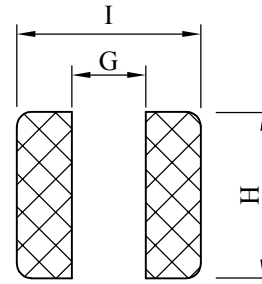
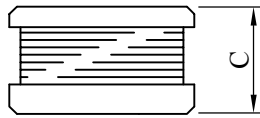
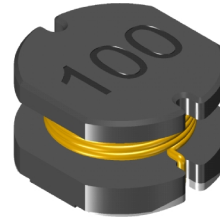
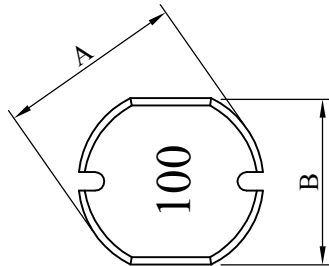


# SPECIFICATION FOR APPROVAL

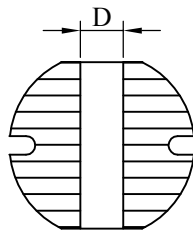
REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR1006□□□□L□-□□□		
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**I . Configuration and dimensions :**



( PCB Pattern )



Unit : m/m

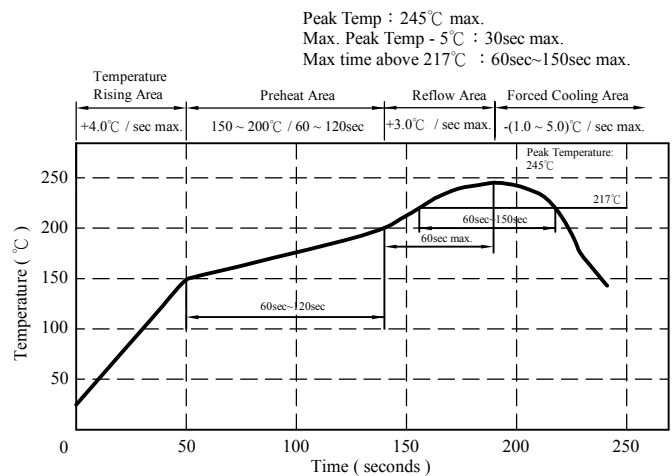
A	B	C	D	G	H	I
10.00 ±0.4	9.00 ±0.4	5.40 ±0.4	2.70 ref.	2.50 ref.	9.50 ref.	10.00 ref.

**II . Description :**

- a . Ferrite drum core construction.
- b . Enamelled copper wire : F · H class
- c . Product weight : 1.160g (ref.)
- d . Moisture sensitivity Level 1
- e . Products comply with RoHS' requirements
- f . Halogen free available

**III . General specification :**

- a . Storage temp. : -40°C ----+125°C
- b . Operating temp. : -40°C ----+125°C  
( Temp. rise included. )
- c . Resistance to solder heat : 245±5°C .10 secs.



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## IV . Electrical characteristics :

