

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CR3021 Series
Spec No:	L321

### 【For Customer Approval Only】

If you Approval, Please Stamp

### 【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
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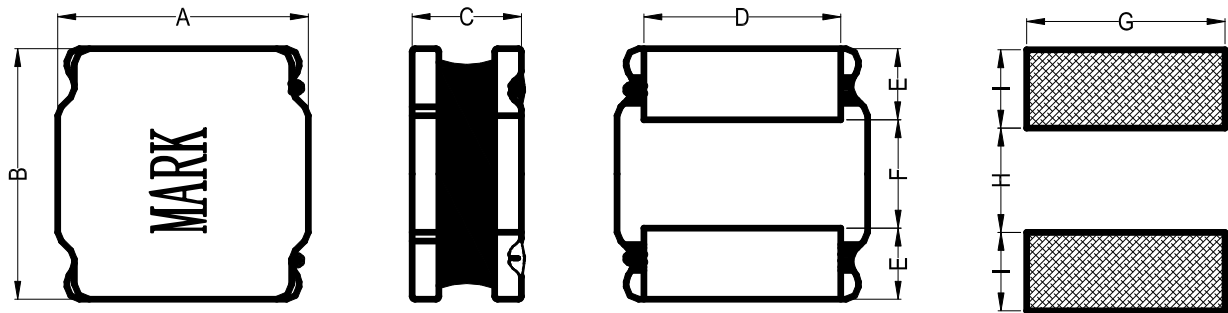
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**【Version of Changed Record】**

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2023.05.25	New release	/	Li qing hui

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



A	B	C	D	E	F	G	H	I
3.0 ± 0.2	3.0 ± 0.2	2.5Max	2.5 ± 0.3	0.85 ± 0.2	1.3 ± 0.3	2.7 Ref	1.5 Ref	0.8 Ref

## 2. Electronic Characteristics List

Part Number	Inductance (uH)	Tolerance (±%)	DCR(mΩ) ±30%	Isat (A)	Irise (A)	Test Condition	Marking
CR3021-R33N	0.33	30	21	7.00	3.20	1MHz/0.25V	R33
CR3021-1R0N	1.0	30	43	4.00	2.00	100KHz /0.25V	1R0
CR3021-1R2N	1.2	30	47	3.80	1.95	100KHz /0.25V	1R2
CR3021-1R5N	1.5	30	47	3.90	2.00	100KHz /0.25V	1R5
CR3021-2R2N	2.2	30	70	3.20	1.85	100KHz /0.25V	2R2
CR3021-3R3M	3.3	20	92	2.70	1.50	100KHz /0.25V	3R3
CR3021-4R7M	4.7	20	120	2.20	1.20	100KHz /0.25V	4R7
CR3021-6R8M	6.8	20	160	2.00	1.00	100KHz /0.25V	6R8
CR3021-8R2M	8.2	20	230	1.90	0.96	100KHz /0.25V	8R2
CR3021-100M	10	20	240	1.40	0.93	100KHz /0.25V	100
CR3021-120M	12	20	330	1.40	0.90	100KHz /0.25V	120
CR3021-150M	15	20	376	1.30	0.86	100KHz /0.25V	150
CR3021-220M	22	20	530	1.00	0.55	100KHz /0.25V	220
CR3021-330M	33	20	800	0.78	0.45	100KHz /0.25V	330
CR3021-470M	47	20	1000	0.70	0.40	100KHz /0.25V	470
CR3021-101M	100	20	2420	0.45	0.28	100KHz /0.25V	101
CR3021-151M	150	20	4000	0.40	0.16	100 KHz /0.25V	151

※ All test data is referenced to 25°C ambient;

**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:HP4284A+42841

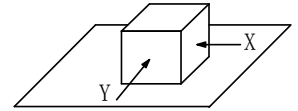
### 3. General Characteristics

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)

