

Specification Sheet for Approved

| | |
|--------------------|---------------|
| Customer Name: | |
| Customer Part No.: | |
| Ceaiya Part No: | CR4020 Series |
| Spec No: | L117 |

【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 |

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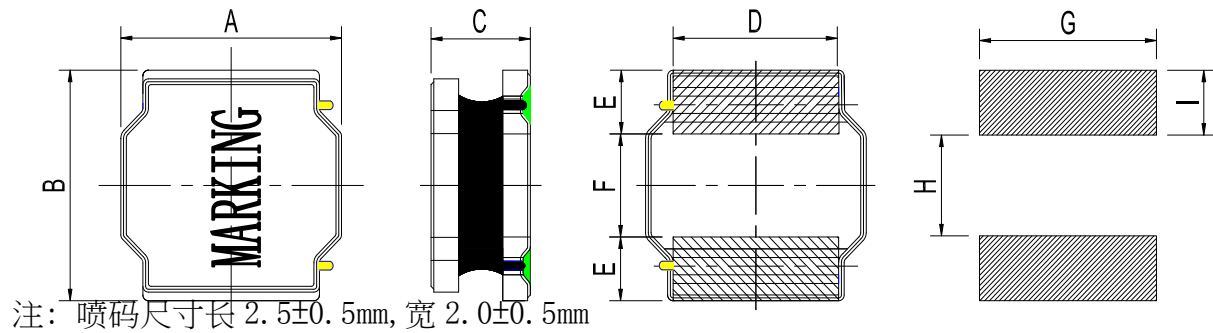
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1. Shape and Dimension (Unit:mm)



| A | B | C | D | E | F | G | H | I |
|-----------|-----------|--------|---------|---------|---------|---------|---------|---------|
| 4.0 ± 0.2 | 4.0 ± 0.2 | 2.1Max | 3.3±0.3 | 1.0±0.2 | 2.0±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 |
|-------------|-----------------|----------------|--------------|----------|-----------|----------------|---------|
| CR4020-R33N | 0.33 | 30 | 13 | 7.50 | 3.30 | 100KHz /0.25V | R33 |
| CR4020-R47N | 0.47 | 30 | 18 | 7.50 | 3.30 | 100KHz /0.25V | R47 |
| CR4020-R68N | 0.68 | 30 | 24 | 7.00 | 3.20 | 100KHz /0.25V | R68 |
| CR4020-1R0N | 1.0 | 30 | 28 | 5.10 | 2.15 | 100KHz /0.25V | 1R0 |
| CR4020-1R2N | 1.2 | 30 | 29 | 4.70 | 2.10 | 100KHz /0.25V | 1R2 |
| CR4020-1R5N | 1.5 | 30 | 35 | 4.45 | 1.98 | 100KHz /0.25V | 1R5 |
| CR4020-1R8N | 1.8 | 30 | 45 | 4.00 | 1.90 | 100KHz /0.25V | 1R8 |
| CR4020-2R2M | 2.2 | 20 | 45 | 3.40 | 1.85 | 100KHz /0.25V | 2R2 |
| CR4020-2R7M | 2.7 | 20 | 53 | 3.30 | 1.60 | 100KHz /0.25V | 2R7 |
| CR4020-3R3M | 3.3 | 20 | 70 | 3.20 | 1.40 | 100KHz /0.25V | 3R3 |
| CR4020-4R7M | 4.7 | 20 | 80 | 2.35 | 1.34 | 100KHz /0.25V | 4R7 |
| CR4020-5R6M | 5.6 | 20 | 95 | 2.20 | 1.22 | 100KHz /0.25V | 5R6 |
| CR4020-6R8M | 6.8 | 20 | 125 | 2.00 | 1.04 | 100KHz /0.25V | 6R8 |
| CR4020-8R2M | 8.2 | 20 | 150 | 1.75 | 1.00 | 100KHz /0.25V | 8R2 |
| CR4020-100M | 10 | 20 | 165 | 1.60 | 0.90 | 100KHz /0.25V | 100 |
| CR4020-120M | 12 | 20 | 175 | 1.50 | 0.88 | 100KHz /0.25V | 120 |
| CR4020-150M | 15 | 20 | 230 | 1.35 | 0.77 | 100KHz /0.25V | 150 |
| CR4020-220M | 22 | 20 | 350 | 1.05 | 0.62 | 100KHz /0.25V | 220 |
| CR4020-270M | 27 | 20 | 476 | 1.05 | 0.56 | 100KHz /0.25V | 270 |
| CR4020-330M | 33 | 20 | 500 | 0.85 | 0.49 | 100KHz /0.25V | 330 |
| CR4020-470M | 47 | 20 | 710 | 0.74 | 0.44 | 100KHz /0.25V | 470 |
| CR4020-560M | 56 | 20 | 800 | 0.68 | 0.40 | 100KHz /0.25V | 560 |
| CR4020-680M | 68 | 20 | 1250 | 0.60 | 0.35 | 100KHz /0.25V | 680 |

