

## Specification Sheet for Approved

|                    |                 |
|--------------------|-----------------|
| Customer Name:     |                 |
| Customer Part No.: |                 |
| Ceaiya Part No:    | CMPI0630 Series |
| Spec No:           | L0630           |

**【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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Specification Sheet for SMD Power Inductor

**【Version of Changed Record】**

| Rev. | Effective Date | Changed Contents | Change Reasons | Approved By |
|------|----------------|------------------|----------------|-------------|
| A0   | 2021-11-11     | New release      | /              | Li qin hui  |
|      |                |                  |                |             |

# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the CMPI0630 Series of wire wound SMD power inductor.

## 2. Product Description and Identification (Part Number)

1) Description:

CMPI0630 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI  
①
0630  
②
-
1R0  
③
M  
④

① Product Series

② Choke Size

③ Initial Inductance(L @ 0A):1R0=1.0μH

④ Inductance Tolerance:M=L+/-20%

## 3. Electrical Characteristics

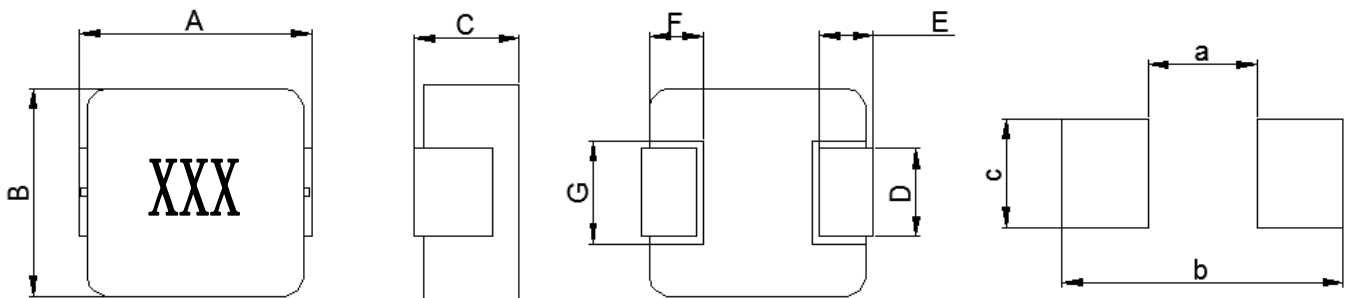
1) Operating temperature range (individual chip without packing): -40°C ~ +125°C (Including Self-heating)

2) Storage temperature range (On PCB ): -40°C ~ +125°C

## 4. Shape and Dimensions (Unit:mm)

Mechanical Parameters

Recommended PCB Layout



| A     | B     | C    | D     | E     | F    | G    | a    | b    | c    |
|-------|-------|------|-------|-------|------|------|------|------|------|
| 7.10  | 6.60  | 3.00 | 3.00  | 1.60  | 2.00 | 3.60 | 3.70 | 8.40 | 3.50 |
| ±0.30 | ±0.20 | Max  | ±0.35 | ±0.35 | Typ. | Typ. | Typ. | Typ. | Typ. |

### Notes:

1. Marking :Ink Marking
2. Stamping XXX :inductor
3. Dimensions of recommended PCB layout are reference only.
4. Do not route traces nor place vias underneath the inductor. Proper layout is required.

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### 5. Electrical Characteristics