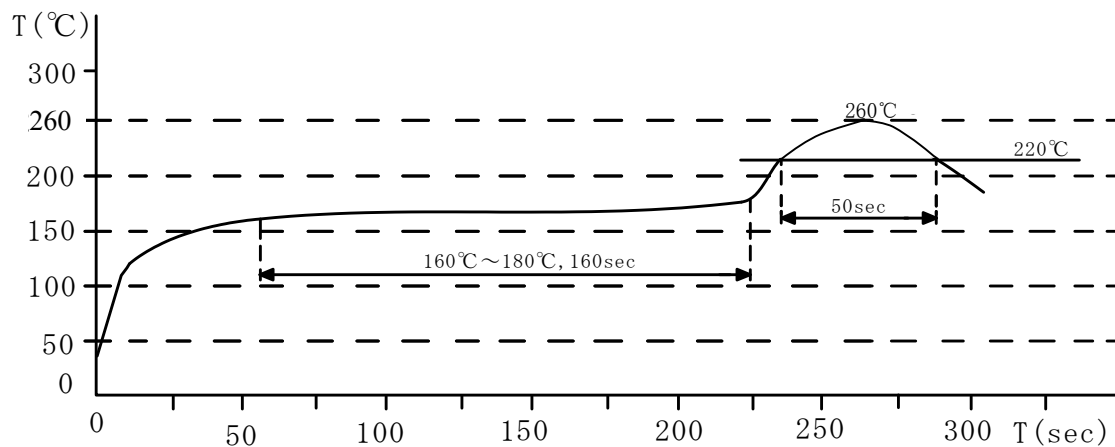
3-3. External appearance : No external defects can be found in the visual inspection.

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:

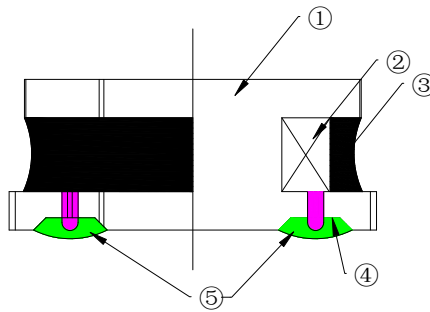


3-7. Humidity test : Inductance deviation is within  $\pm 5.0\%$  after  $96 \pm 4$  hours test under the condition of relative humidity of  $90 \sim 95\%$  and temperature of  $60 \pm 2^{\circ}\text{C}$ , and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.

