

# 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) : FSNR4018系列

日期 (Date) : 2019-05-15

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

地址 (Address) : 深圳市寶安區新安街道裕安二路 131 號

C33 科創園 2 棟 209 室

電話 (TEL) : 0755-83222650

傳真 (FAX) : 0755-83222656

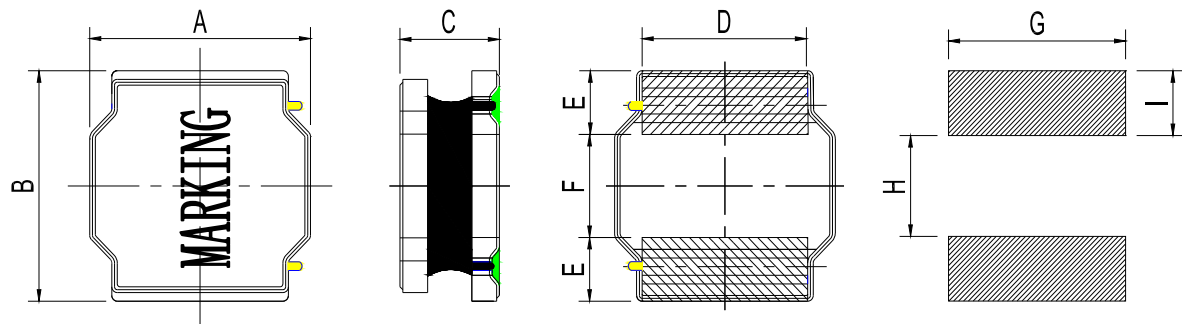
<http://www.ele-founds.com>



**【Version of Changed Record】**

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2019.5.15	New release	/	TopoCheng

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



注：喷码尺寸长  $2.5 \pm 0.5$ mm, 宽  $2.0 \pm 0.5$ mm

A	B	C	D	E	F	G	H	I
$4.0 \pm 0.2$	$4.0 \pm 0.2$	1.85Max	$3.3 \pm 0.3$	$1.0 \pm 0.2$	$2.0 \pm 0.3$	3.7 Ref	1.9 Ref	1.1 Ref

## 2. Electronic Characteristics List

Part Number	Inductance (uH)	Tolerance (±%)	DCR (mΩ) ±30%	Isat (A)	Irise (A)	Test Condition	Marking
FSNR4018-R56N	0.56	30	18	6.5	3.5	100KHz /0.25V	R56
FSNR4018-1R0N	1.0	30	23	4.5	2.50	100KHz /0.25V	1R0
FSNR4018-1R2N	1.2	30	28	4.3	2.40	100KHz /0.25V	1R2
FSNR4018-1R5N	1.5	30	33	3.35	2.34	100KHz /0.25V	1R5
FSNR4018-1R8N	1.8	30	44	3.00	2.00	100KHz /0.25V	1R8
FSNR4018-2R2M	2.2	20	44	2.70	2.00	100KHz /0.25V	2R2
FSNR4018-3R3M	3.3	20	70	2.45	1.90	100KHz /0.25V	3R3
FSNR4018-4R7M	4.7	20	90	1.70	1.70	100KHz /0.25V	4R7
FSNR4018-5R6M	5.6	20	103	1.60	1.50	100KHz /0.25V	5R6
FSNR4018-6R8M	6.8	20	124	1.45	1.30	100KHz /0.25V	6R8
FSNR4018-8R2M	8.2	20	180	1.40	1.15	100KHz /0.25V	8R2
FSNR4018-100M	10	20	200	1.30	1.10	100KHz /0.25V	100
FSNR4018-120M	12	20	230	1.15	0.95	100KHz /0.25V	120
FSNR4018-150M	15	20	268	0.94	0.92	100KHz /0.25V	150
FSNR4018-180M	18	20	320	0.86	0.61	100KHz /0.25V	180
FSNR4018-220M	22	20	390	0.80	0.80	100KHz /0.25V	220
FSNR4018-330M	33	20	560	0.65	0.60	100KHz /0.25V	330
FSNR4018-470M	47	20	850	0.57	0.50	100KHz /0.25V	470

