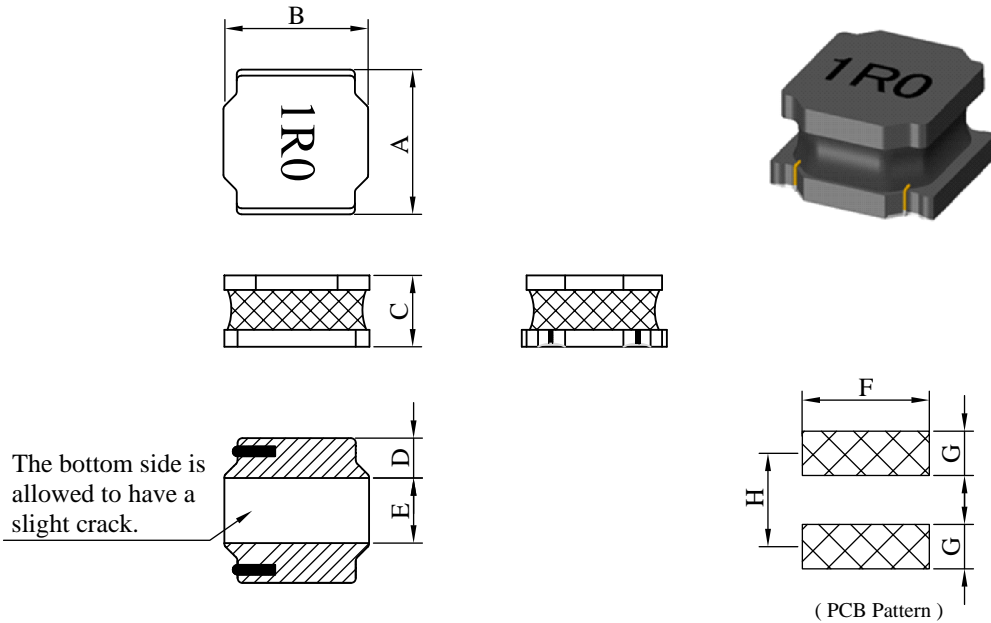


# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.		ESN8040□□□□S□-□□□		
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## I . Configuration and dimensions :



Unit : m/m

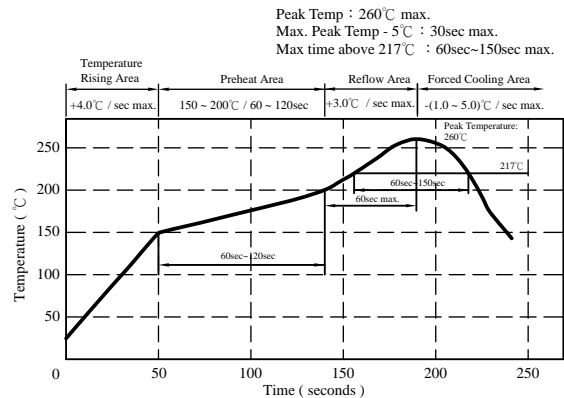
A	B	C	D	E	F	G	H
8.00 ±0.3	8.00 ±0.3	4.20 max.	2.45 ref.	3.10 ref.	6.60 ref.	2.75 ref.	5.55 ref.

## II . Description :

- a . Ferrite drum core construction.
- b . Enamelled copper wire : H class
- c . Product weight : 0.95g ( ref. )
- d . Moisture sensitivity Level 1
- e . Products comply with RoHS' requirements
- f . Halogen free

## 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 : 260°C .10 secs.



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## IV . Electrical characteristics :

