

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI0420 Series
Spec No:	L0421

### 【For Customer Approval Only】

If you Approval, Please Stamp

### 【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
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# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the CMPI0420 Series of wire wound SMD power inductor.

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

1) Description:

CMPI0420 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI      0420      -      1R0      M  
 ①              ②                              ③              ④

① Product Series

② ChokeSize

③ InitialInductance(L@ 0A):1R0=1.0μH

④ InductanceTolerance:M=L+/-20%

## 3. Electrical Characteristics

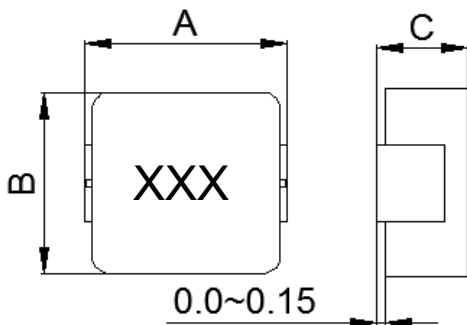
1) Operating temperature range (individual chip without packing): -40°C ~ +125°C (Including Self-heating)

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

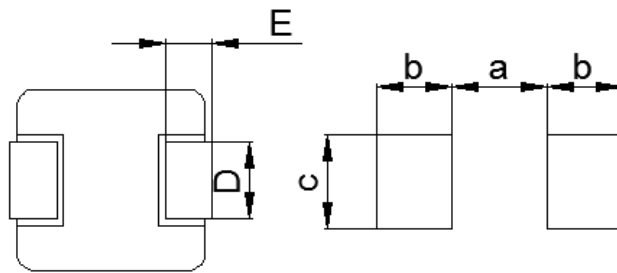
## 4. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see

### MECHANICALPARAMETERS



### RECOMMENDEDPCBLAYOUT



A	B	C	D	E	a	b	c
4.50	4.20	2.0	2.0	0.8	2.2	1.5	2.5
±0.30	±0.25	Max.	±0.30	±0.30	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

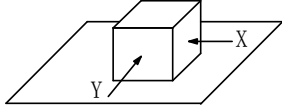
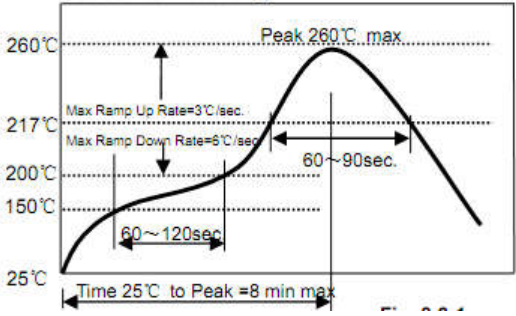
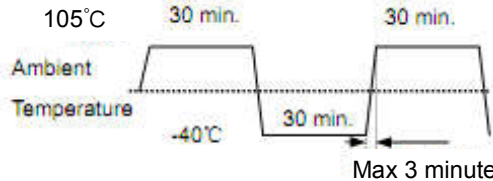
Part Number	L0(uH) ±20%	DCR(mΩ) @25°C		Isat(Amp) Typ.	Irms(Amp) Typ.
		Max.	Typ.		
CMPI0420-R47M	0.47	14	12.5	9.5	7.0
CMPI0420-R56M	0.56	16	14	8.5	6.5
CMPI0420-R68M	0.68	21	18	8.0	6.0
CMPI0420-1R0M	1.0	27	24	7.0	4.5
CMPI0420-1R5M	1.5	46	40	6.0	4.0
CMPI0420-2R2M	2.2	60	52	5.0	3.0
CMPI0420-3R3M	3.3	87	74	4.0	2.5
CMPI0420-4R7M	4.7	105	92	3.0	2.2
CMPI0420-6R8M	6.8	175	140	2.5	2.0
CMPI0420-100M	10	258	220	2.0	1.4

