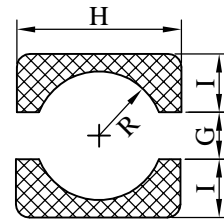
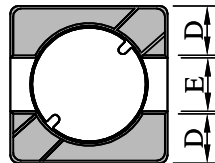
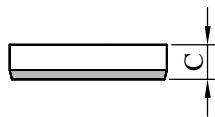
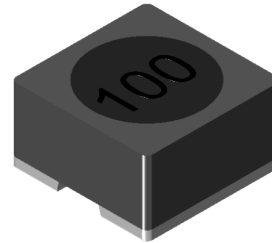
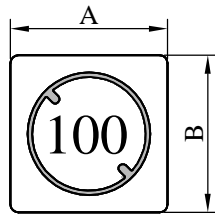


SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SH4028□□□□L□-□□□		
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I . Configuration and dimensions :



(PCB Pattern)

Unit : m/m

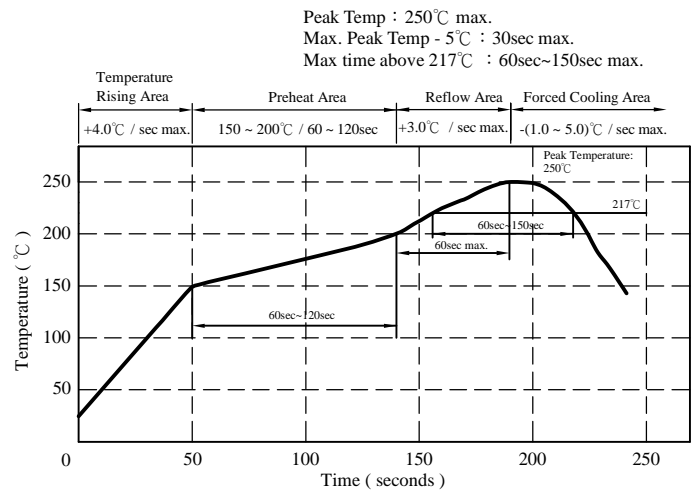
A	B	C	D	E	G	H	I	R
4.80 ±0.2	4.80 ±0.2	2.80 ±0.2	1.60 typ.	1.60 typ.	1.50 ref.	5.30 ref.	2.00 ref.	1.80 ref.

II . Description :

- a . Ferrite drum core construction.
- b . Magnetically shielded.
- c . Enamelled copper wire : F & H class
- d . Product weight : 0.24g (ref.)
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free available

III . General specification :

- a . Storage temp. : -55°C ----+125°C
- b . Operating temp. : -40°C ----+125°C
(Temp. rise included)
- c . Resistance to solder heat : 250°C .10 secs.



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IV . Electrical characteristics :

