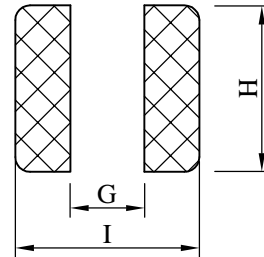
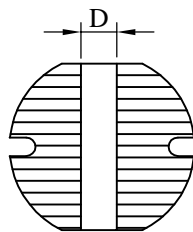
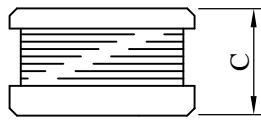
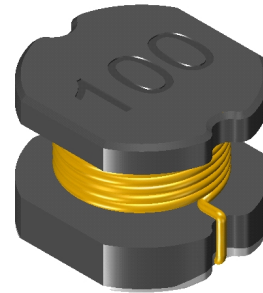
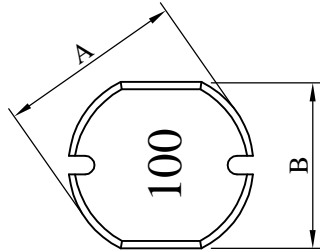


SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR0403□□□□L□-□□□		
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I . Configuration and dimensions :



(PCB Pattern)

Unit : m/m

A	B	C	D	G	H	I
4.50 ±0.3	4.00 ±0.3	3.20 ±0.3	1.60 ref.	1.50 ref.	4.50 ref.	5.00 ref.

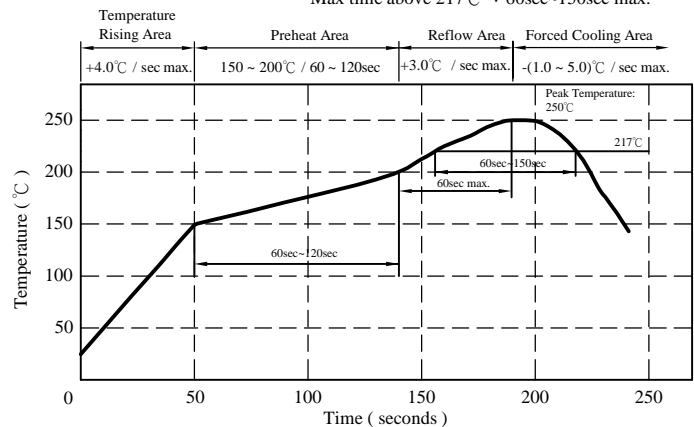
II . Description :

- a . Ferrite drum core construction.
- b . Enamelled copper wire : F 、 H class
- c . Product weight : 0.180g (ref.)
- d . Moisture sensitivity Level 1
- e . Products comply with RoHS' requirements
- f . Halogen free available

Peak Temp : 250°C max.
Max. Peak Temp - 5°C : 30sec max.
Max time above 217°C : 60sec~150sec max.

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 : 250±5°C.10 secs.



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SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR0403□□□□L□-□□□		
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IV . Electrical characteristics :

DWG No.	Inductance (μ H)	RDC ($m\Omega$)		Rated Current (A)	SRF (MHz) ref.
		typ.	max.		
ESR04031R0ML□-□□□	1.0 \pm 20%	19.3	48	2.70	113
ESR04032R2ML□-□□□	2.2 \pm 20%	31.8	71	2.30	76
ESR04033R3ML□-□□□	3.3 \pm 20%	46.9	86	2.00	64
ESR04034R7ML□-□□□	4.7 \pm 20%	64.5	108	1.65	50
ESR04036R8ML□-□□□	6.8 \pm 20%	93.6	126	1.45	41
ESR04038R2ML□-□□□	8.2 \pm 20%	106.0	142	1.40	38
ESR0403100ML□-□□□	10.0 \pm 20%	127.0	172	1.05	36
ESR0403120ML□-□□□	12.0 \pm 20%	146.0	197	1.00	32
ESR0403150ML□-□□□	15.0 \pm 20%	192.0	259	0.85	29
ESR0403180ML□-□□□	18.0 \pm 20%	237.0	309	0.75	28
ESR0403220ML□-□□□	22.0 \pm 20%	270.0	351	0.70	25
ESR0403270ML□-□□□	27.0 \pm 20%	322.0	419	0.65	22
ESR0403330KL□-□□□	33.0 \pm 10%	373.0	485	0.60	20
ESR0403390KL□-□□□	39.0 \pm 10%	449.0	561	0.55	18
ESR0403470KL□-□□□	47.0 \pm 10%	505.0	631	0.50	16
ESR0403560KL□-□□□	56.0 \pm 10%	736.0	920	0.45	15
ESR0403680KL□-□□□	68.0 \pm 10%	822.0	1028	0.40	13