DWG. No.	Inductance ( uH )	Test Freq. ( Hz )	RDC ( mΩ ) max.	Isat ( A ) max.	Irms ( A ) max.
ESN80401R0YS□-□□□	1.00 ±30%	100k/0.25V	9.1	10.15	11.50
ESN80401R5YS□-□□□	1.50 ±30%	100k/0.25V	13.0	8.15	10.20
ESN80402R2MS□-□□□	2.20 ±20%	100k/0.25V	15.6	8.00	9.15
ESN80403R3MS□-□□□	3.30 ±20%	100k/0.25V	22.1	6.50	6.75
ESN80404R7MS□-□□□	4.70 ±20%	100k/0.25V	24.7	5.90	6.40
ESN80406R8MS□-□□□	6.80 ±20%	100k/0.25V	31.2	4.95	5.20
ESN8040100MS□-□□□	10.00 ±20%	100k/0.25V	48.0	3.20	4.45
ESN8040150MS□-□□□	15.00 ±20%	100k/0.25V	61.0	2.95	3.75
ESN8040220MS□-□□□	22.00 ±20%	100k/0.25V	90.0	2.80	3.10
ESN8040330MS□-□□□	33.00 ±20%	100k/0.25V	130.0	2.05	2.60
ESN8040470MS□-□□□	47.00 ±20%	100k/0.25V	195.0	1.50	2.30
ESN8040680MS□-□□□	68.00 ±20%	100k/0.25V	254.8	1.45	1.85
ESN8040101MS□-□□□	100.00 ±20%	100k/0.25V	377.0	1.15	1.50
ESN8040151MS□-□□□	150.00 ±20%	100k/0.25V	585.0	0.95	1.25
ESN8040221MS□-□□□	220.00 ±20%	100k/0.25V	780.0	0.85	1.00
ESN8040331MS□-□□□	330.00 ±20%	100k/0.25V	1157.0	0.68	0.85
ESN8040471MS□-□□□	470.00 ±20%	100k/0.25V	1950.0	0.55	0.70
ESN8040681MS□-□□□	680.00 ±20%	100k/0.25V	2652.0	0.48	0.40

- 1). Electrical specifications at 25°C
- 2). Isat base on  $\Delta L/L0A=35\%$  max. (Approximately transient current )
- 3). Irms base on temp. rise 40°C max.

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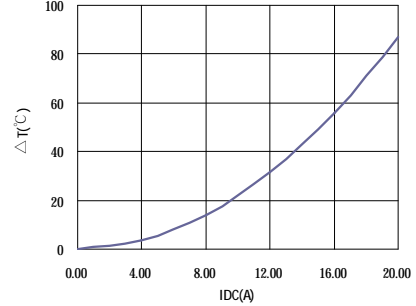
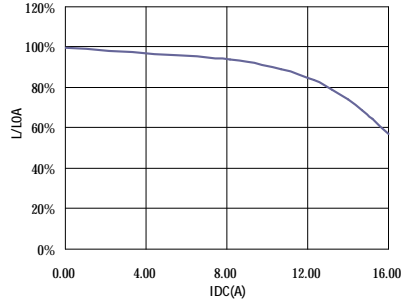
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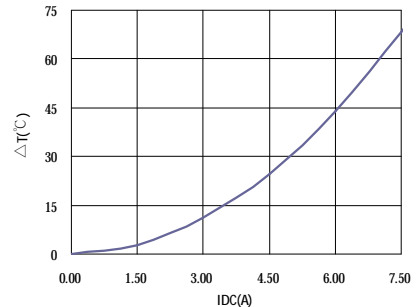
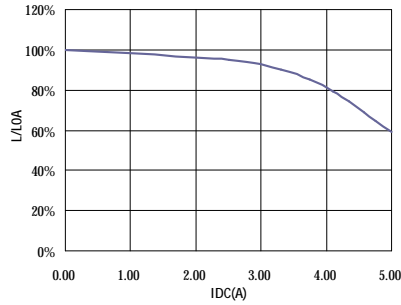
PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.		ESN8040□□□□S□-□□□	
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V . Curve :

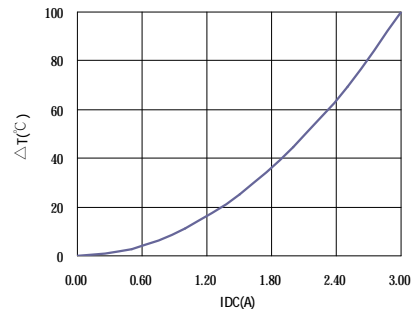
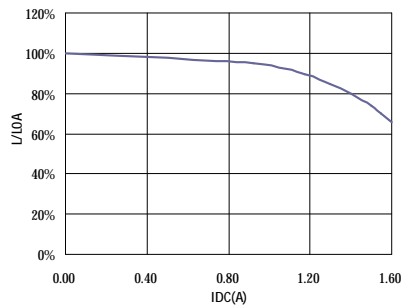
ESN80401R0YS□