#### 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 ( $\Delta T = 40^{\circ} C$ ) from 25° C ambient.
5. Isat(A):DC current at which the inductance drops approximate 30% from its value without current;

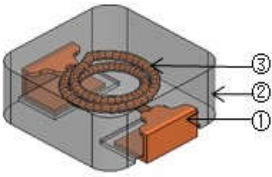
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## 6. Reliability Test

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

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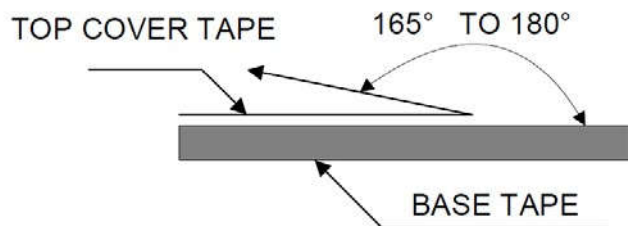
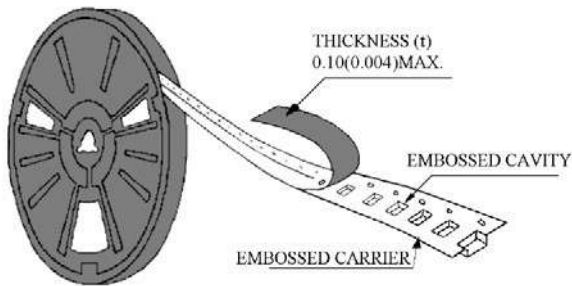
## 7. MATERIALLIST



NO.	Part Name	Material
1	Electrode	Cu+Snplating
2	Core	Metalcompositecore
3	Coil	Copperwire,220°C