**LEAD-FREE**



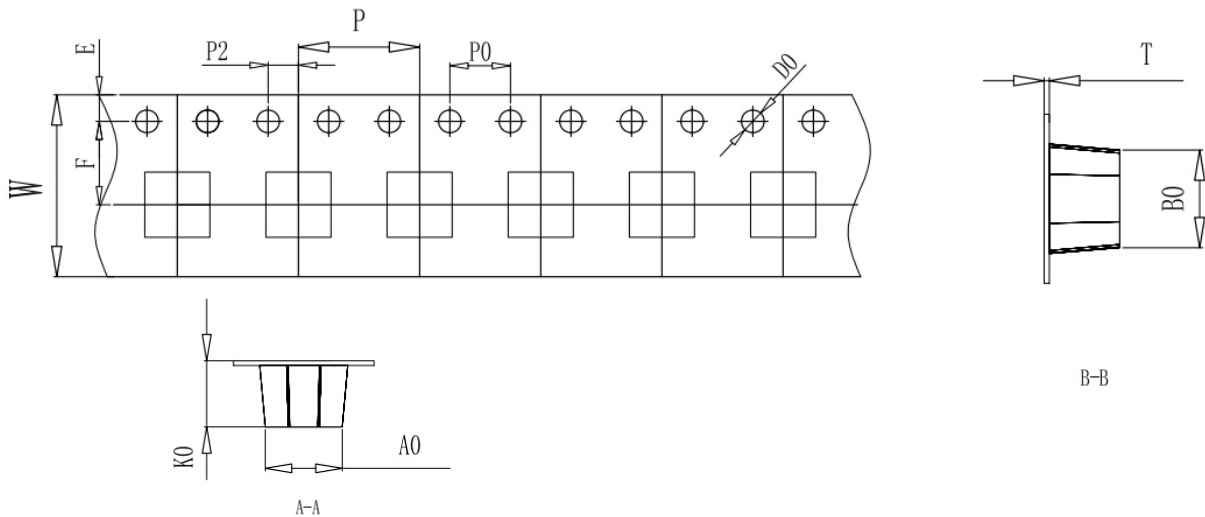
#### 4. Construction and materials



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

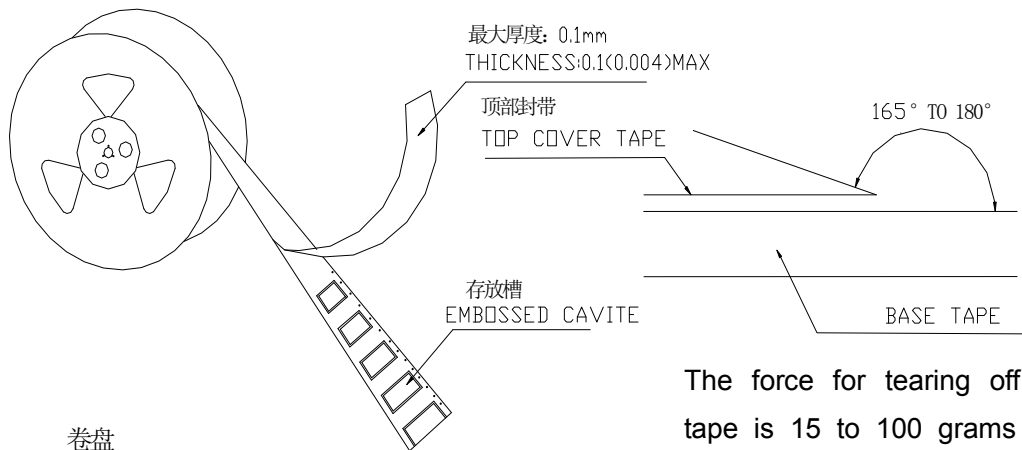
#### 5. Packaging and Marking:

##### 5-1. Carrier Tape Dimensions:



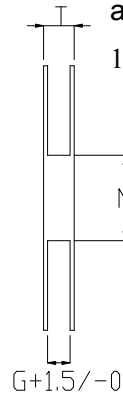
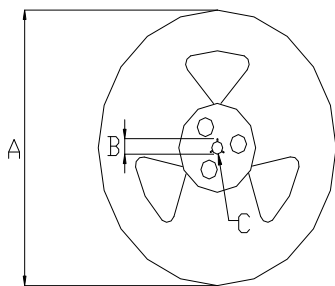
TEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	12.00	3.3	3.3	2.50	8.00	5.50	1.75	1.50	4.00	2.00	0.3
TOLE	$\pm 0.3$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	+0.1	$\pm 0.1$	$\pm 0.1$	$\pm 0.05$

### 5-2. 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

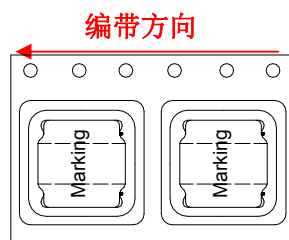


Type	A	B	C	G	N	T
12mm	330	21±0.8	13±0.4	12.4	100	16.4

### 6. PACKAGE SPECIFICATION:

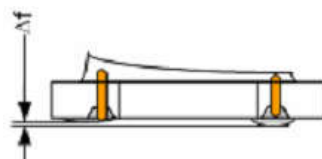
3KPCS/ Reel    9KPCS/ Inner Box    27KPCS/ Outer Box

编带方向 , 如右图所示 ( 图中红色虚线部分表示焊盘位置 )



## 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 0.15mm max when coil is placed on a flat plate.

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