

# 深圳市方磁電子有限公司

SHENZHEN FOUNDS ELECTRONICS CO., LTD

## 【物料承認書】

### APPROVAL SHEET

客戶 (Customer) : \_\_\_\_\_

產品名稱 (Description) : 功率電感

客戶料號 (Cus P/N) : \_\_\_\_\_

料號 (Part NO) : FSNR5012系列

日期 (Date) : 2018.10.09

版本 (Version) : A0

核准 APPROVED BY	審核 CHECKED BY	製作 DRAWN BY
TopoCheng	VincentShang	AbbyShi

Please sign back after confirmation:

Client signature:  Qualified  Unqualified

批准 APPROVAL	審核 CHECKED	檢驗 CONFORM

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C33 科創園 2 棟 209 室

電話 (TEL) : 0755-83222650

傳真 (FAX) : 0755-83222656

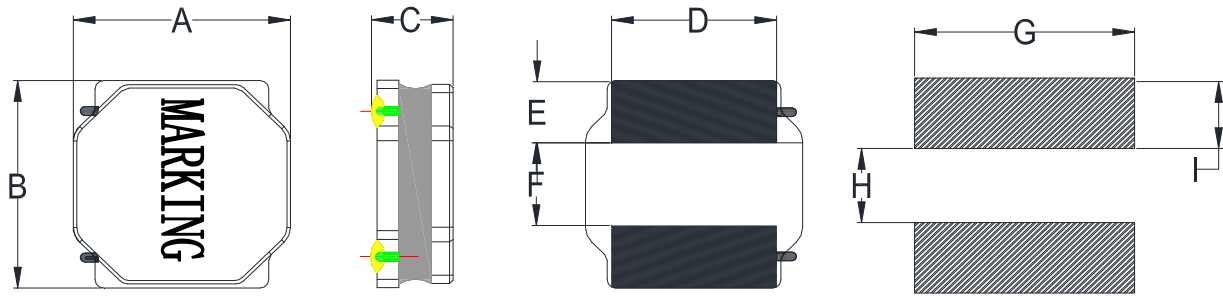
<http://www.ele-founds.com>



**【Version of Changed Record】**

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2018.10.09	New release	/	TopoCheng

## 1. Shape and Dimension ( Unit:mm )



A	B	C	D	E	F	G	H	I
5.0 ± 0.2	5.0 ± 0.2	1.25Max	4.0±0.3	1.35±0.2	2.3±0.3	4.4 Ref	2.1 Ref	1.5 Ref

注：喷码尺寸：长 3.4±0.4mm,宽 2.2±0.4mm

## 2. Electronic Characteristics List

Part Number	Inductance (uH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irise (A)	Test Condition	Marking
FSNR5012-1R0M	1.0	20	57	4.40	2.40	100KHz /0.25V	1R0
FSNR5012-1R5M	1.5	20	72	3.70	2.25	100KHz /0.25V	1R5
FSNR5012-2R2M	2.2	20	90	3.10	2.00	100KHz /0.25V	2R2
FSNR5012-3R3M	3.3	20	126	2.45	1.70	100KHz /0.25V	3R3
FSNR5012-4R7M	4.7	20	164	2.20	1.50	100KHz /0.25V	4R7
FSNR5012-5R6M	5.6	20	230	2.00	1.10	100KHz /0.25V	5R6
FSNR5012-6R8M	6.8	20	245	1.75	1.25	100KHz /0.25V	6R8
FSNR5012-100M	10	20	344	1.40	1.05	100KHz /0.25V	100
FSNR5012-150M	15	20	480	1.25	0.92	100KHz /0.25V	150

### Isat :

DC Saturation Current that will cause initial inductance to drop approximately 30% max.

### Irise :

DC Current that will cause an approximate ΔT of 40°C

### Measuring Instrument :

L:HIOKI3532-50

DCR:HIOKI 3540

Isat / Irise:HP4284A +42841

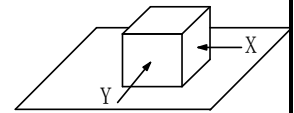
### 3. General Characteristics

3-1. Storage Temperature range :  $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$

3-2. Operating temperature range:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$  (Including coil's self temperature rise)

