

## 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 |
|-------------|------------|-------------|
| 李庆辉         | 刘志坚        | 劳水花         |

## Shenzhen Ceaiya Electronics Co., Ltd.

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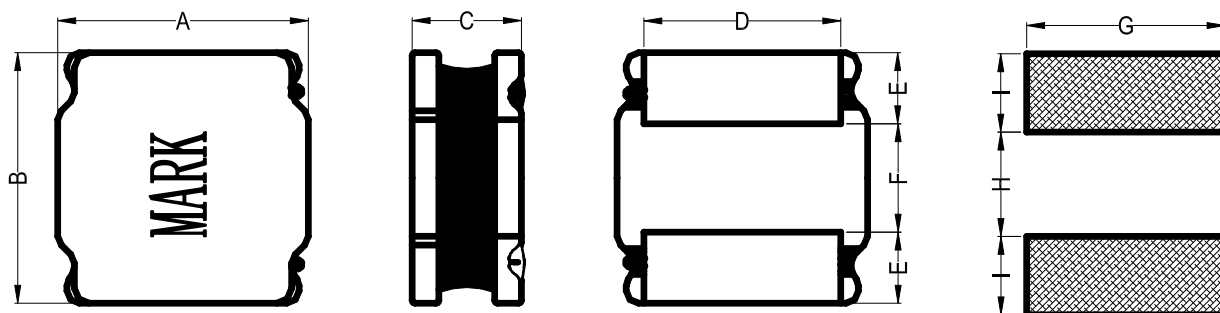
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## 1. Shape and Dimension ( Unit:mm )



| 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

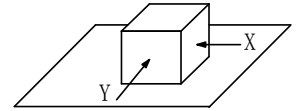
### 3. General Characteristics

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)

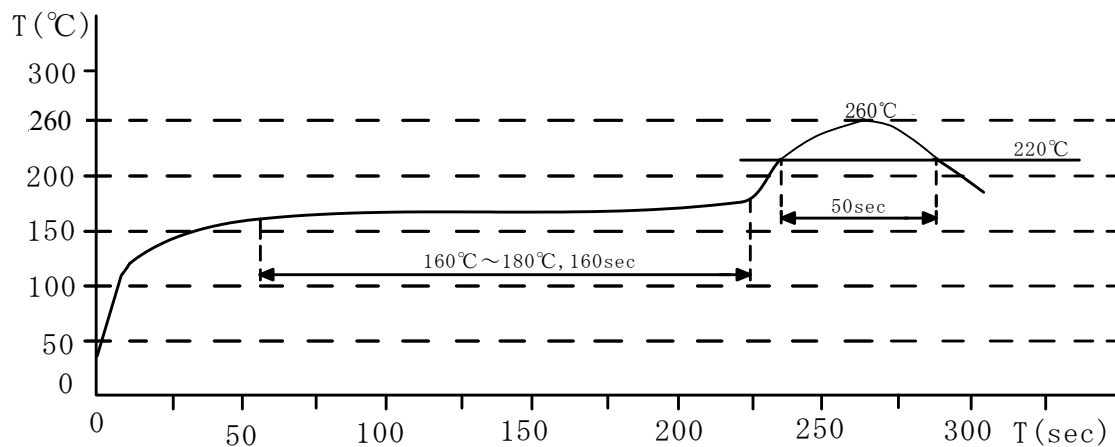
3-3. External appearance : No external defects can be found in the visual inspection.

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:

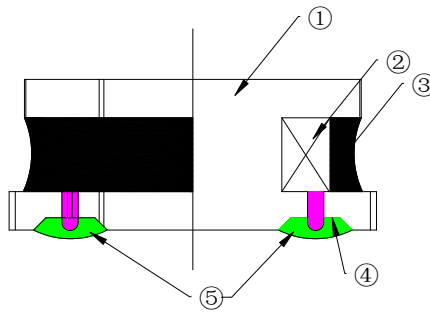


3-7. Humidity test : Inductance deviation is within  $\pm 5.0\%$  after  $96 \pm 4$  hours test under the condition of relative humidity of  $90 \sim 95\%$  and temperature of  $60 \pm 2^{\circ}\text{C}$ , and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.