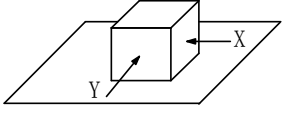
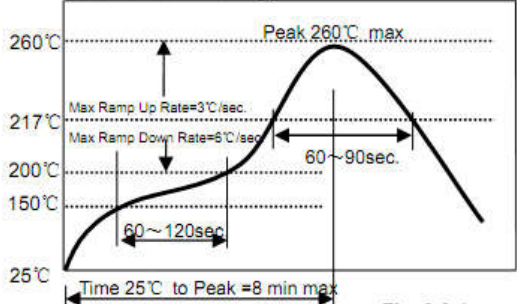
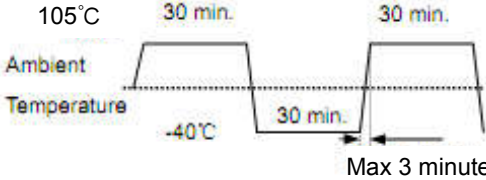
| Part Number   | L0(uH)   | DCR(mΩ)<br>@25°C |      | Isat(Amp)<br>Typ. | Irms(Amp)<br>Typ. |
|---------------|----------|------------------|------|-------------------|-------------------|
|               |          | Max.             | Typ. |                   |                   |
| CMPI0630-R10N | 0.10±30% | 1.2              | 0.9  | 56                | 32                |
| CMPI0630-R15N | 0.15±30% | 2.5              | 1.5  | 38                | 25                |
| CMPI0630-R22M | 0.22±20% | 3.0              | 2.5  | 34                | 23                |
| CMPI0630-R33M | 0.33±20% | 4.5              | 3.0  | 24                | 20                |
| CMPI0630-R47M | 0.47±20% | 5.0              | 4.0  | 20                | 18                |
| CMPI0630-R56M | 0.56±20% | 5.5              | 4.5  | 18                | 16.5              |
| CMPI0630-R68M | 0.68±20% | 5.5              | 4.8  | 17.0              | 14.0              |
| CMPI0630-R82M | 0.82±20% | 7.0              | 6.5  | 16.0              | 13.0              |
| CMPI0630-1R0M | 1.0±20%  | 10.0             | 8.2  | 15.0              | 12.0              |
| CMPI0630-1R5M | 1.5±20%  | 15.0             | 11.2 | 14.0              | 9.0               |
| CMPI0630-2R2M | 2.2±20%  | 20.0             | 15.2 | 10.0              | 8.0               |
| CMPI0630-3R3M | 3.3±20%  | 35.8             | 27.5 | 9.5               | 6.5               |
| CMPI0630-4R7M | 4.7±20%  | 39.7             | 30.5 | 6.5               | 5.5               |
| CMPI0630-5R6M | 5.6±20%  | 44.5             | 36.5 | 6.0               | 5.5               |
| CMPI0630-6R8M | 6.8±20%  | 63.6             | 53.0 | 6.0               | 5.0               |
| CMPI0630-8R2M | 8.2±20%  | 63.6             | 53.0 | 5.5               | 4.5               |
| CMPI0630-100M | 10±20%   | 75.0             | 62.0 | 5.0               | 4.0               |
| CMPI0630-150M | 15±20%   | 125              | 101  | 4.0               | 3.5               |
| CMPI0630-220M | 22±20%   | 200              | 150  | 3.2               | 2.3               |
| CMPI0630-330M | 33±20%   | 310              | 250  | 3.0               | 2.0               |

#### Notes:

1. Initial Inductance (L0) Test Parameters:100KHz,1V,Idc=0.0A,+25°C
2. All test data is referenced to 25°C ambient;
3. Rated current: Isat or Irms, whichever is smaller;
4. Irms(A): DC current that causes the temperature rise ( $\Delta T = 40^\circ \text{C}$ ) from  $25^\circ \text{C}$  ambient.
5. Isat(A): DC current at which the inductance drops approximate 30% from its value without current.

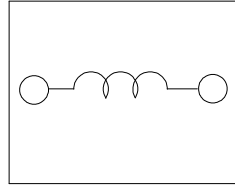
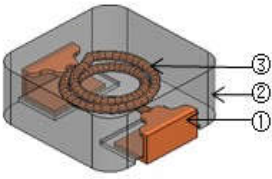
# Specification Sheet for SMD Power Inductor