DWG No.	Inductance ( $\mu$ H)	RDC ( $m\Omega$ )		SRF (MHz) ref.	Isat (A) typ.	Irms (A) typ.
		typ.	max.			
ESR10061R5ML□-□□□	1.5 $\pm$ 20%	11.1	18	69.6	8.00	7.20
ESR10062R2ML□-□□□	2.2 $\pm$ 20%	14.3	21	57.7	6.60	6.00
ESR10063R3ML□-□□□	3.3 $\pm$ 20%	16.6	24	48.8	6.00	5.40
ESR10063R9ML□-□□□	3.9 $\pm$ 20%	18.8	27	40.6	5.70	5.20
ESR10064R7ML□-□□□	4.7 $\pm$ 20%	23.3	36	37.4	5.20	4.70
ESR10065R6ML□-□□□	5.6 $\pm$ 20%	25.9	40	35.6	5.00	4.50
ESR10066R8ML□-□□□	6.8 $\pm$ 20%	28.1	44	32.1	4.60	4.20
ESR10068R2ML□-□□□	8.2 $\pm$ 20%	32.3	48	27.9	4.30	4.10
ESR1006100ML□-□□□	10.0 $\pm$ 20%	34.2	60	25.0	4.00	3.80
ESR1006120ML□-□□□	12.0 $\pm$ 20%	36.9	70	23.0	3.80	3.60
ESR1006150ML□-□□□	15.0 $\pm$ 20%	43.6	80	19.8	3.60	3.40
ESR1006180ML□-□□□	18.0 $\pm$ 20%	60.7	90	19.3	3.00	2.80
ESR1006220ML□-□□□	22.0 $\pm$ 20%	68.3	100	16.0	2.80	2.60
ESR1006270ML□-□□□	27.0 $\pm$ 20%	87.6	110	13.3	2.50	2.30
ESR1006330ML□-□□□	33.0 $\pm$ 20%	96.9	120	12.1	2.40	2.20
ESR1006390ML□-□□□	39.0 $\pm$ 20%	111.0	140	12.0	2.10	1.90
ESR1006470KL□-□□□	47.0 $\pm$ 10%	126.0	170	11.0	1.95	1.80
ESR1006560KL□-□□□	56.0 $\pm$ 10%	141.0	190	10.2	1.80	1.70
ESR1006680KL□-□□□	68.0 $\pm$ 10%	176.0	220	9.4	1.70	1.60
ESR1006820KL□-□□□	82.0 $\pm$ 10%	201.0	250	8.8	1.60	1.50
ESR1006101KL□-□□□	100.0 $\pm$ 10%	262.0	350	7.3	1.40	1.30
ESR1006121KL□-□□□	120.0 $\pm$ 10%	301.0	400	6.6	1.30	1.20
ESR1006151KL□-□□□	150.0 $\pm$ 10%	350.0	470	6.6	1.20	1.10
ESR1006181KL□-□□□	180.0 $\pm$ 10%	457.0	630	6.1	1.10	1.00
ESR1006221KL□-□□□	220.0 $\pm$ 10%	524.0	730	5.3	1.00	0.90
ESR1006271KL□-□□□	270.0 $\pm$ 10%	711.0	970	4.3	0.85	0.80
ESR1006331KL□-□□□	330.0 $\pm$ 10%	814.0	1150	4.3	0.75	0.70
ESR1006391KL□-□□□	390.0 $\pm$ 10%	923.0	1300	3.3	0.70	0.65
ESR1006471KL□-□□□	470.0 $\pm$ 10%	1056.0	1480	3.3	0.65	0.60
ESR1006561KL□-□□□	560.0 $\pm$ 10%	1359.0	1900	3.3	0.60	0.55
ESR1006681KL□-□□□	680.0 $\pm$ 10%	1559.0	2250	2.8	0.55	0.50
ESR1006821KL□-□□□	820.0 $\pm$ 10%	1805.0	2550	2.2	0.50	0.45

- 1). □ : Packaging information : □ Code
- 2). "-□□□" : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance test condition : 1.5uH~82uH at 1MHz/1V  
100uH~820uH at 1kHz/1V
- 5). Isat base on  $\Delta$  L/LOA = 10% typ.
- 6). Irms base on Temp. rise 40°C typ.

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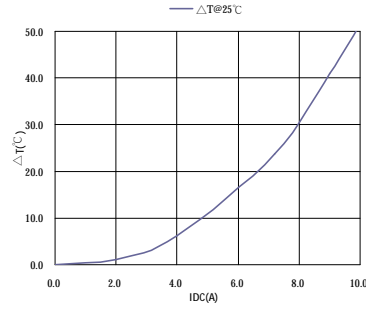
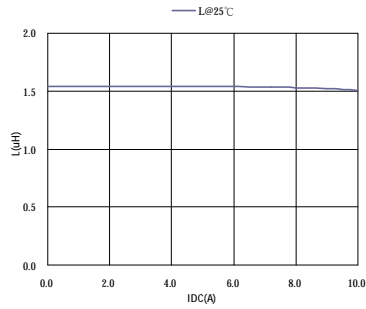
# SPECIFICATION FOR APPROVAL