**LEAD-FREE**



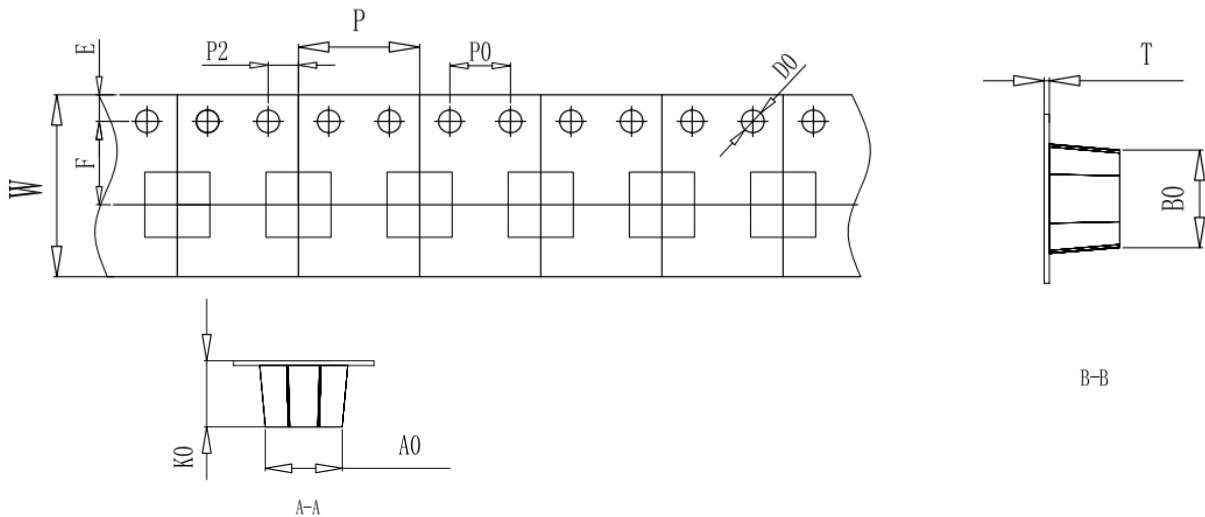
#### 4. Construction and materials



| 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 $\mu\text{m}$<br>Ni 1-3 $\mu\text{m}$<br>Sn 3-7 $\mu\text{m}$ |            |
| ⑤   | Outer Electrodes   | Top surface solder coating Sn99%、<br>Ag0.3%、Cu0.7%                            | YX         |

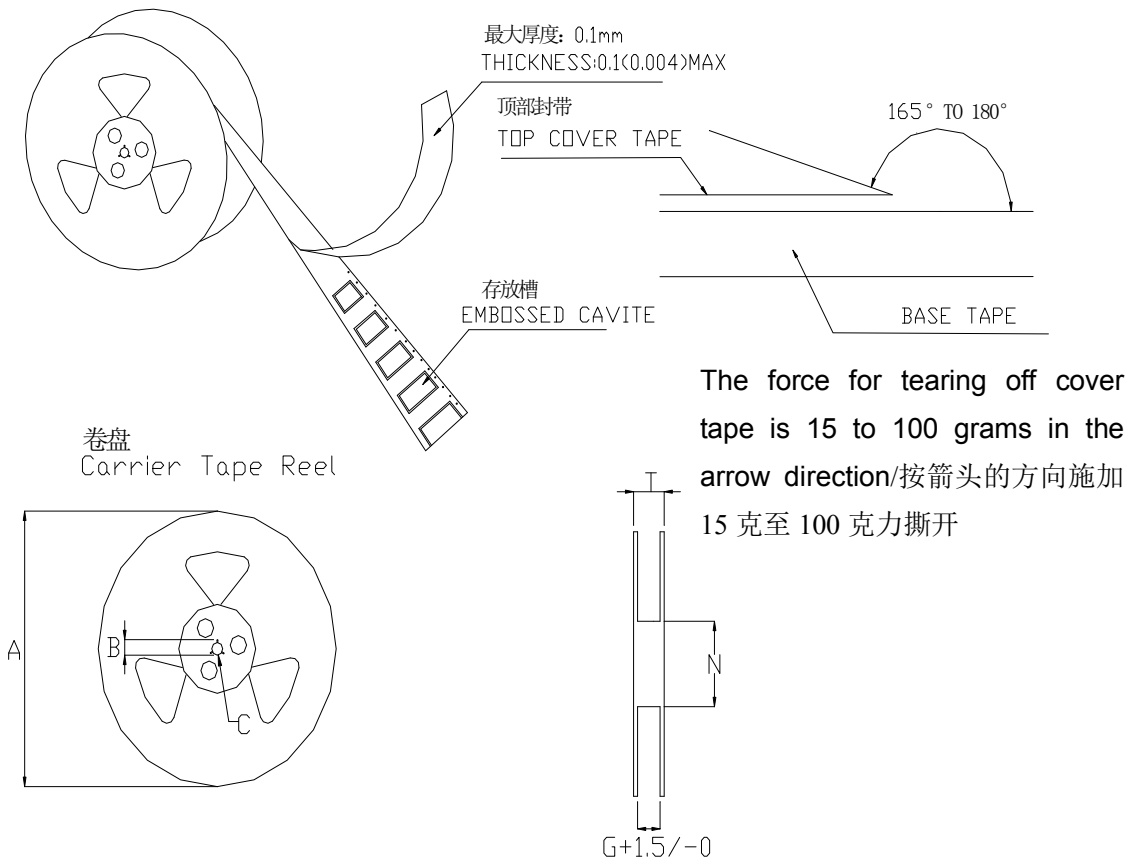
#### 5. Packaging and Marking:

##### 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:

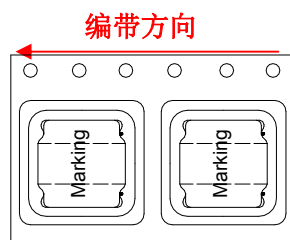


| Type | A   | B      | C      | G    | N   | T    |
|------|-----|--------|--------|------|-----|------|
| 12mm | 330 | 21±0.8 | 13±0.4 | 12.4 | 100 | 16.4 |

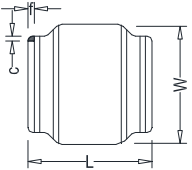
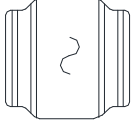
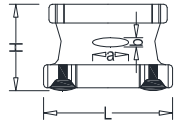
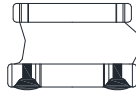
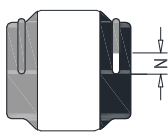
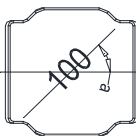
### 6. PACKAGE SPECIFICATION:

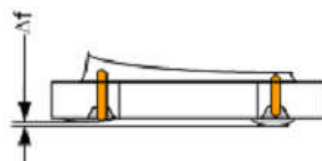
3KPCS/ Reel    9KPCS/ Inner Box    27KPCS/ Outer Box

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<br>(2)When $L > 2\text{mm}$ , $b > H/2$ , NG<br>(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<br>(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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