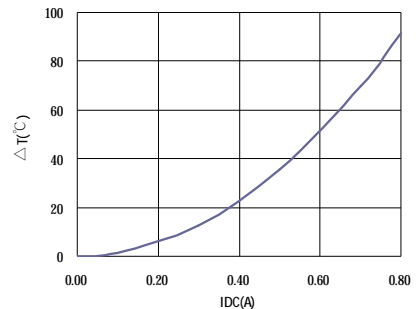
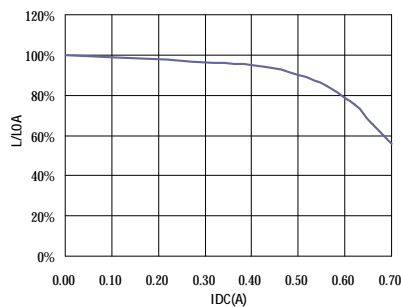
ESN8040100MS□



ESN8040101MS□



ESN8040681MS□



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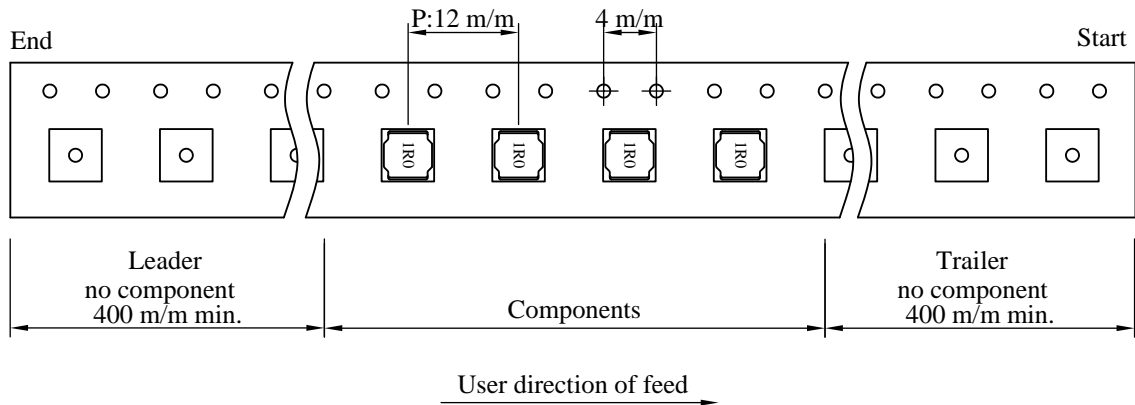
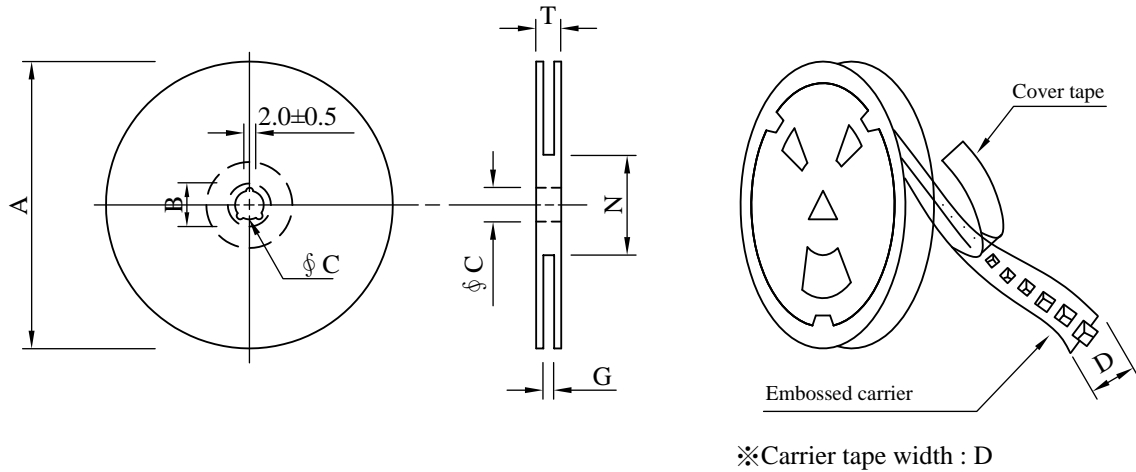
# SPECIFICATION FOR APPROVAL

REF. :

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## VI . Packaging information :

### (1) Configuration



### (2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
13 - 16	330	21±0.8	13	16	18 <sup>+0</sup>	50 <sup>-0</sup>	22.4

### (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	1,000	1,400	13 - 16	6,000	10.10	38 x 37 x 22

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# SPECIFICATION FOR APPROVAL

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## VIII . 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: -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 ±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 : 260±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% max.
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℃ 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 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 ±20%.
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.

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IX . Change history :					
DATE/REV.	DISCRIPTION	DRAWN	CHECKED	APPROVED	
20180227-A	Released	Lijuan Y	Alan	Roger	

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