※ 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:HP4284+42841A

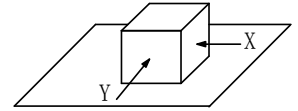
3. General Characteristics

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)

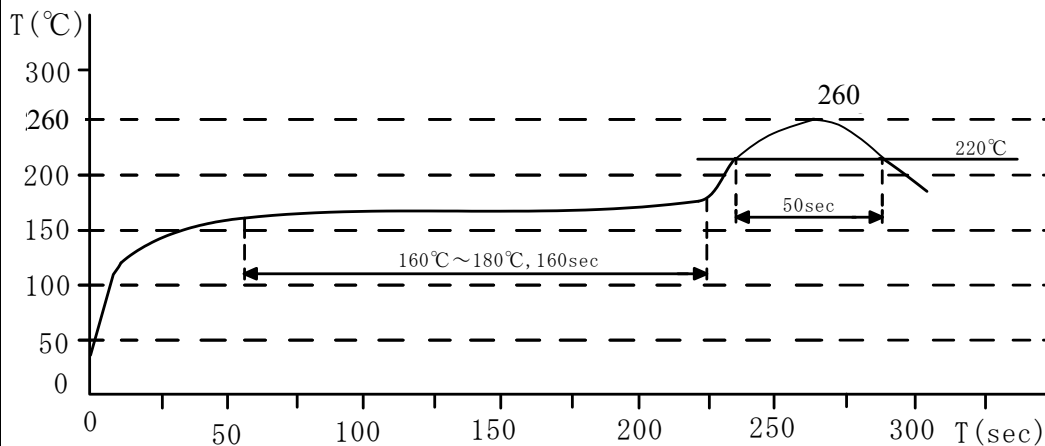
3-3. External appearance : No external defects can be found in the visual inspection.

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:

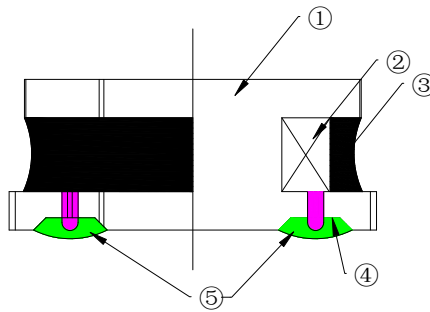


3-7. Humidity test : Inductance deviation is within $\pm 5.0\%$ after 96 ± 4 hours test under the condition of relative humidity of $90 \sim 95\%$ and temperature of $60 \pm 2^{\circ}\text{C}$, and 1 hour storage under room ambient conditions after the device is wiped with dry cloth.

