

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) : FSNR4010系列

日期 (Date) : 2018-10-25

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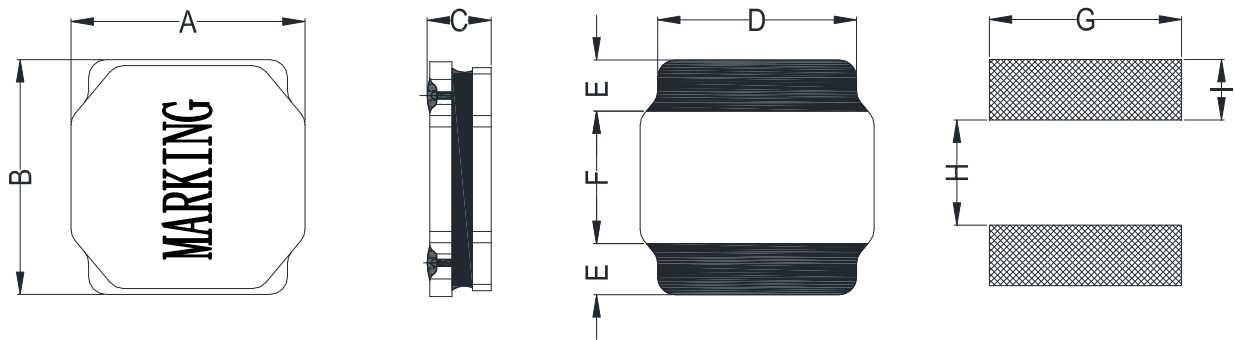
<http://www.ele-founds.com>



History of change

Rev.	Effective Date	Changed Contents	Change reasons	Approved By
A0	2018.10.25	New release		TopoCheng

1. Shape and Dimension (Unit:mm)



A	B	C	D	E	F	G	H	I
4.0 ± 0.2	4.0 ± 0.2	1.0Max	3.3±0.2	0.8±0.2	1.6 Ref	3.7 Ref	1.9 Ref	1.1 Ref

注：喷码尺寸长 2.5±0.5mm, 宽 2.0±0.5mm

2. Electronic Characteristics List

Part Number	Inductance (uH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irise (A)	Test Condition	Marking
FSNR4010-1R0N	1.0	30	56	2.00	1.90	100KHz /1V	1R0
FSNR4010-1R5N	1.5	30	70	1.68	1.70	100KHz /1V	1R5
FSNR4010-2R2M	2.2	20	85	1.20	1.45	100KHz /1V	2R2
FSNR4010-3R3M	3.3	20	115	1.10	1.20	100KHz /1V	3R3
FSNR4010-4R7M	4.7	20	150	0.95	0.90	100KHz /1V	4R7
FSNR4010-6R8M	6.8	20	220	0.85	0.85	100KHz /1V	6R8
FSNR4010-100M	10	20	300	0.70	0.70	100KHz /1V	100

Isat (A) :

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

Irise(A)

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

Measuring Instrument :

L:HIOKI3532-50

DCR:HIOKI 3540

Isat / Irise:HP4284+42841A

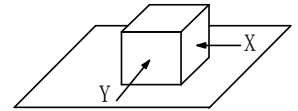
3. General Characteristics

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)

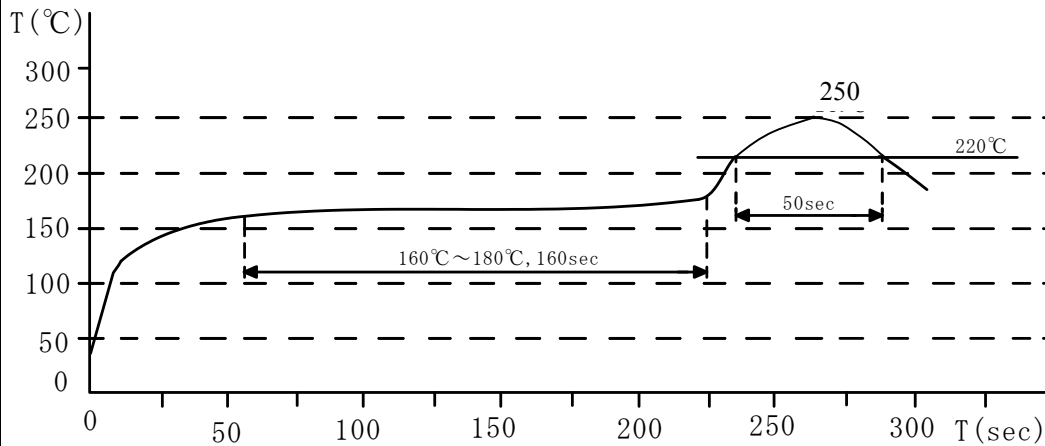
3-3. External appearance : No external defects can be found in the visual inspection.

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 ± 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:

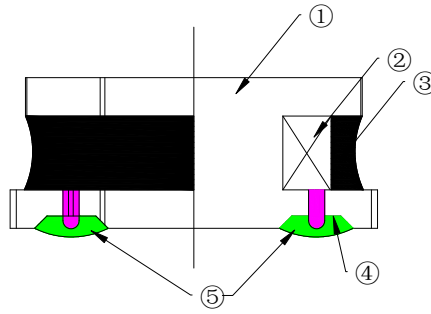


3-7. Humidity test : Inductance deviation is within $\pm 5.0\%$ after 96 ± 4 hours test under the condition of relative humidity of $90 \sim 95\%$ and temperature of $60 \pm 2^{\circ}\text{C}$, and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.