### Isat (A) :

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

### Irise(A)

DC Current that will cause an approximate  $\Delta T$  of 40 °C

### Measuring Instrument :

L:HIOKI3532-50

DCR:HIOKI 3540

Isat / Irise:HP4284A+42841

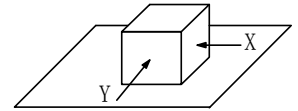
### 3. General Characteristics

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)

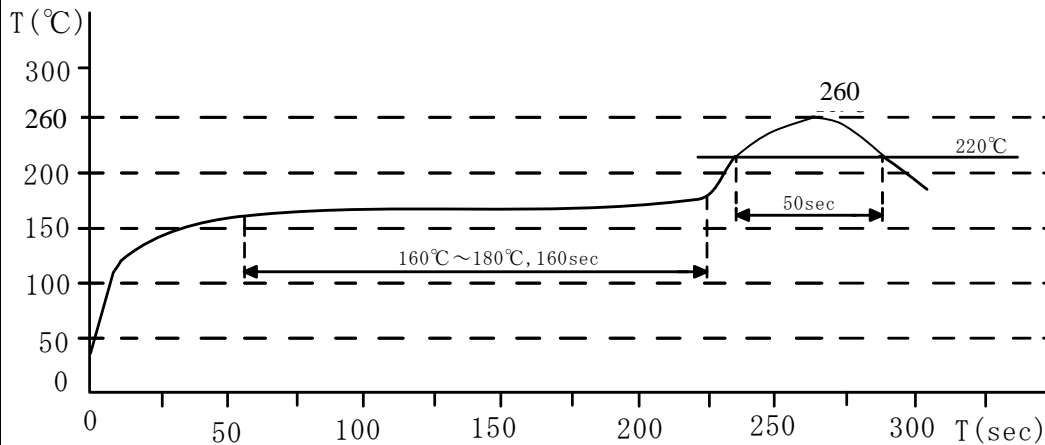
3-3. External appearance : No external defects can be found in the visual inspection.

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  $10 \pm 2$  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.

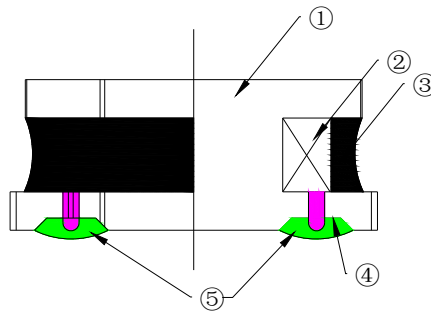
3-6. Recommended reflow condition:



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.



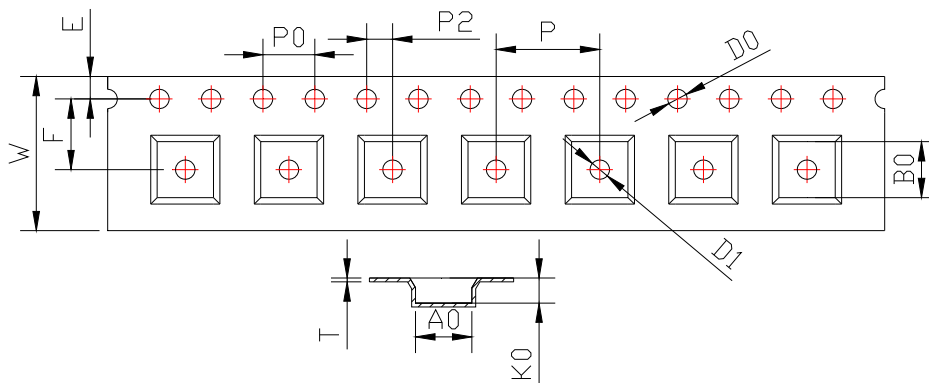
#### 4. Construction and materials



No.	Part name	Material	Ceaiya P/N
①	Drum Core	Ni-Zn Ferrite Core	MT/CY
②	Wire	Polyurethane enameled copper wire	3210200
③	Adhesive	Epoxy Resin Magnetic Powder	7001007
④	Plating Electrodes	Plating: Ag 10-20 $\mu\text{m}$ Ni 1-3 $\mu\text{m}$ Sn 3-7 $\mu\text{m}$	
⑤	Outer Electrodes	Top surface solder coating Sn99%、 Ag0.3%、Cu0.7%	YX