- 1). □ : Packaging information : □ Code
- 2). "-□□□" : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance test condition :1MHz/1V
- 5). Rated current: The DC current at which the inductance decreases to 90% of it's initial value or when $\Delta t=40^{\circ}\text{C}$, whichever is lower($T_a=20^{\circ}\text{C}$)

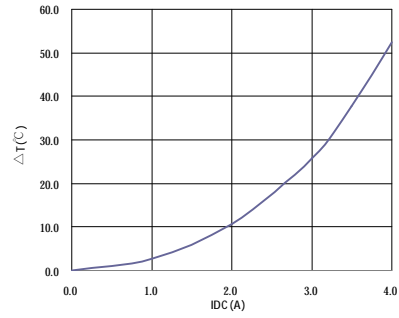
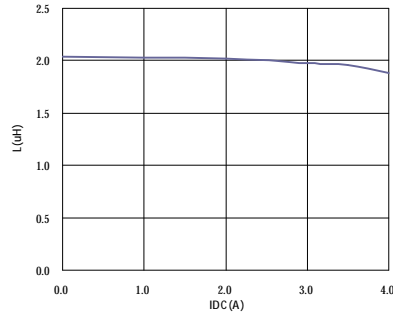
SPECIFICATION FOR APPROVAL

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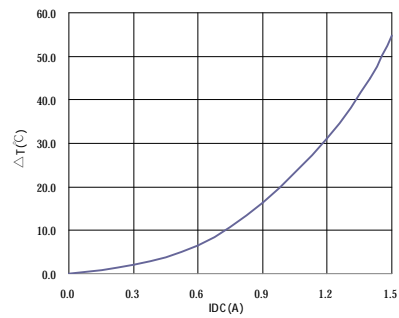
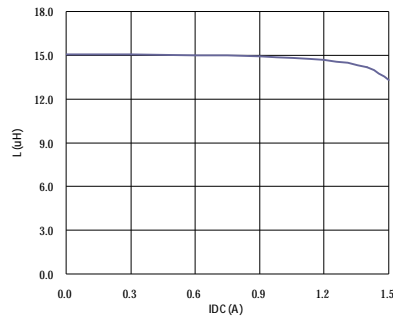
PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR0403□□□□L□-□□□		
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V . Curve :

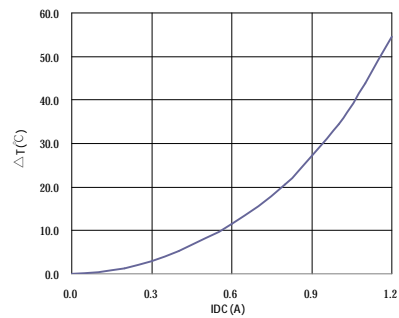
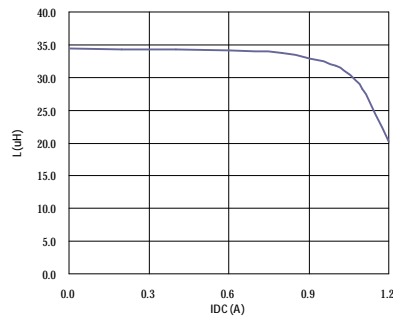
ESR04032R2ML□



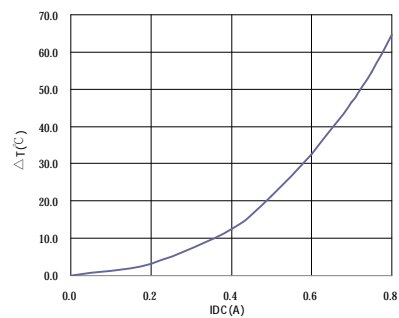
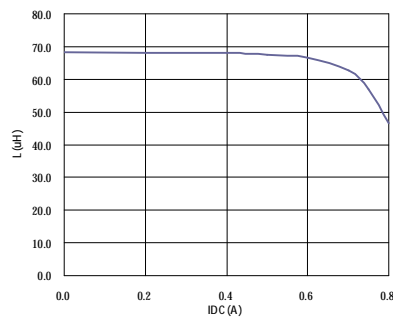
ESR0403150ML□



