

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI1040D Series
Spec No:	L1040D

**【For Customer Approval Only】**

If you Approval, Please Stamp

**【RoHS Compliant Parts】**

Approved By	Checked By	Prepared By
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Tel: 0769-89333213



# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the CMPI1040D Series of wire wound SMD power inductor.

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

- 1) Description:  
CMPI1040D series of Wire wound SMD power inductor.
- 2) Product Identification (Part Number)

CMPI  
①
1040D  
②
-
1R0  
③
M  
④

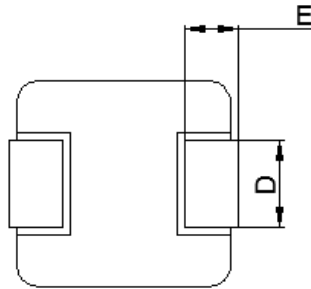
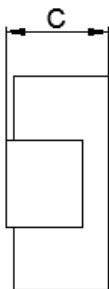
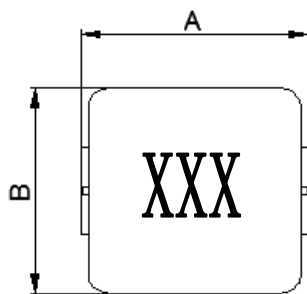
- ① Product Series
- ② Choke Size
- ③ Initial Inductance(L @ 0A):1R0=1.0μH
- ④ Inductance Tolerance:M=±20%

## 3. Electrical Characteristics

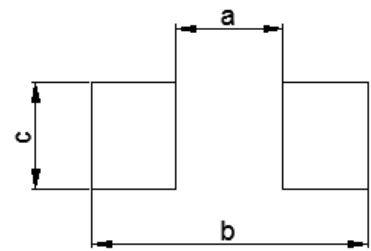
- 1) Operating temperature range (individual chip without packing): -40°C ~ +125°C (Including Self-heating)
- 2) Storage temperature range (On PCB ): -40°C ~ +125°C

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

### MECHANICAL PARAMETERS



### RECOMMENDED PCB LAYOUT



A	B	C	D	E	a	b	c
11.5	10.0	4.10	3.00	2.00	5.40	13.6	4.10
Max	±0.30	Max	±0.50	±0.50	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 or place vias underneath the inductor. Proper layout is required.

## Specification Sheet for SMD Power Inductor

### 5. Electrical Characteristics

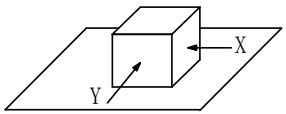
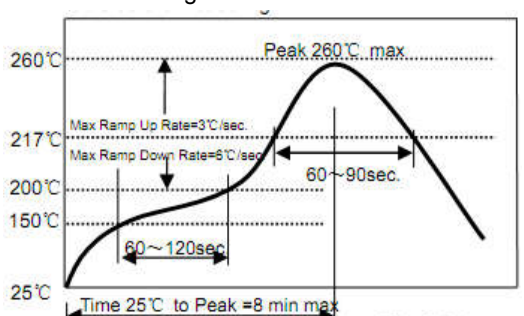
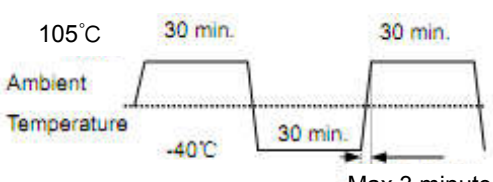
Part Number	L0(uH) ±20%	DCR(mΩ) @25°C	Isat(Amp)	Irms(Amp)
		Max.	Typ.	Typ.
CMPI1040D-R15M	0.15	0.70	74.6	44.8
CMPI1040D-R22M	0.22	1.10	60.0	35.0
CMPI1040D-R30M	0.30	1.20	44.3	34.9
CMPI1040D-R36M	0.36	1.30	44.3	29.8
CMPI1040D-R47M	0.47	1.80	41.0	29.8
CMPI1040D-R56M	0.56	2.0	32.6	24.6
CMPI1040D-R68M	0.68	2.50	29.6	22.8
CMPI1040D-R82M	0.82	2.80	28.8	22.8
CMPI1040D-1R0M	1.0	3.40	27.8	18.8
CMPI1040D-1R5M	1.5	4.30	23.8	15.8
CMPI1040D-2R2M	2.2	7.20	18.0	11.6
CMPI1040D-3R3M	3.3	15.0	15.8	10.8
CMPI1040D-4R7M	4.7	20.5	12.8	8.80
CMPI1040D-6R8M	6.8	25.5	11.8	8.40
CMPI1040D-8R2M	8.2	27.5	8.80	7.90
CMPI1040D-100M	10	31.0	8.30	7.70
CMPI1040D-150M	15	45.6	6.80	6.40
CMPI1040D-220M	22	66.8	5.30	4.80
CMPI1040D-330M	33	110.0	4.60	4.30
CMPI1040D-470M	47	145.6	3.40	3.20
CMPI1040D-680M	68	195.6	2.90	2.40
CMPI1040D-820M	82	290.0	2.80	2.30
CMPI1040D-101M	100	340.6	2.20	1.90