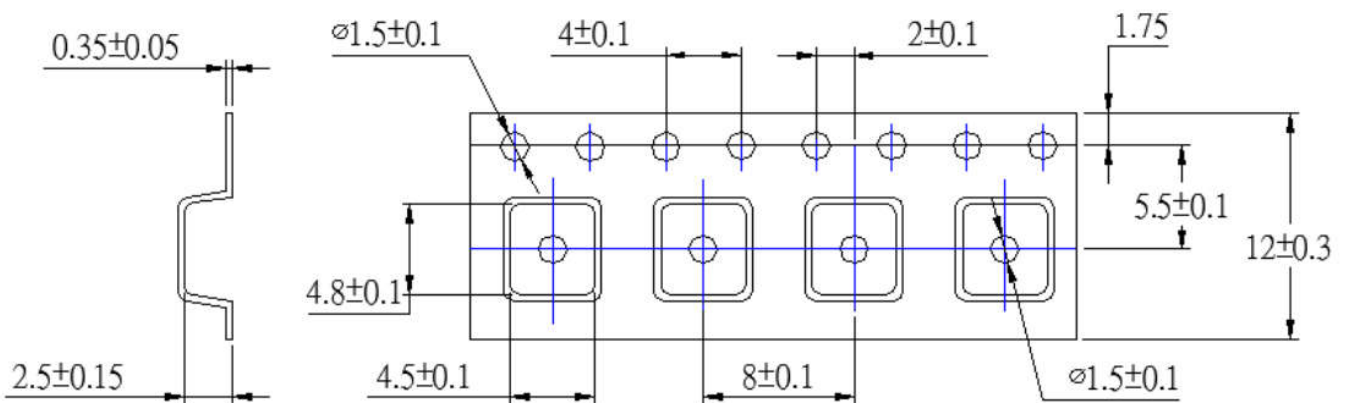
## 8. PACKAGE INFORMATION-mm

### Peel-off Force



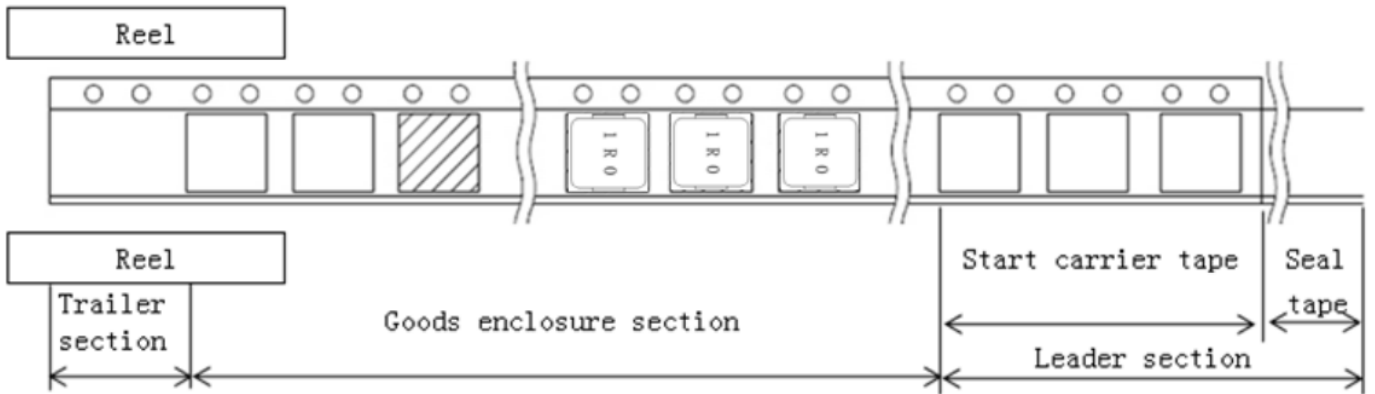
The force for peeling off cover tape is 10 to 70 grams in the arrow direction.

### 8.1TapePackagingDimensions



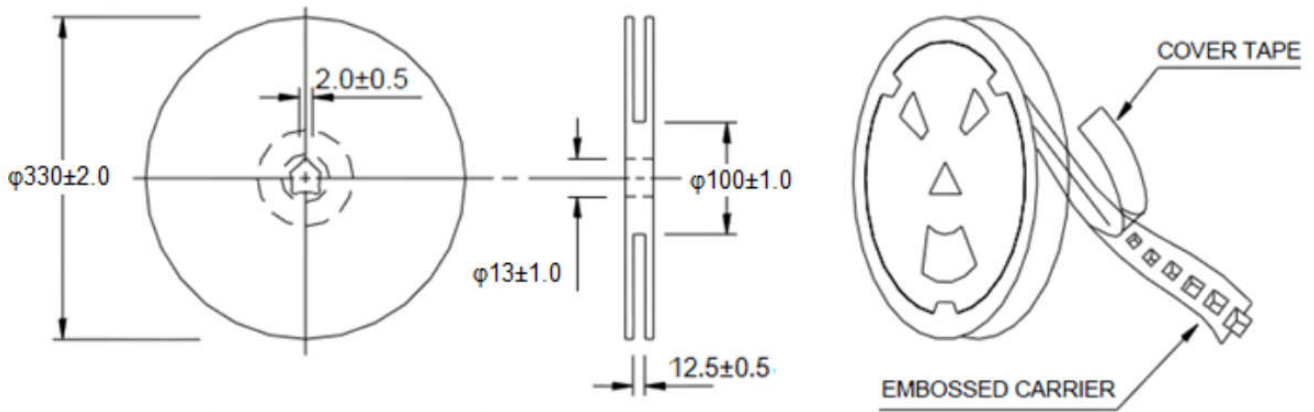
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## 8.2 Taping dimension and taping direction, Leader, Trailer, section dimension



Leader section	Min. 400mm
Carrier tape start size	Min. 100mm
Trailer section size	Min. 160mm

## 8.3 Reel Dimensions



## 8.4 Taping Quantity

3000 pieces/Reel,

## 8.5 Carton

Pizza packaging: 3 Reel/Pizza Box

External Packaging: 3 Boxes/Carton