. The curve starts at 0.0°C at 0.0A and rises to approximately 45°C at 4.0A.

IDC(A)	ΔT(°C)
0.0	0.0
1.0	2.0
2.0	10.0
3.0	25.0
4.0	45.0

SF1407101ML□

Graph showing Inductance (L) in % of L0A versus DC Current (IDC) in Amperes (A) for SF1407101ML. The y-axis ranges from 0% to 120% in 20% increments. The x-axis ranges from 0 to 1.8 in 0.3 increments. The curve starts at 100% at 0A and decreases to approximately 50% at 1.8A.

IDC(A)	L/L0A (%)
0	100
0.3	85
0.6	75
0.9	65
1.2	58
1.5	52
1.8	50

Graph showing Temperature Rise (ΔT) in °C versus DC Current (IDC) in Amperes (A) for SF1407101ML. The y-axis ranges from 0.0 to 70.0 in 10.0 increments. The x-axis ranges from 0 to 1.5 in 0.3 increments. The curve starts at 0.0°C at 0A and rises to approximately 60°C at 1.5A.

IDC(A)	ΔT(°C)
0	0.0
0.3	1.0
0.6	5.0
0.9	15.0
1.2	35.0
1.5	60.0

SF1407301ML□

Graph showing Inductance (L) in % of L0A versus DC Current (IDC) in Amperes (A) for SF1407301ML. The y-axis ranges from 0% to 120% in 20% increments. The x-axis ranges from 0.0 to 1.2 in 0.2 increments. The curve starts at 100% at 0.0A and decreases to approximately 45% at 1.2A.

IDC(A)	L/L0A (%)
0.0	100
0.2	85
0.4	75
0.6	65
0.8	58
1.0	52
1.2	45

Graph showing Temperature Rise (ΔT) in °C versus DC Current (IDC) in Amperes (A) for SF1407301ML. The y-axis ranges from 0.0 to 60.0 in 10.0 increments. The x-axis ranges from 0.0 to 1.0 in 0.2 increments. The curve starts at 0.0°C at 0.0A and rises to approximately 50°C at 1.0A.

IDC(A)	ΔT(°C)
0.0	0.0
0.2	2.0
0.4	8.0
0.6	18.0
0.8	30.0
1.0	50.0

AR-001C

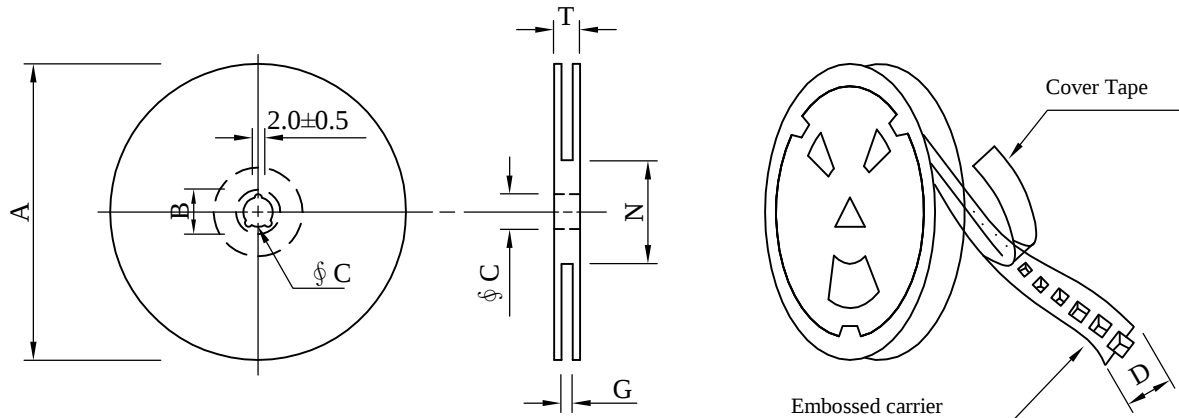
SPECIFICATION FOR APPROVAL

REF. :