**Notes:**

1. Initial Inductance (L0) Test Parameters:100KHz,1V,I<sub>dc</sub>=0.0A,+25°C
2. Rated current: Isat or Irms, whichever is smaller;
3. Isat(A):DC current (A) that will cause L0 to drop approximately 30%
4. Irms(A):DC current (A) that will causes an approximate ΔT of 40°C (reference ambient temperature is 25°C);

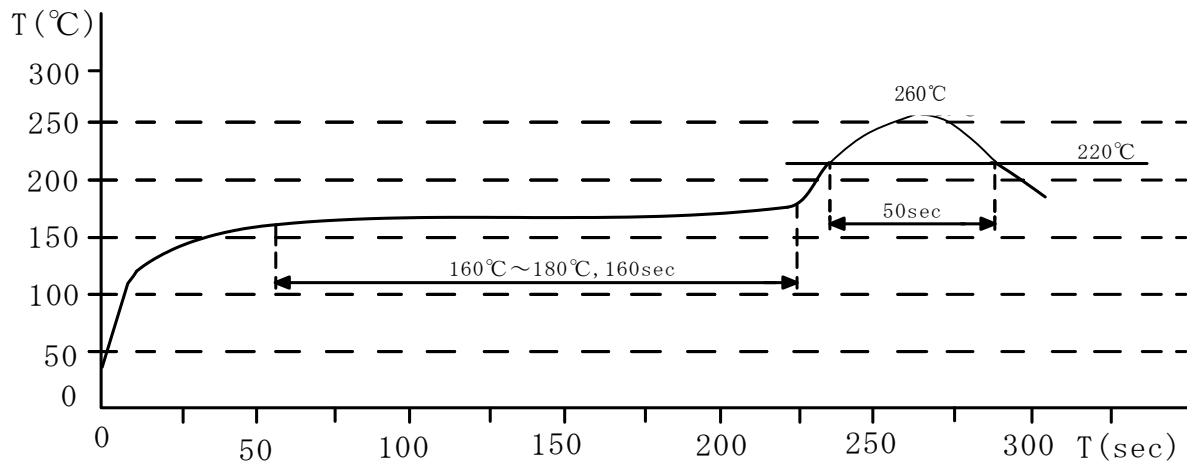
# Specification Sheet for SMD Power Inductor

## 6. Reliability Test

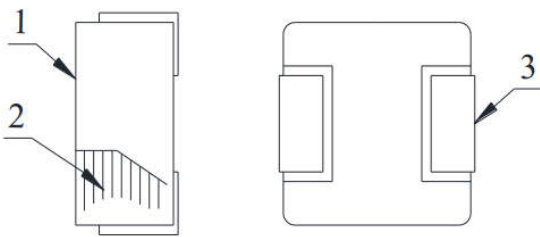
Items	Requirements	Test Methods and Remarks
6.1 Terminal Strength	<p>No removal or split of the termination or other defects shall occur.</p>  <p style="text-align: center;">Fig.6.1-1</p>	<p>1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.6.1-1) using eutectic solder. Then apply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

