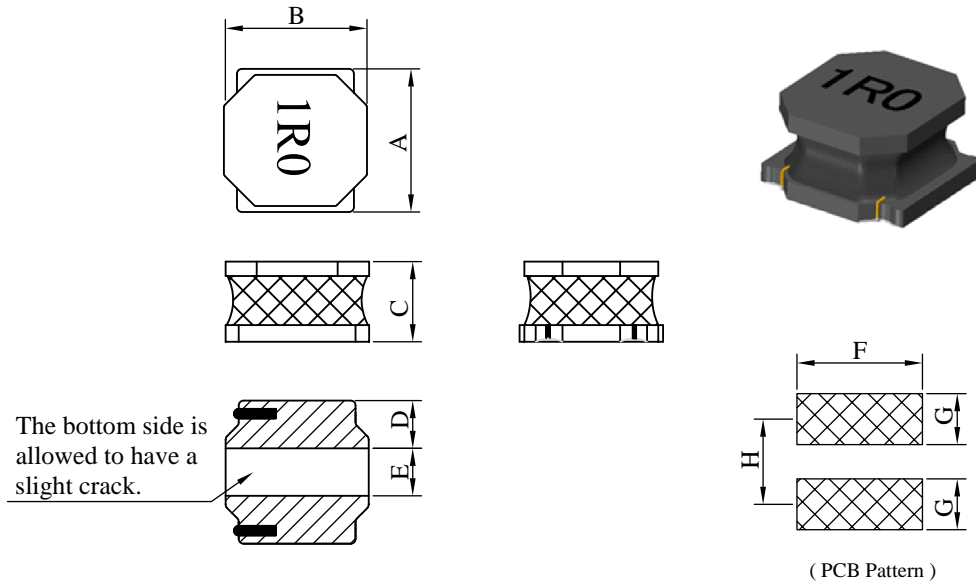


# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	1

## I . Configuration and dimensions :



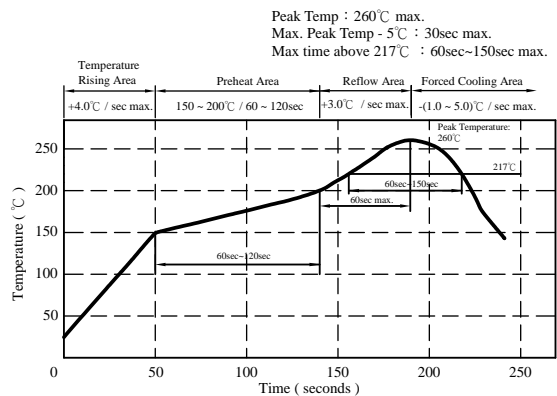
Unit : m/m							
A	B	C	D	E	F	G	H
4.00 ±0.2	4.00 ±0.2	3.00 max.	1.35 ref.	1.30 ref.	3.70 ref.	1.65 ref.	2.65 ref.

## II . Description :

- a . Ferrite drum core construction.
- b . Enamelled copper wire : H class
- c . Product weight : 0.20 g ( 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.



AR-001C

# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	2

IV . Electrical characteristics :

DWG. No.	Inductance ( uH )	Test Freq. ( Hz )	RDC ( mΩ ) max.	Isat ( A ) max.	Irms ( A ) max.
ESN40301R0YS□-□□□	1.00 ±30%	100k/0.25V	28.6	5.00	4.40
ESN40301R5MS□-□□□	1.50 ±20%	100k/0.25V	41.6	4.80	3.60
ESN40302R2MS□-□□□	2.20 ±20%	100k/0.25V	45.5	4.50	3.30
ESN40303R3MS□-□□□	3.30 ±20%	100k/0.25V	65.0	3.00	2.65
ESN40304R7MS□-□□□	4.70 ±20%	100k/0.25V	78.0	2.90	2.45
ESN40306R8MS□-□□□	6.80 ±20%	100k/0.25V	130.0	2.20	1.90
ESN4030100MS□-□□□	10.00 ±20%	100k/0.25V	156.0	2.00	1.63
ESN4030150MS□-□□□	15.00 ±20%	100k/0.25V	260.0	1.70	1.30
ESN4030220MS□-□□□	22.00 ±20%	100k/0.25V	292.5	1.30	1.10
ESN4030330MS□-□□□	33.00 ±20%	100k/0.25V	468.0	1.10	0.95
ESN4030470MS□-□□□	47.00 ±20%	100k/0.25V	598.0	0.98	0.80
ESN4030680MS□-□□□	68.00 ±20%	100k/0.25V	1087.0	0.77	0.50
ESN4030101MS□-□□□	100.00 ±20%	100k/0.25V	1443.0	0.70	0.45
ESN4030151MS□-□□□	150.00 ±20%	100k/0.25V	1820.0	0.50	0.40
ESN4030221MS□-□□□	220.00 ±20%	100k/0.25V	4550.0	0.33	0.25

- 1). Electrical specifications at 25°C
- 2). Isat base on  $\Delta L/L0A=30\%$  max. (Approximately transient current )
- 3). Irms base on temp. rise 40°C max.