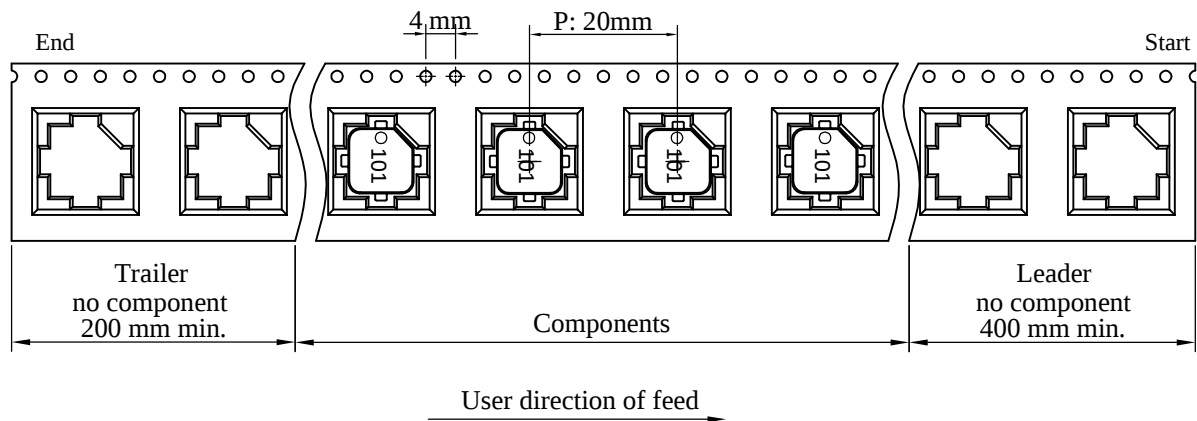
PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	SF1407□□□□L□-□□□		
		REV.	20241206-E	PAGE	4

VII . Packaging information :

(1) Configuration



※Carrier tape width : D



(2) Dimensions : (mm)

Style	A	B	C	D	G	N	T
13 - 24	330	21±0.8	13±0.5	24	26 ⁺⁰	60 ⁻⁰	30.4

(3) Q'TY & G.W. Per package :

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (g)	Style	Q'TY (pcs)	G.W. (kg)	Size (cm)
B	400	1230	13 - 24	1600	6.2	38 x 37 x 22

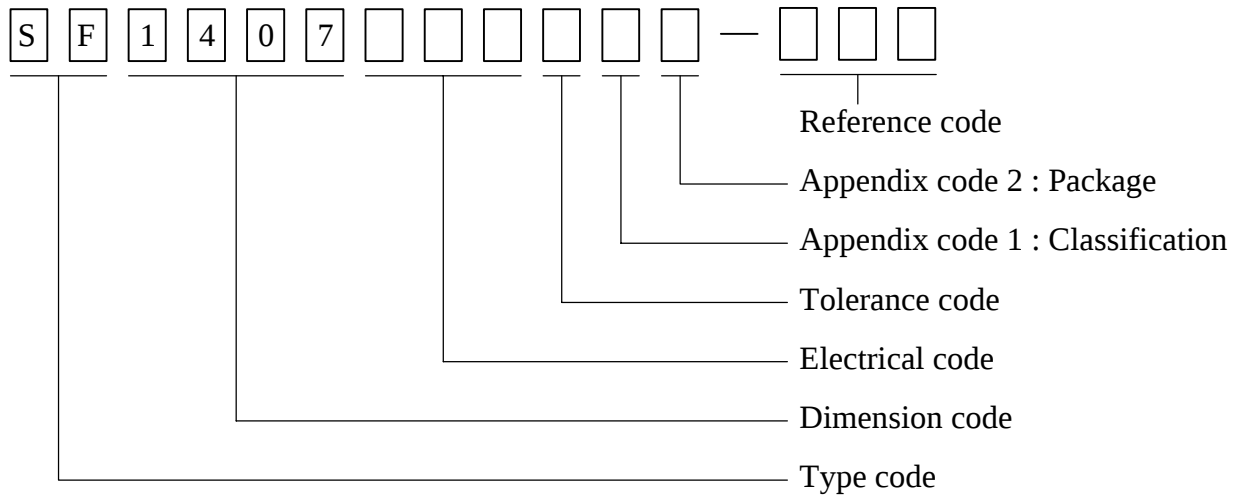
AR-001C

SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.		SF1407□□□□L□-□□□		
		REV.	20241206-E		PAGE	5

VIII . Drawing number expression :



Appendix code 1 : Product Classification

Appendix code 2 : Package Information

Code	Inner package	Cover tape	Carrier tape	Bag	Package Q'TY	Remark
B	T /R (Reel package)	UCT	Antistatic	Antistatic	400 pcs	

SPECIFICATION FOR APPROVAL

REF. :

PROD.	SMD Power Inductor	ABC'S DWG NO.	SF1407□□□□L□-□□□		
NAME		REV.	20241206-E	PAGE	6

IX . Reliability test :