DWG No.	Inductance (μ H)	SRF (MHz) typ.	RDC (m Ω)		Irms (mA) max.	Isat (mA) typ.
			typ.	max.		
SH40281R2YL□-□□□	1.2 \pm 30%	143.0	13.0	20.0	3100	2560
SH40281R8YL□-□□□	1.8 \pm 30%	117.0	16.0	25.0	2700	2200
SH40282R2YL□-□□□	2.2 \pm 30%	90.0	20.0	28.0	2500	2050
SH40282R7YL□-□□□	2.7 \pm 30%	88.0	22.0	30.0	2350	1800
SH40283R3YL□-□□□	3.3 \pm 30%	77.0	26.0	35.0	2150	1650
SH40283R9YL□-□□□	3.9 \pm 30%	79.0	42.0	60.0	1720	1500
SH40284R7YL□-□□□	4.7 \pm 30%	42.0	47.0	70.0	1550	1300
SH40285R6YL□-□□□	5.6 \pm 30%	68.0	65.0	85.0	1380	1200
SH40286R8YL□-□□□	6.8 \pm 30%	58.0	70.0	90.0	1300	1150
SH40288R2YL□-□□□	8.2 \pm 30%	45.0	76.0	100.0	1250	1050
SH4028100YL□-□□□	10.0 \pm 30%	30.0	86.0	110.0	1190	1000
SH4028120YL□-□□□	12.0 \pm 30%	29.0	95.0	125.0	1120	850
SH4028150YL□-□□□	15.0 \pm 30%	30.0	115.0	150.0	1030	780
SH4028180YL□-□□□	18.0 \pm 30%	27.0	128.0	160.0	980	750
SH4028220YL□-□□□	22.0 \pm 30%	23.0	144.0	185.0	925	720
SH4028270YL□-□□□	27.0 \pm 30%	18.0	156.0	200.0	890	600
SH4028330YL□-□□□	33.0 \pm 30%	16.0	183.0	230.0	820	580
SH4028390YL□-□□□	39.0 \pm 30%	20.0	196.0	250.0	795	500
SH4028470YL□-□□□	47.0 \pm 30%	10.0	218.0	280.0	750	480
SH4028560YL□-□□□	56.0 \pm 30%	11.0	250.0	320.0	700	410
SH4028680YL□-□□□	68.0 \pm 30%	13.0	310.0	400.0	630	360
SH4028820YL□-□□□	82.0 \pm 30%	9.8	395.0	520.0	560	320
SH4028101YL□-□□□	100.0 \pm 30%	10.0	476.0	600.0	510	300
SH4028121YL□-□□□	120.0 \pm 30%	8.8	555.0	700.0	470	280
SH4028151YL□-□□□	150.0 \pm 30%	6.8	685.0	860.0	420	260
SH4028181YL□-□□□	180.0 \pm 30%	6.7	778.0	1000.0	390	230
SH4028221YL□-□□□	220.0 \pm 30%	6.1	1008.0	1250.0	340	200
SH4028271YL□-□□□	270.0 \pm 30%	4.3	1192.0	1500.0	320	180
SH4028331YL□-□□□	330.0 \pm 30%	4.3	1338.0	1700.0	300	170
SH4028391YL□-□□□	390.0 \pm 30%	3.9	1798.0	2200.0	260	160
SH4028471YL□-□□□	470.0 \pm 30%	2.9	2128.0	2600.0	240	155
SH4028561YL□-□□□	560.0 \pm 30%	3.0	2478.0	3000.0	220	150

- 1). □ : Packaging information : □ Code
- 2). "-□□□" : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance test freq. : 100kHz / 0.1V
- 5). Irms Base on temp rise 30°C max.
- 6). Isat Base on Δ L/L0A=35% typ.

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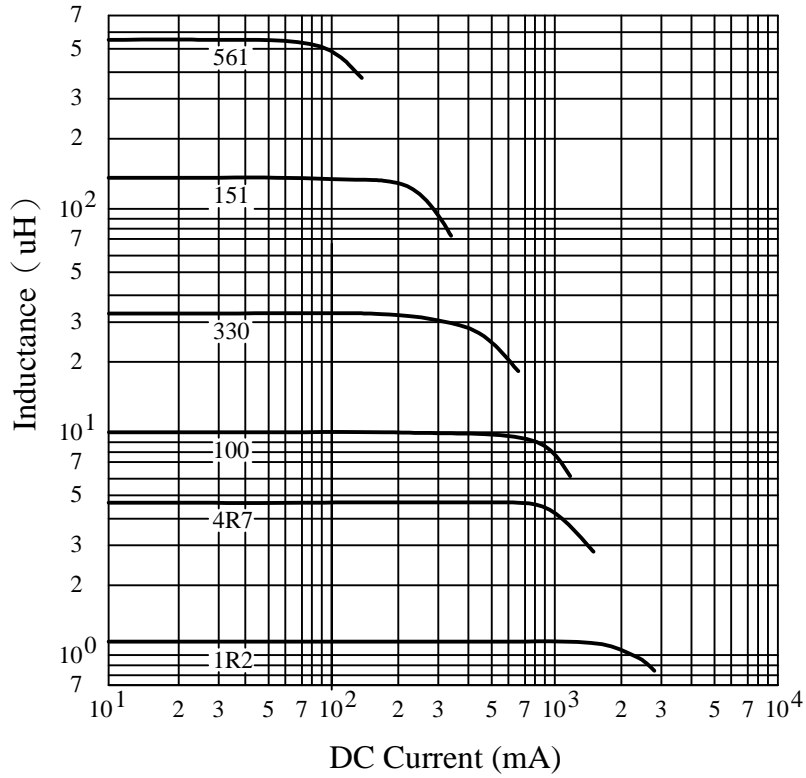