ESR0403330KL□



ESR0403680KL□



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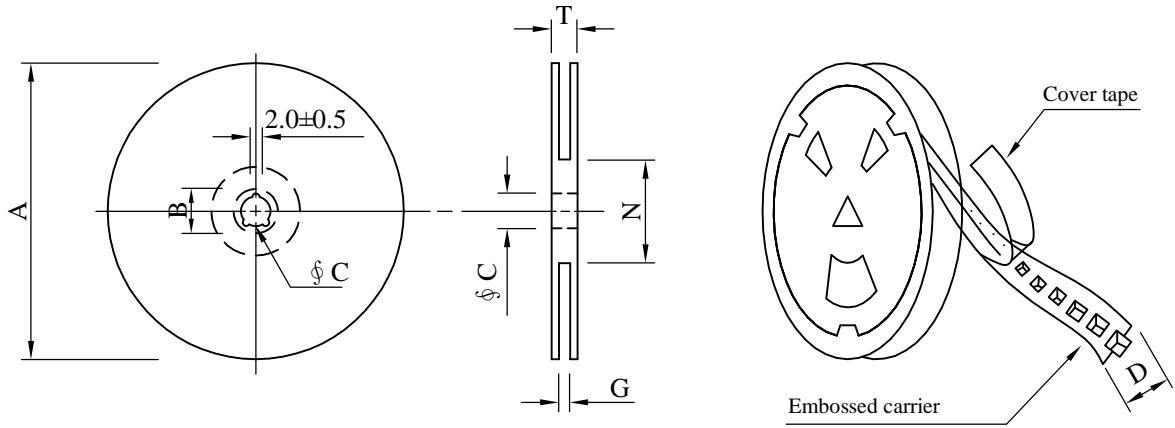
SPECIFICATION FOR APPROVAL

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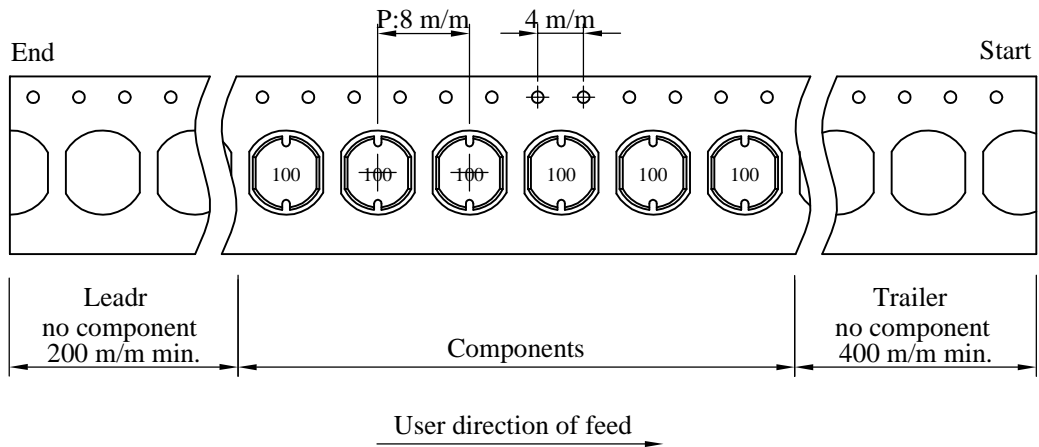
PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR0403□□□□L□-□□□		
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VI . Packaging information :

(1) Configuration



※Carrier tape width : D



(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
13 - 12	330	21±0.8	13±0.5	12	14 ⁺⁰	50 ⁻⁰	18.4

(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	2,000	750	13 - 12	16,000	7.3	38 x 37 x 22

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SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	SMD Power Inductor	ABC'S DWG NO.	ESR0403□□□□L□-□□□		
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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 : 250±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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