AR-001C

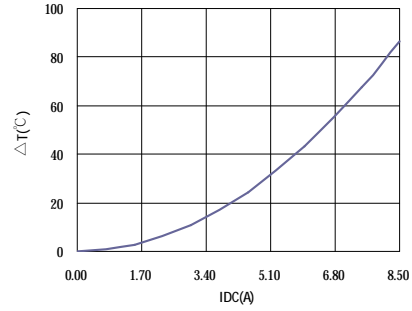
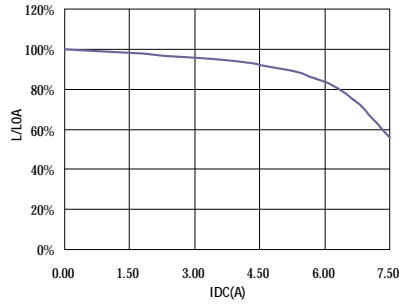
# SPECIFICATION FOR APPROVAL

REF. :

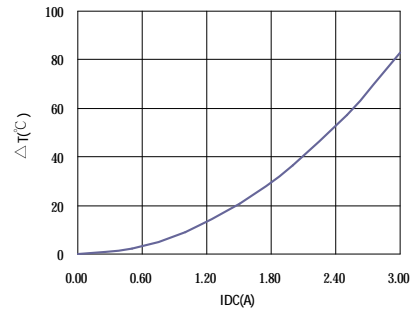
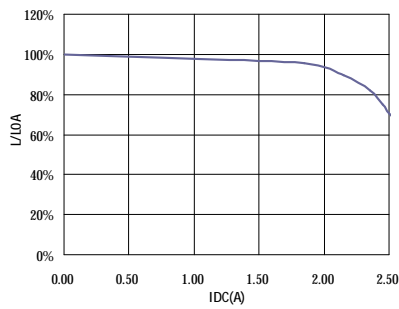
PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	3

V . Curve :

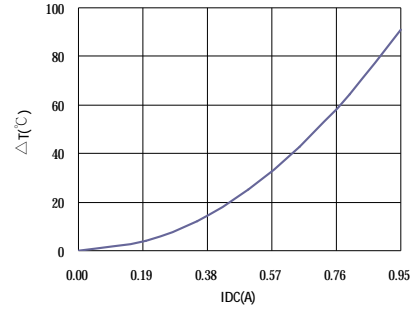
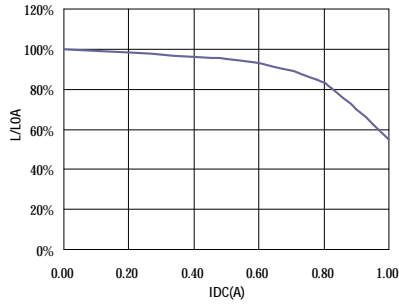
ESN40301R0YS□



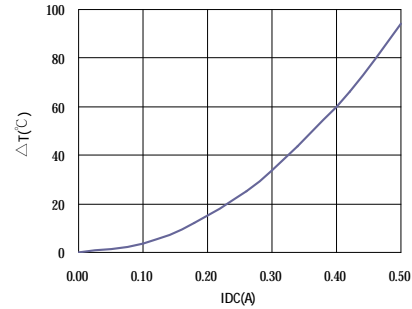
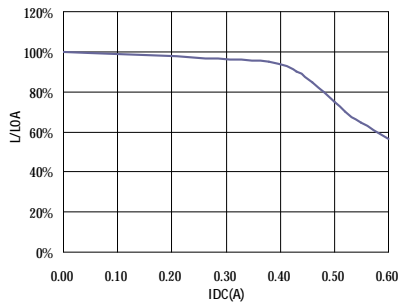
ESN4030100MS□



ESN4030680MS□



ESN4030221MS□



AR-001C

# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	4

VI . Packaging information :

( 1 ) Configuration

( 2 ) Dimensions Unit:m/m

Style	A	B	C	D	G	N	T
13 - 12	330	21±0.8	13	12	14 <sup>+0</sup>	50 <sup>-0</sup>	18.4

( 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	2,000	807	13 - 12	16,000	7.7	38 x 37 x 22

AR-001C



# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	6

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. ( marking side )
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 apperarence. 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 30% 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.

AR-001C

# SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Semi-shielded SMD Power Inductor	ABC'S DWG NO.	ESN4030□□□□S□-□□□		
		REV.	20180926-B	PAGE	7
IX . Change history :					
DATE/REV.	DISCRIPTION	DRAWN	CHECKED	APPROVED	
20180227-A	Released	Lijuan Y	Alan	Roger	
20180926-B	Change the Reliability test external visual item Product test specification ,No crack add the marking side	Lijuan Y	Cyrus	Roger	

AR-001C