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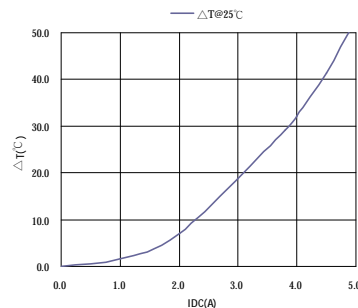
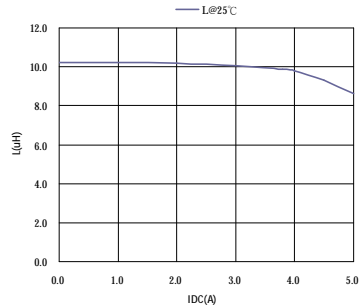
PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR1006□□□□L□-□□□		
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V . Curve :

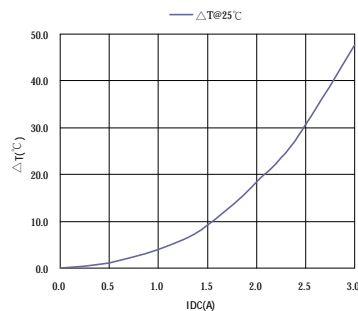
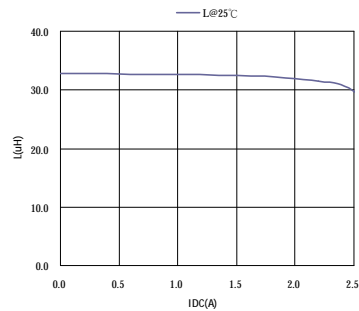
ESR10061R5ML□



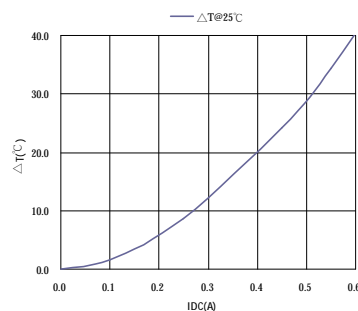
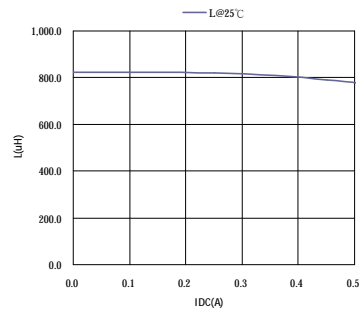
ESR1006100ML□