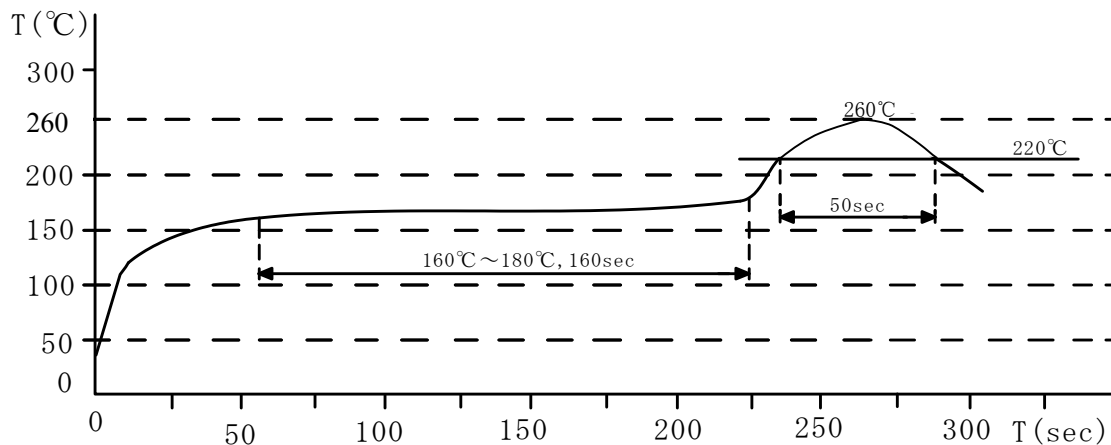
3-3. External appearance : No external defects can be found in the visual inspection.

3-4. Electrode strength : No electrode detachment should be found when the device is pushed in two directions of X and Y with the force of 10.0N for  $60 \pm 2$  seconds after soldering between copper plate and the electrodes.  
(Refer to figure at right)



3-5. Vibration test : Inductance deviation is within  $\pm 10.0\%$  after 1 hour sweeping vibration in each three directions, namely, forward and backward, up and down, right and left. The frequency is  $10 \sim 55 \sim 10\text{Hz}$  and the amplitude of 1 minute cycle is 1.5mm PP.

3-6. Recommended reflow condition:

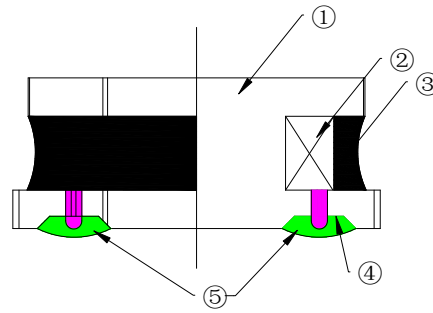


3-7. Humidity test : Inductance deviation is within  $\pm 5.0\%$  after  $96 \pm 4$  hours test under the condition of relative humidity of  $90 \sim 95\%$  and temperature of  $60 \pm 2^{\circ}\text{C}$ , and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.

