

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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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

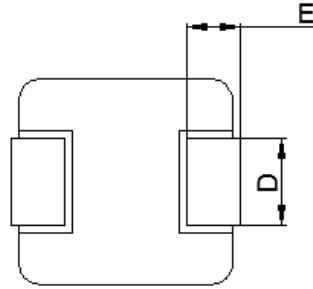
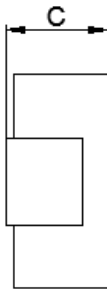
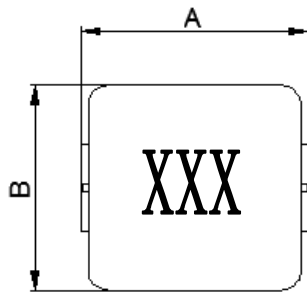
- ① Product Series
- ② Choke Size
- ③ Initial Inductance(L @ 0A):1R0=1.0μH
- ④ Inductance Tolerance:M=±20%

3. Electrical Characteristics

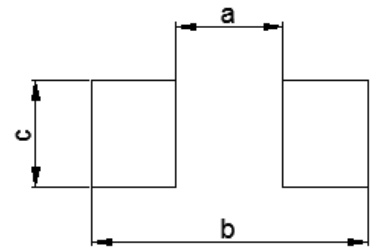
- 1) Operating temperature range (individual chip without packing): -40°C ~ +125°C (Including Self-heating)
- 2) Storage temperature range (On PCB): -40°C ~ +125°C

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.

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5. Electrical Characteristics

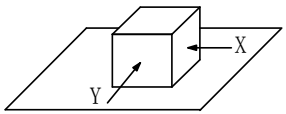
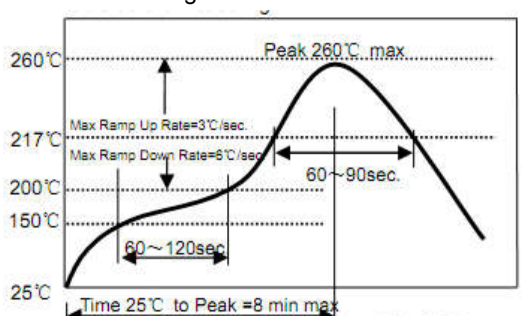
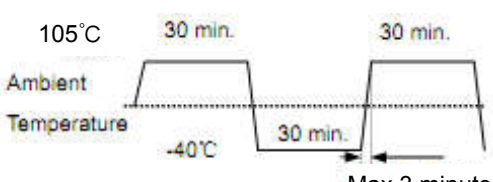
Part Number	L0(uH) ±20%	DCR(mΩ) @25°C	Isat(Amp)	Irms(Amp)
		Max.	Typ.	Typ.
CMPI1040D-R15M	0.15	0.70	74.6	44.8
CMPI1040D-R22M	0.22	1.10	60.0	35.0
CMPI1040D-R30M	0.30	1.20	44.3	34.9
CMPI1040D-R36M	0.36	1.30	44.3	29.8
CMPI1040D-R47M	0.47	1.80	41.0	29.8
CMPI1040D-R56M	0.56	2.0	32.6	24.6
CMPI1040D-R68M	0.68	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_{dc}=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);

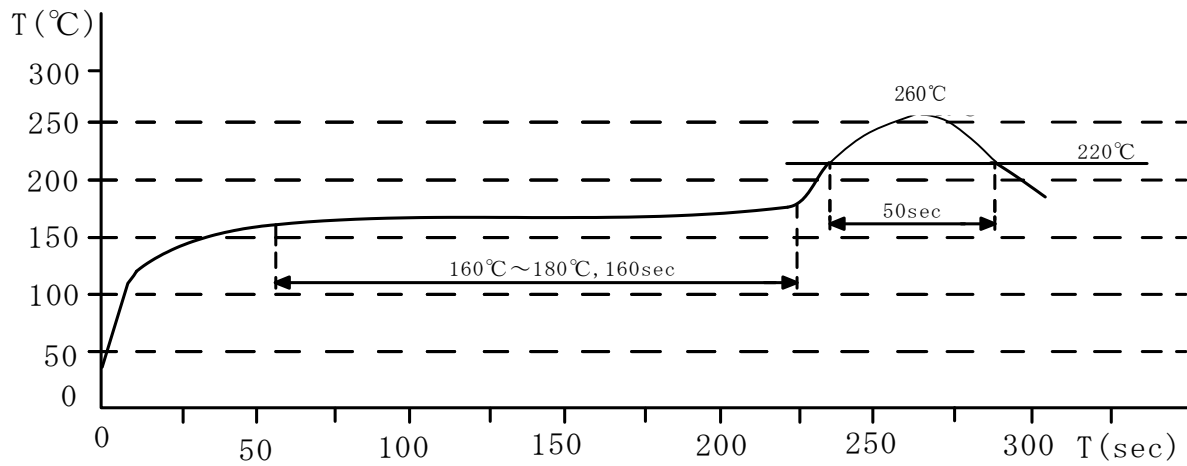
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6. Reliability Test

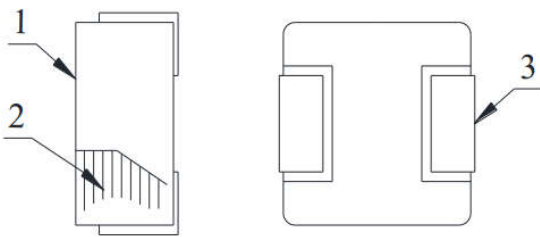
Items	Requirements	Test Methods and Remarks
6.1 Terminal Strength	<p>No removal or split of the termination or other defects shall occur.</p>  <p style="text-align: center;">Fig.6.1-1</p>	<p>1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.6.1-1) using eutectic solder. Then apply 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>