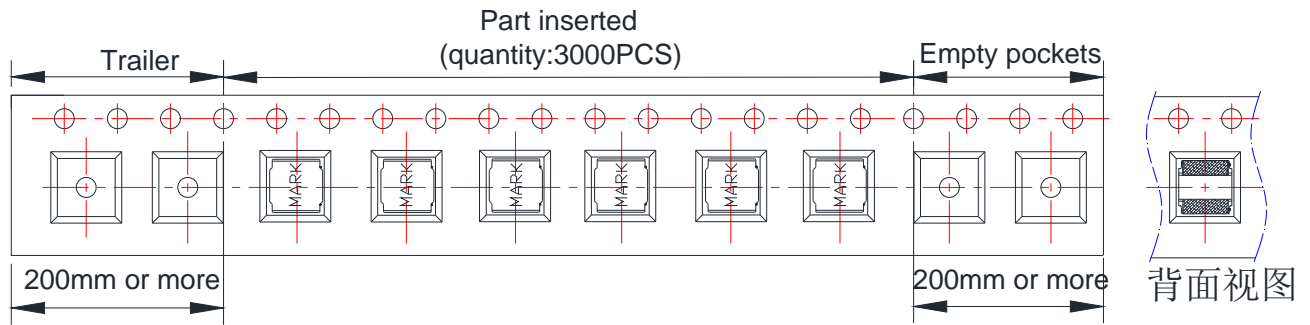
#### 5.Packaging and Marking:

5-1.Carrier Tape Dimensions:

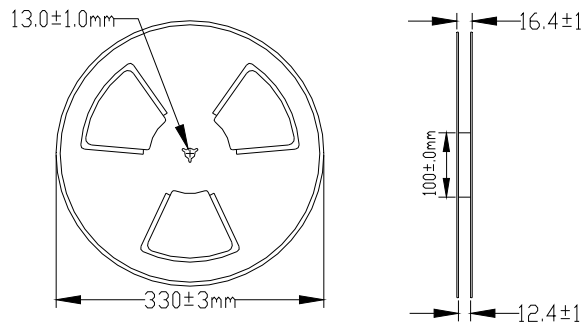


ITEM	W	A0	B0	K0	P	F	E	D0	D1	P0	P2	T
DIM	12.00	4.35	4.35	1.95	8.00	5.50	1.75	1.50	1.50	4.00	2.00	0.30
TOLE	+0.30 -0.10	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	+0.1	+0.1	$\pm 0.1$	$\pm 0.1$	$\pm 0.05$

### 5-2. Taping Dimensions:



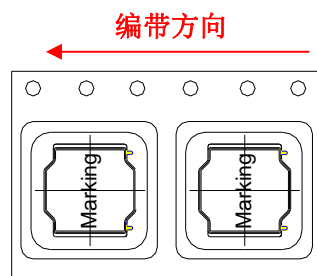
### 5-3. Reel Dimensions:



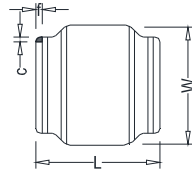
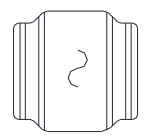
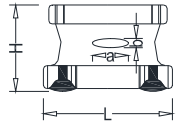
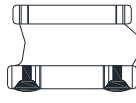
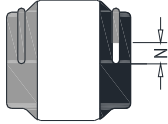
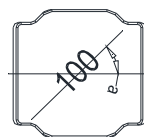
## 6. PACKAGE SPECIFICATION:

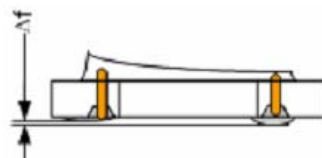
3KPCS/ Reel    9KPCS/ Inner Box    27KPCS/ Outer Box

编带方向 , 如下图所示



### 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 $L > 2\text{mm}$ , $b > H/2$ , NG (3)When $L \leq 2\text{mm}$ , 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 $N > 0.5\text{mm}$ , NG (2)For other series, cold solder $N > 1\text{mm}$ , NG	AQL=0.65
6	Marking Defect		The marking angle $a > 45^\circ$ , NG	AQL=0.65



$\Delta f$ : Clearance between terminal and the surface of plate must be 0.1mm max when coil is placed on a flat plate.