## 6. Reliability Test

| Items                                  | Requirements  | Test Methods and Remarks   |
|--|---|--|
| 6.1<br>Terminal Strength               | No removal or split of the termination or other defects shall occur.<br><br><br>Fig.6.1-1    | 1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.6.1-1) using eutectic solder. Then apply a force in the direction of the arrow.<br>2) 10N force.<br>3) Keep time: 5±2s   |
| 6.2<br>High Temperature                | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1) Storage Temperature :125+/-5°C<br>2) Duration : 96 ±4 Hours<br>3) Recovery : then measured at room ambient temperature after placing 24 hours.  |
| 6.3<br>Low Temperature                 | 1. No visible mechanical damage<br>2. Inductance change: Within ±10%  | 1) Temperature and time: -40±5°C<br>2) Duration: 96±4 hours<br>3) Recovery : then measured at room ambient temperature after placing 24 hours.   |
| 6.4<br>Vibration test                  | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1) Frequency range:10Hz~55Hz~10Hz<br>2) Amplitude:1.5mm p-p<br>3) Direction:X,Y,Z<br>4) Time:1 minute/cycle,2hours per axis  |
| 6.5<br>High Temperature Storage Tested | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%   | 1) Storage Temperature :60+/-2°C<br>2) Relative Humidity :90-95%<br>3) Duration : 96 ±4 Hours<br>4) Recovery : then measured at room ambient temperature after placing 24 hours.   |
| 6.6<br>Resistance to Soldering Heat    | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%<br><br><br>Fig.6.6-1 | 1) Re-flowing Profile: Please refer to Fig.6.6-1<br>2) Test board thickness: 1.0mm<br>3) Test board material: glass epoxy resin<br>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring  |
| 6.7<br>Thermal Shock                   | 1. No visible mechanical damage.<br>2. Inductance change: Within ±10%<br><br><br>Fig.6.7-1 | 1) Temperature and time: -40±3°C for 30±3 min→105°C for 30±3min, please refer to Fig.6.7-1.<br>2) Transforming interval: Max, 3 minutes<br>3) Tested cycle: 100 cycles<br>4) The chip shall be stabilized at normal condition for 1~2 hours before measuring |

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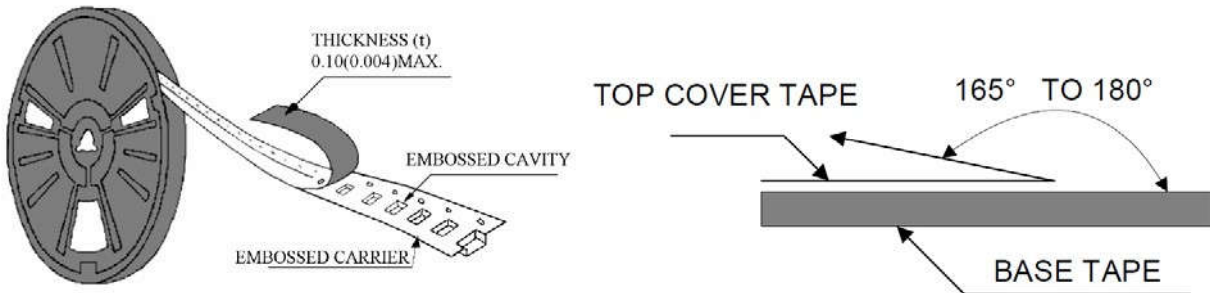
## 7. MATERIAL LIST



| NO. | Part Name | Material                              |
|-----|-----------|---------------------------------------|
| 1   | Electrode | Cu+Sn plating C1100, Sn:Min.8 $\mu$ m |
| 2   | Core      | Metal composite core                  |
| 3   | Coil      | Copper wire, 220 $^{\circ}$ C         |