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7. Recommended reflow condition



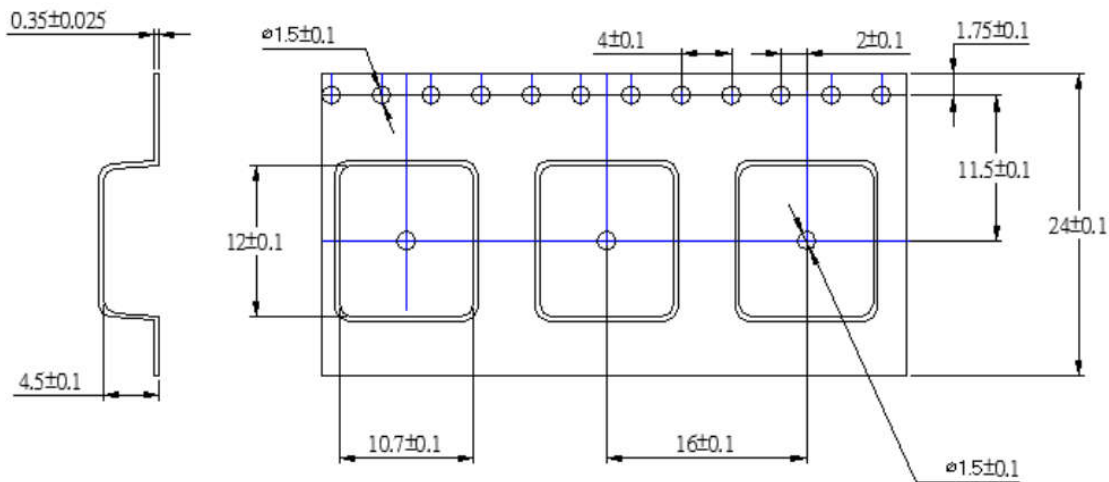
8. MATERIAL LIST



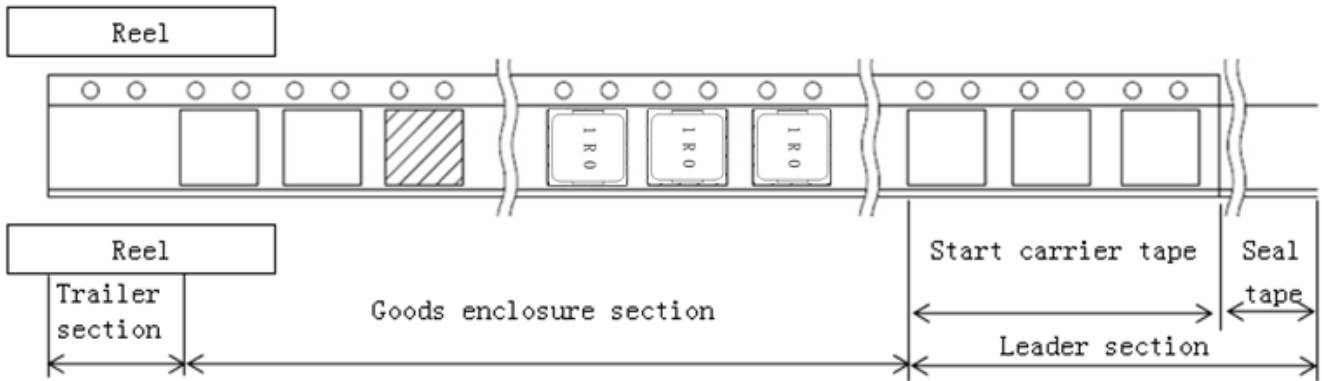
No.	Part	Material
1	CORE	Alloy powder
2	WIRE	Copper wire
3	BASE	Tinned copper

9. PACKAGE INFORMATION-mm

8.1 Tape Packaging Dimensions

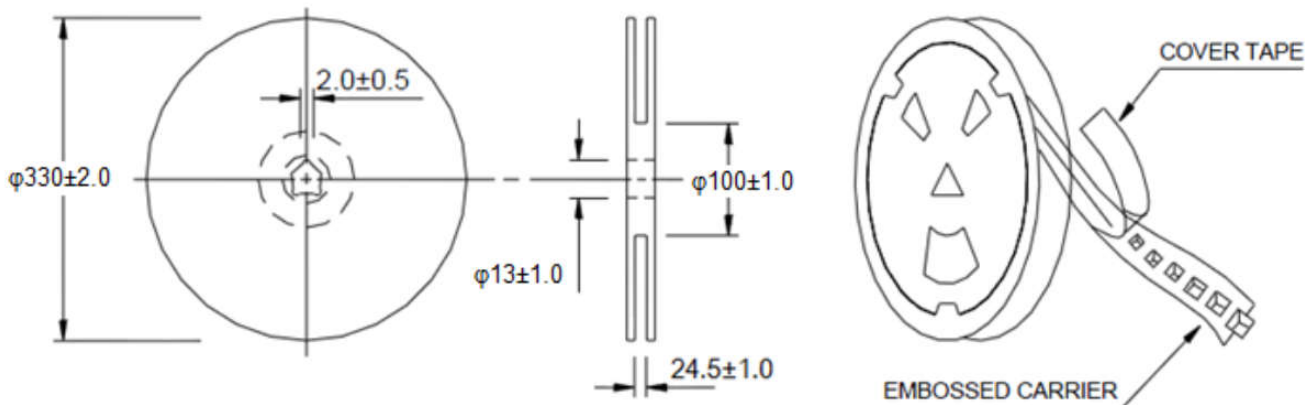


9.2 Taping dimension and tape direction, Leader ,Trailer, section dimension



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