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V . Curve :



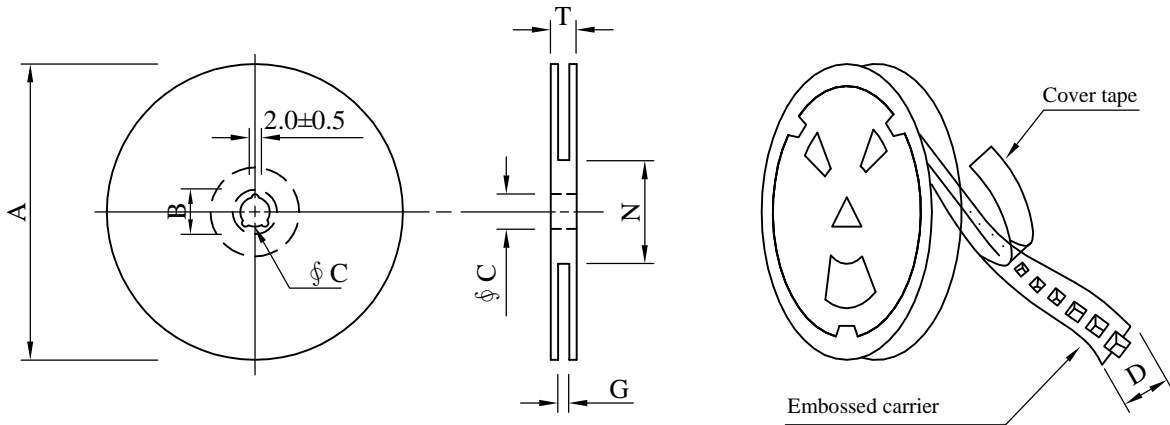
SPECIFICATION FOR APPROVAL

REF. :

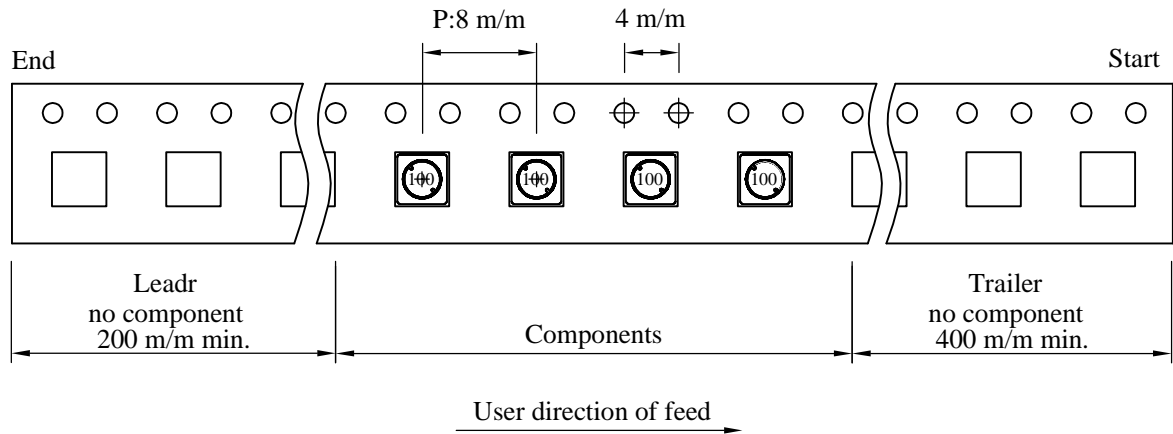
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VI . Packaging information :

(1) Configuration



※Carrier tape width : D



(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14 ⁺⁰	50 ⁻⁰	16.5
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	500	220	07 - 12	20,000	6.50	42 x 41 x 24
C	2,000	880	13 - 12	16,000	5.30	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 ±20%.
2.Temperature Cycling	JESD22-A 104	1.Temperature: -55℃ ~ +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 ±20%.
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 ±20%.
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 ±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, 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 ±20%.
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 ±20%.
10.Saturation Current	JIS C 6436 & User SPEC.	1.Applied rated current for 5 second. 2.Saturation current	Inductance shall not drop more than 35% 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 30℃ max.
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 Characterization	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 ±20%.
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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