LEAD-FREE

RoHS
Compliance

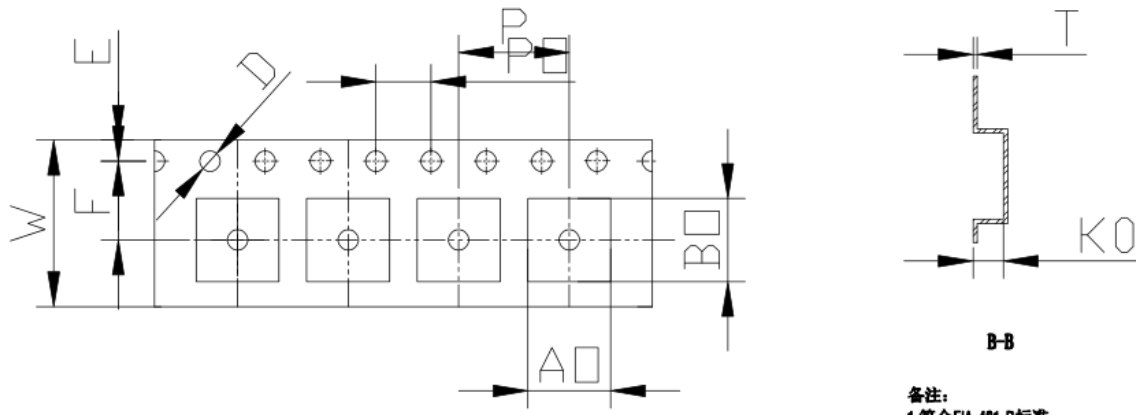
4. Construction and materials



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 μ m Ni 1-3 μ m Sn 3-7 μ m	
⑤	Outer Electrodes	Top surface solder coating Sn99%、 Ag0.3%、Cu0.7%	YX

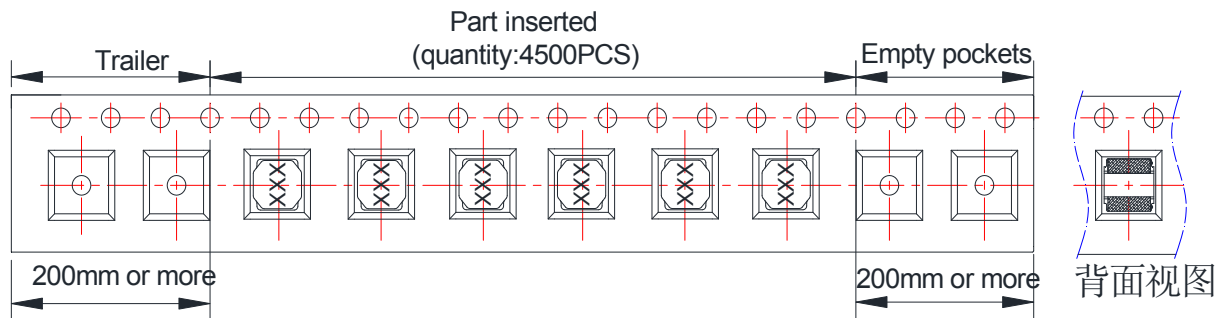
5.Packaging and Marking:

5-1.Carrier Tape Dimensions:

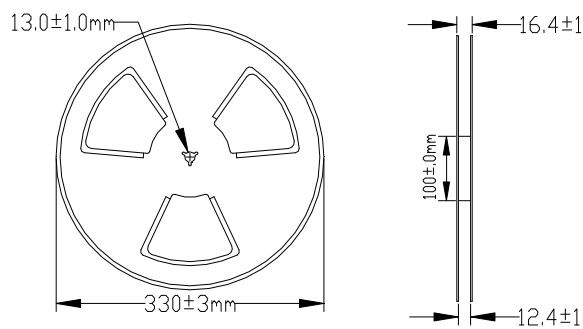


ITEM	W	A0	B0	K0	P	F	E	D0	D1	P0	P2	T
DIM	12.00	4.3	4.3	1.25	8.00	5.50	1.75	1.50	1.50	4.00	2.00	0.30
TOLE	+0.30 -0.10	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	+0.1	±0.1	±0.1	±0.05

5-2. Taping Dimensions:



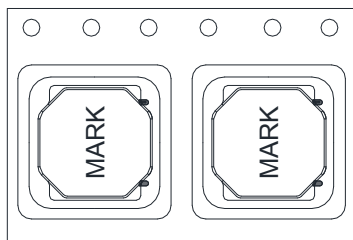
5-3. Reel Dimensions:



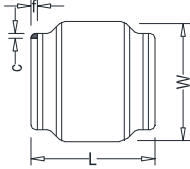
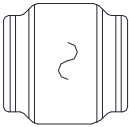
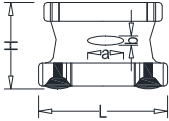
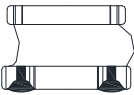
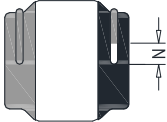
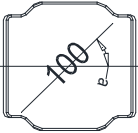
6. PACKAGE SPECIFICATION:

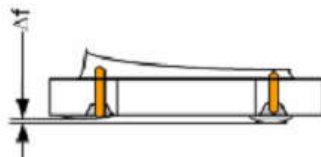
4.5KPCS/ Reel 13.5KPCS/ Inner Box 40.5KPCS/ Outer Box

编带方向，如右图所示



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



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