LEAD-FREE

RoHS
Compliance

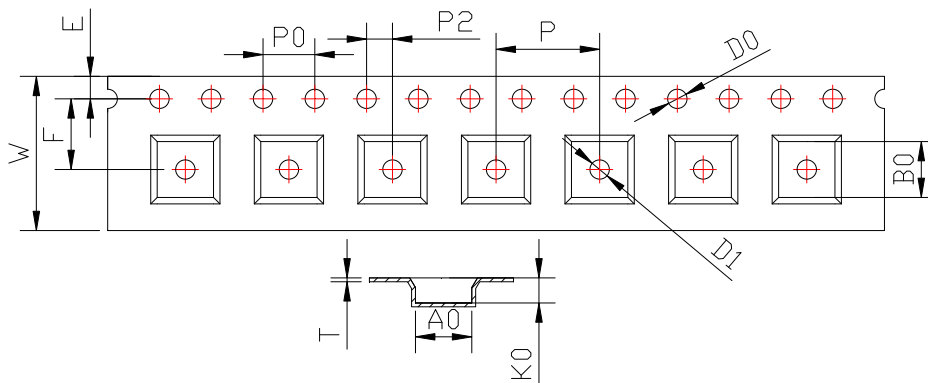
4. Construction and materials



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

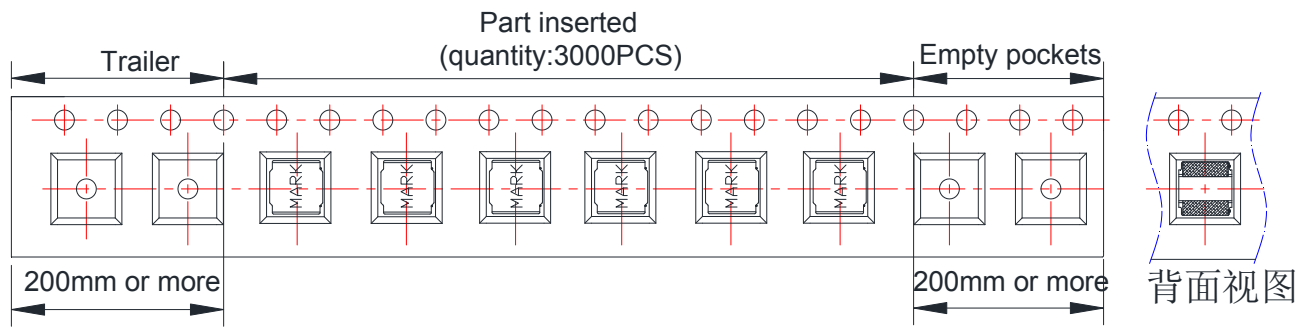
5. Packaging and Marking:

5-1. Carrier Tape Dimensions:

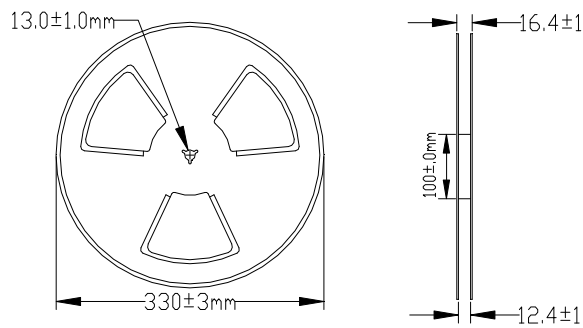


| ITEM | W | A0 | B0 | K0 | P | F | E | D0 | D1 | P0 | P2 | T |
|------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|------|------|-----------|-----------|------------|
| DIM | 12.00 | 4.3 | 4.3 | 2.25 | 8.00 | 5.50 | 1.75 | 1.50 | 1.50 | 4.00 | 2.00 | 0.30 |
| 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:



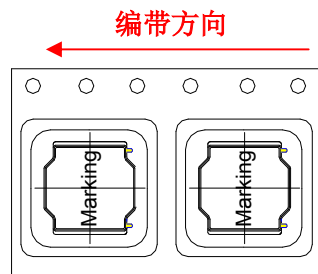
5-3. Reel Dimensions:



6. PACKAGE SPECIFICATION:

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 |



Δf : 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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