ESR1006330ML□



ESR1006821KL□



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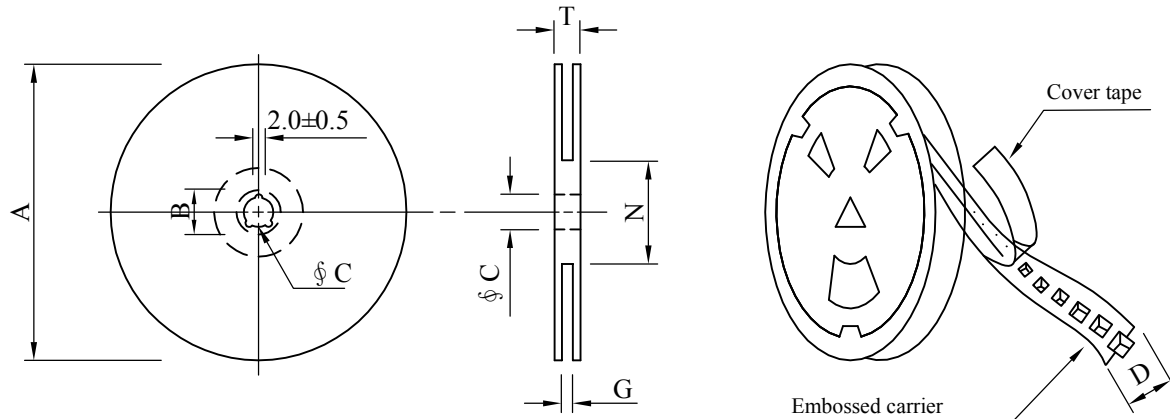
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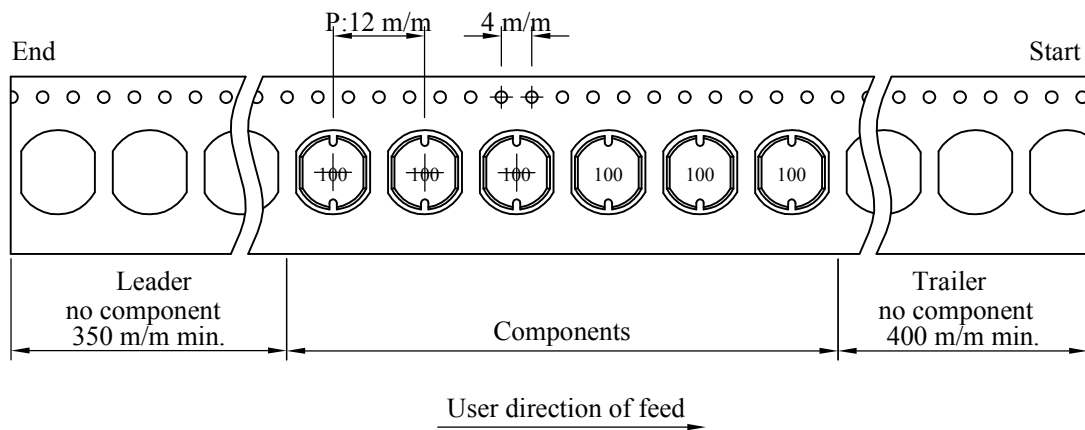
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## VI . Packaging information :

### (1) Configuration



※Carrier tape width : D



### (2) Dimensions

Unit:m/m

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

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

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
B	800	2,050	13 - 24	3,200	8.2	38 x 37 x 22

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## VII . Reliability test :

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125±2℃ 2.Time:96±2 hours.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -40℃ ~ +125℃ 2.Number of cycle:100 cycle 3.Dwell time:30 minutes	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature : 85±2 ℃ 2.Humidity: 85% RH. 3.Time:96±2 Hours	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
4.Operational Life	JESD22-A 108	1.Temperature: 125℃ (Temp. rise included) 2.Time:96±2 hours. 3.Rated current	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
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 apperance. 2.No marking blurred. 3.Inductance shall not change more than ±10%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitud : 10-2000-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210 & J-STD020D.1	1.Highest temperature : 245±5℃ 2.Time ( temp. ≥ 217℃ ) : 60~150 Second. 3.IR reflow times : 3 times.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
10.Saturation Current	JIS C 6436 & User SPEC.	1.Applied rated current for 5 second. 2.Saturation current	Inductance shall not drop more than 10% typ.
11.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
12.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 40℃ typ.
13.Solderability Test	J-STD-002 & JESD22-B 102	1.Baking in pre-testing : 150±5℃ / 16Hours±30 min. 2.Peak temperature : 240±5℃ 3.Time ( temp. ≥ 217℃ ) : 60~150 second. 4.IR reflow times : 1 times.	More than 95% soldering coverage min on terminations.
14.Electrical Characteriazation	MIL-STD-202 Method 304 & User SPEC.	1.Operating temperature : -40℃~125℃ 2.Room temperature : 25℃.	1.No mechanical or electrical damage. 2.Inductance shall not change more than ±10%.
15.Drop	CNS-C6354 & GB/T 2423.8	1.Products shall be mounted on SPEC. pcb and dropped down from a heigh of 1m 2.Drop total time : 6 time (Every side ofsample 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.

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