# Specification Sheet for SMD Power Inductor

## 7. Recommended reflow condition



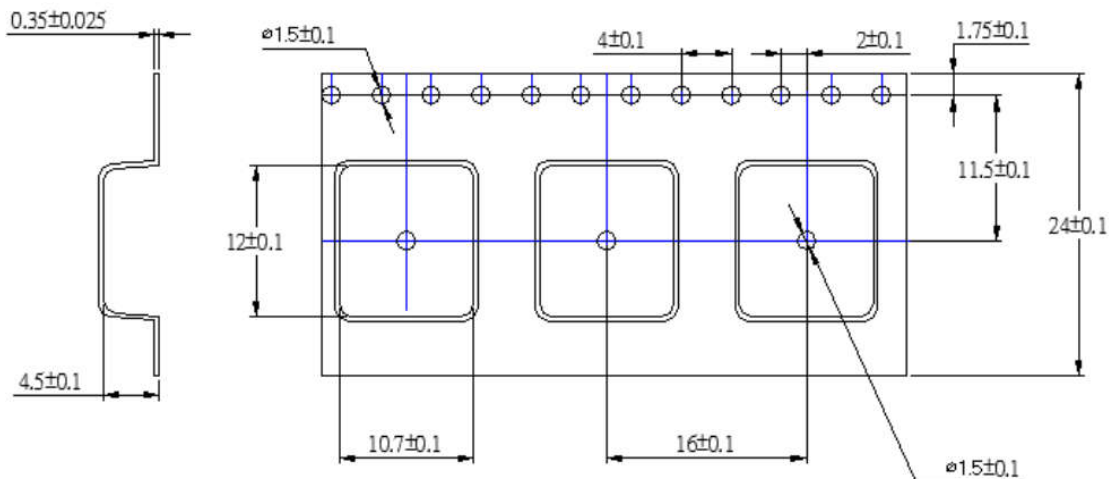
## 8. MATERIAL LIST



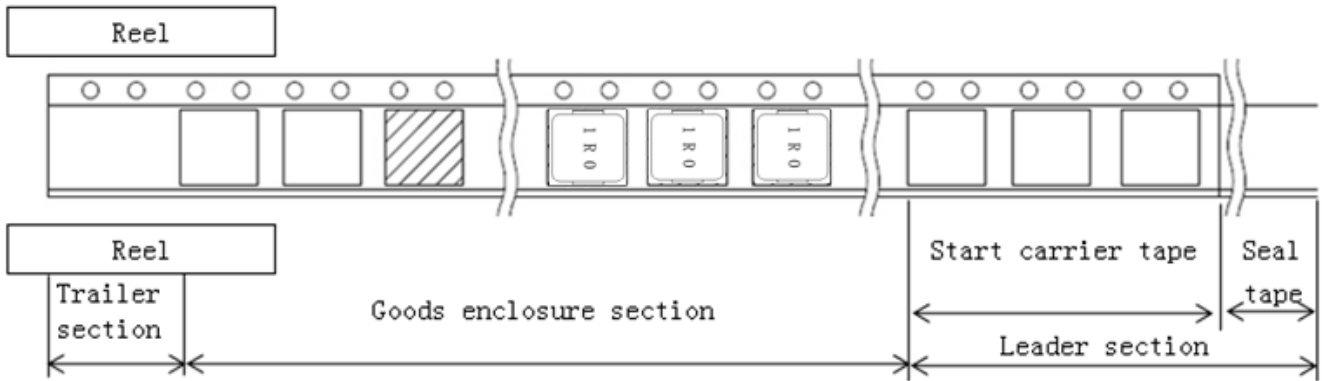
No.	Part	Material
1	CORE	Alloy powder
2	WIRE	Copper wire
3	BASE	Tinned copper

## 9. PACKAGE INFORMATION-mm

### 8.1 Tape Packaging Dimensions

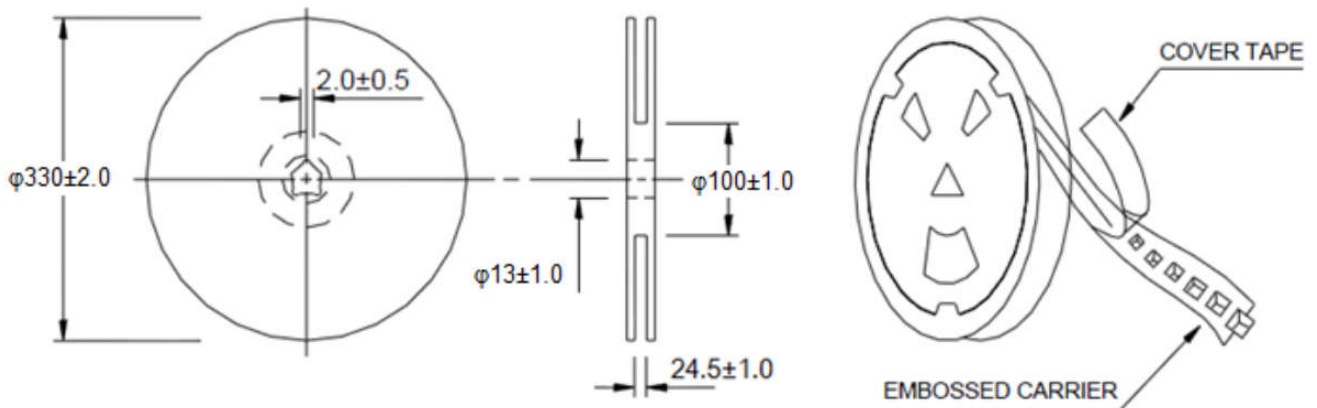


**9.2 Taping dimension and tape direction, Leader ,Trailer, section dimension**



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

**9.3 Reel Dimensions**



**9.4 Taping Quantity**

500pieces/Reel,

**9.5 Carton**

Pizza packaging: 2Reel/ Pizza Box

External Packaging :3 Boxes/Carton

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