**LEAD-FRE**

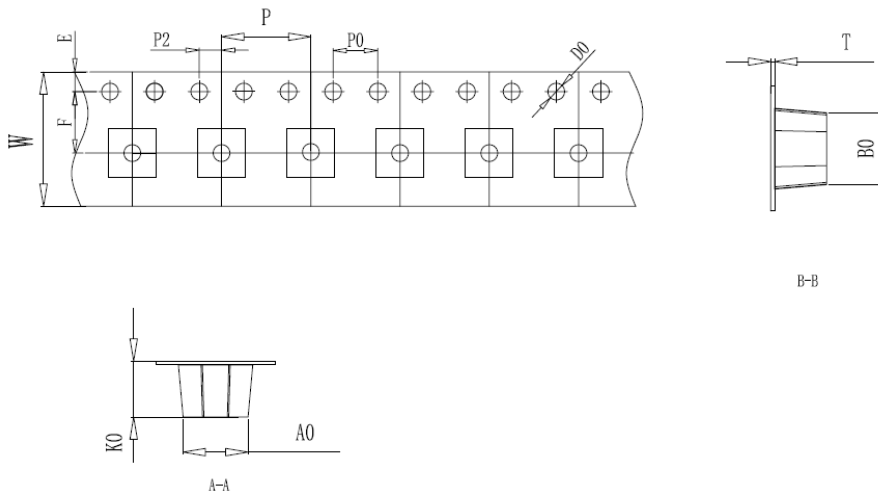
**RoHS**  
Compliance

#### 4. Construction and materials



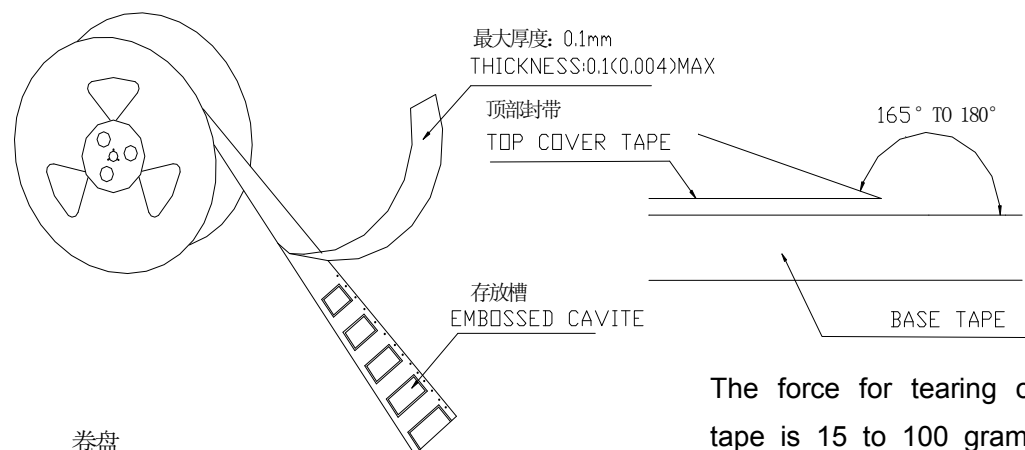
No.	Part name	Material	Ceaiya P/N
①	Drum Core	Ni-Zn Ferrite Core	TZD
②	Wire	Polyurethane enameled copper wire	YLSL
③	Adhesive	Epoxy Resin Magnetic Powder	
④	Plating Electrodes	Plating: Ag 10-20 $\mu$ m Ni 1-3 $\mu$ m Sn 3-7 $\mu$ m	
⑤	Outer Electrodes	Top surface solder coating Sn99%、Ag0.3%、Cu0.7%	YX

#### 5.Package Specification



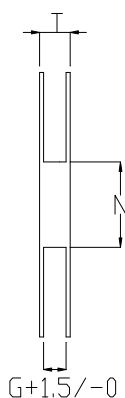
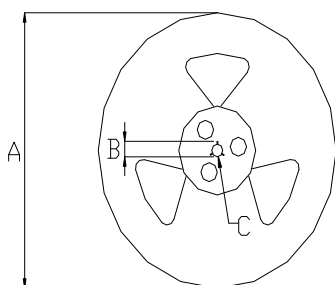
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
<b>DIM</b>	12.00	5.2	5.2	1.7	8.00	5.50	1.75	1.50	4.00	2.00	0.3
<b>TOLE</b>	$\pm 0.3$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	+0.1	$\pm 0.1$	$\pm 0.1$	$\pm 0.05$

## 6. CARRIER REEL DIMENSIONS:



卷盘  
Carrier Tape Reel

The force for tearing off cover tape is 15 to 100 grams in the arrow direction/按箭头的方向施加 15 克至 100 克力撕开

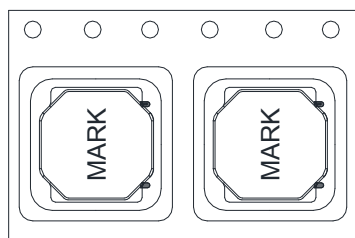


Unit: mm

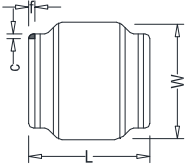
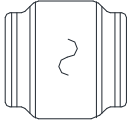
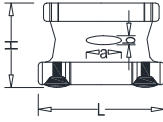
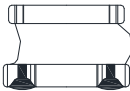
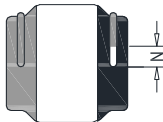
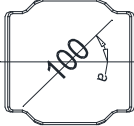
Type	A	B	C	G	N	T
12mm	330	21±0.8	13±0.4	12.4	100	16.4

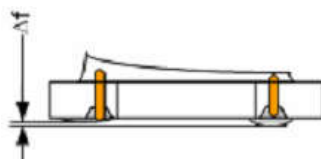
## 7. PACKAGE SPECIFICATION :

4.5KPCS/Reel    13.5KPCS/Inner Box    40.5KPCS/Outer Box



**Visual Inspection Standard of Product**

No.	Defect Item	Figure	Rejection Identification	Acceptance
1	Core Defect		The defect length(c or f)more than L/6 or W/6 , NG	AQL=0.65
2	Core Crack		Visual cracks , NG	AQL=0.65
3	Starvation		(1)Resin starved length a more than L/2, NG (2)When L>2mm,b>H/2, NG (3)When L≤2mm, b don't control	AQL=0.65
4	Excessive glue		The length, width or height of product beyond specified value, NG	AQL=0.65
5	Cold Solder		(1)For CR2520** Series , cold solder N>0.5mm,NG (2)For other series, cold solder N>1mm,NG	AQL=0.65
6	Marking Defect		The marking angle a>45° , NG	AQL=0.65



Δf: Clearance between terminal and the surface of plate must be 0.2mm max when coil is placed on a flat plate.