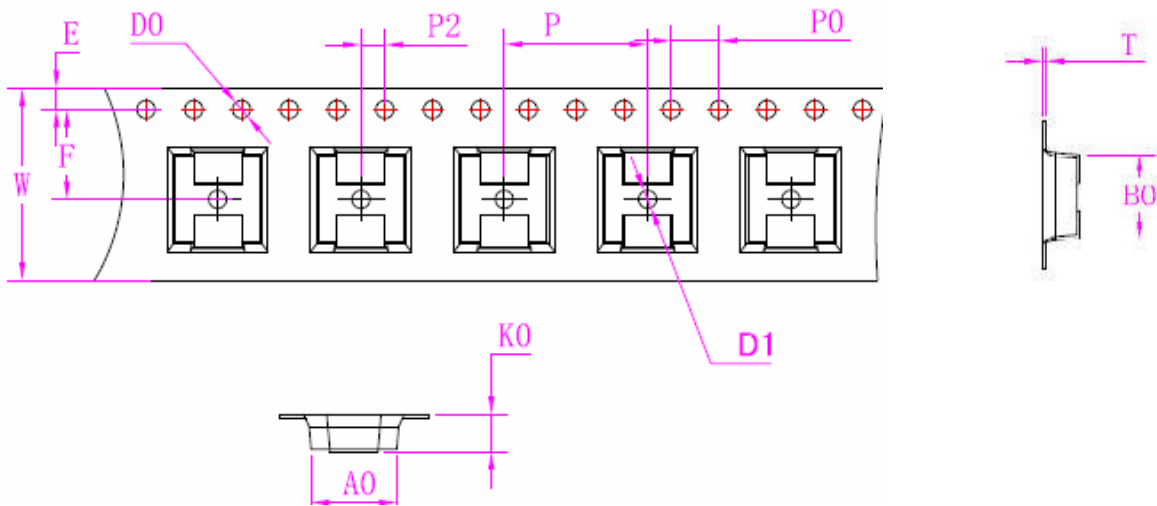
## 8. PACKAGE INFORMATION-mm

### Peel-off Force



The force for peeling off cover tape is 30 to 100 grams in to arrow direction.

### 8.1 Tape Packaging Dimensions



| Item | W         | A0   | B0   | K0   | P         | F         | E         | D0        | D1        | P0        | P2        | T    |
|------|-----------|------|------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| DIM  | 16.0      | 6.9  | 7.6  | 3.2  | 12.0      | 7.5       | 1.75      | 1.5       | 0.00      | 4.0       | 2.0       | 0.35 |
| Tole | $\pm 0.3$ | Typ. | Typ. | Typ. | $\pm 0.1$ | $\pm 0.1$ | $\pm 0.1$ | $\pm 0.1$ | $\pm 0.0$ | $\pm 0.1$ | $\pm 0.1$ | Typ. |

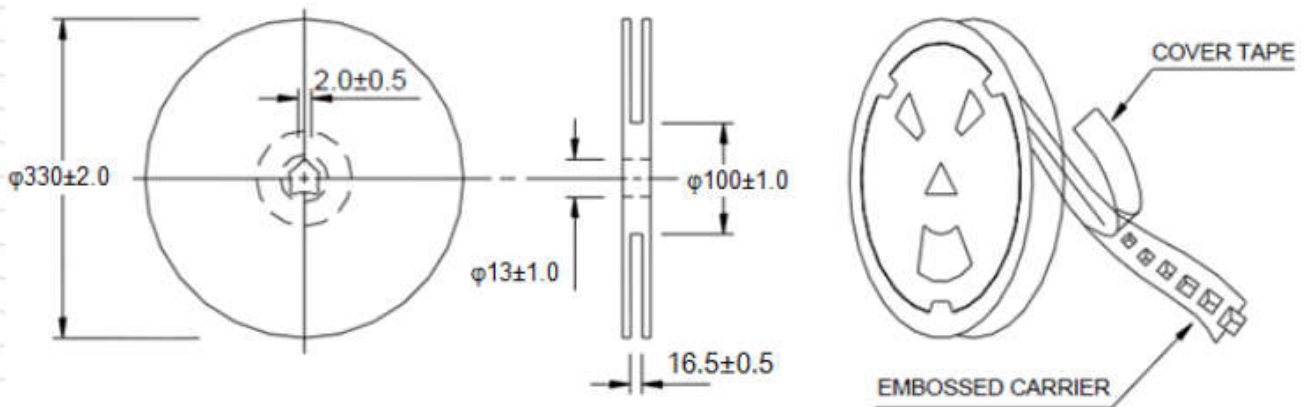
# Specification Sheet for SMD Power Inductor

## 8.2 Taping dimension and tape direction, Leader ,Trailer, section dimension



|                         |           |
|-------------------------|-----------|
| Leader section          | Min.400mm |
| Carrier tape start size | Min.150mm |
| Trailer section size    | Min.150mm |

## 8.3 Reel Dimensions



## 8.4 Taping Quantity

1500pieces/Reel,

## 8.5 Carton

Pizza packaging: 3Reel/ Pizza Box

External Packaging :3 Boxes/Carton

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