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125±2°C 2.Time:96±2 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -55°C ~ +125°C 2.Number of cycle:100 cycle 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature : 85±2 °C 2.Humidity: 85% RH. 3.Time:96±2 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
4.Operational Life	JESD22-A 108	1.Temperature: 125°C(Temp. rise included) 2.Time:96±2 hours. 3.Rated current :	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
5.External Visual	JESD22-B 101 & MIL-STD-883 Method 2009	Inspect product constructions, marking and workmanship.	1.No pollution on the surface of products. 2.Clear marking. 3.No crack.
6.Physical Dimensions	JESD22-B 100	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
7.Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for 3 cycles.	1.No body change in appearance. 2.No marking blurred. 3.Inductance shall not change more than ±20%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitued :10-2000-10 Hz 2.Sweep time : 20 min 3.Acceleration : 5g 4.Direction : X , Y , Z 5.Number of sweep : 6 time/axis	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210 & J-STD020	1.Highest temperature : 245±5°C. 2.Time (temp.≥ 217°C) : 60~150 Second. 3.Reflow times : 3 times.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
10.Over load	JIS C 6436 & User SPEC.	1.Applied one and half rated current for a period of 5 minutes. 2.Rated current :	No electrical or mechanical damage
11.Temperature Rise Current	JIS C 6436 & User SPEC.	1.Applied rated current for 10 minutes. 2.Temperature measure by digital surface thermometer. 3.Irms current :	Surface temperature rise is less than 35°C max.
12.Solderability Test	J-STD-002 & JESD22-B 102	1.Baking in pre-testing : 150±5°C / 16Hours±30 min. 2.Peak temperature : 240±5°C 3.Time (temp.≥217°C) : 60~150 second. 4.Reflow times : 1 time.	More than 95% soldering coverage min on terminations.
13.Electrical Characteriazation	MIL-STD-202 Method 304 & User SPEC.	1.Operating temperature : -55°C~125°C 2.Room temperature : 25°C.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±20%.
14.Withstanding Voltage Test	MIL-STD-202 Method 301 & User SPEC.	1.DC: 250 V (Winding to Winding) 2.Time : 1sec.	1.During the test no breakdown. 2.No mechanical or electrical damage.
15.Drop	CNS-C6354 & GB/T 2423.8	1.Products shall be mounted on SPEC. PCB and dropped down from a height of 1m 2.Drop total time : 6 time (Every side of sample drop 2 time)	1. Adhesion on PCB shall be enough. 2. Product appearance shall not break. 3. No electrical damage.
16.Terminal Strength Test	IEC 60068-2-21	1.Apply push force to samples mounted on PCB. 2.Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.

AR-001C

SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	SF1407□□□□L□-□□□		
		REV.	20241206-E	PAGE	7

X . Safety notes :

1. The risks of using the product are highly relevant to the field of application and need to be evaluated by both user and manufacturer. If the product is used for a purpose that directly affects personal safety or will cause significant impact or loss to the society , please be sure to contact us first for confirmation.
產品使用的風險與應用領域有高度相關，若您應用於直接影響人身安全系統或對社會會造成重大影響與損失之相關用途，請務必優先與我們聯繫確認。
2. The storage period is less than 12 months. Ensure to follow the storage conditions (Temperature: 5 to 30°C, Humidity: 10 to 60% RH or less). If the storage time is exceeded the limit, the electrodes might be deteriorate of terminal soldering.
儲存期不超過12個月，務必遵守儲存條件（溫度：5至30°C，濕度：10至60%RH以下）。如果超過了儲存時間，端子電極可能會氧化而影響焊接。
3. Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
不要在有氣體腐蝕等條件的地方使用或存放（鹽，酸，鹼等）。
4. Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
安裝時的焊接條件應在規格範圍內。如果超過要求，可能會發生短路，性能下降或壽命縮短。
5. When using, it should try to avoid excessive mechanical impact on the product, such as collision / drop ... and other reasons.
使用時，應盡量避免產品受到過度機械衝擊，如碰撞/掉落...等原因。
6. When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
將已安裝新片的電路板組裝到裝置時，請注意應盡量避免電路板受到組裝變形...等，導致產品受到應力。
7. Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
產品會因通電而自我發熱(溫度上升)，因此在熱影響設計方面，需保留適當公差。
8. Do not expose the products to magnets or magnetic fields.
請勿將產品暴露於磁鐵或是磁場中。
9. If you would like to use this products to performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property, or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.
如果您希望將此產品用於性能和/或質量要求更嚴格的安全性或可靠性，或其失敗、故障或麻煩可能對社會、個人或財產造成嚴重損害，或者您有特殊情況要求超出目錄中規定的範圍或條件，請與我們聯繫。

AR-001C



千如電子集團
ABC-ATEC ELECTRONICS GROUP