Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CMPI1050 Series
Spec No:	L1050

【For Customer Approval Only】

If you Approval, Please Stamp

【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
李庆辉	苏高峰	劳水花

Shenzhen Ceaiya Electronics Co., Ltd.

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Http://www.szceaiya.com. Tel: 0769-89333213

【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2024-05-23	New release	/	Li qing hui

1. Scope

This specification applies to the CMPI1050 Series of wire wound SMD power inductor.

2. Product Description and Identification (Part Number)

1) Description:

CMPI1050 series of Wire wound SMD power inductor.

2) Product Identification (Part Number)

CMPI	1050	-	4R7	M
①	②		③	④

① Product Series

② Choke Size

③ Initial Inductance(L @ 0A): 4R7=4.7μH

④ Inductance Tolerance:M=±20%

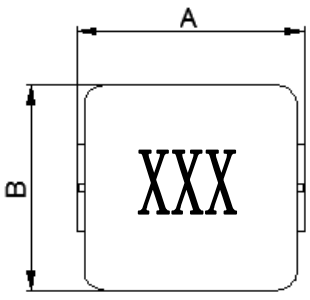
3. Electrical Characteristics

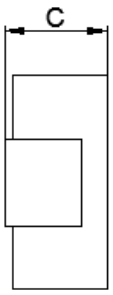
1） Operating temperature range (individual chip without packing): -40℃ ~ +125℃ （Including Self-heating）.

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

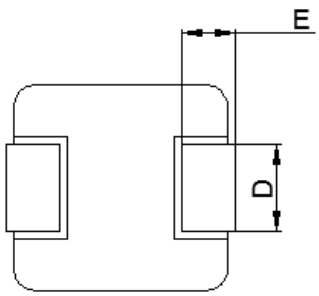
4. Shape and Dimensions (Unit:mm)

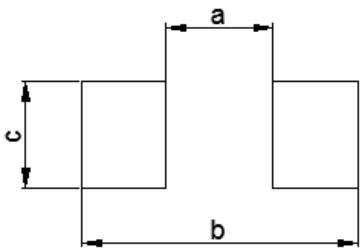
MECHANICAL PARAMETERS





RECOMMENDED PCB LAYOUT





A	B	C	D	E	a	b	c
11.0	10.0	4.80	3.00	2.00	5.40	13.6	4.00
±0.50	±0.30	±0.20	±0.30	±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 nor place vias underneath the inductor. Proper layout is required.

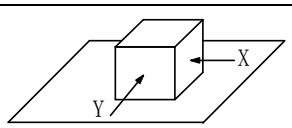
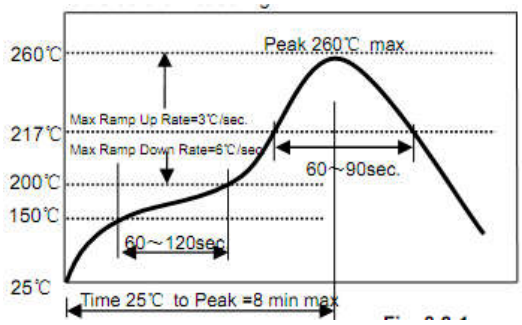
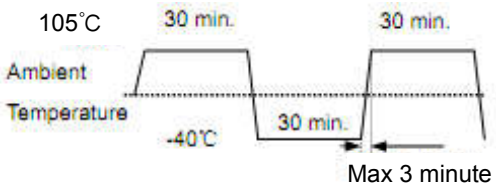
5. Electrical Characteristics

Part Number	L0(uH) ±20%	DCR(mΩ) @25℃		Isat(Amp)		Irms(Amp)	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
CMPI1050-R30M	0.30	1.00	0.85	48.0	55.0	40.0	46.0
CMPI1050-R68M	0.68	2.0	1.3	42.0	46.0	30.0	34.0
CMPI1050-1R0M	1.0	3.5	2.0	28.0	30.0	20.3	23.0
CMPI1050-1R5M	1.5	4.5	3.8	20.0	24.0	12.8	15.0
CMPI1050-2R2M	2.2	7.5	6.0	18.5	22.0	11.5	14.0
CMPI1050-2R7M	2.7	9.0	7.0	16.0	19.5	10.5	12.5
CMPI1050-3R3M	3.3	10.0	8.7	15.0	18.0	10.0	11.5
CMPI1050-4R7M	4.7	12.0	10.5	14.0	16.0	8.6	10.0
CMPI1050-6R8M	6.8	19.0	16.5	12.0	15.0	7.6	8.7
CMPI1050-100M	10	22.5	20.0	11.0	13.0	7.0	7.5
CMPI1050-150M	15	42.0	31.0	8.0	9.0	4.5	5.3
CMPI1050-220M	22	66.0	60.0	6.8	8.0	4.3	5.0
CMPI1050-330M	33	102	92.0	6.0	7.0	3.4	4.0
CMPI1050-470M	47	115	99.0	4.3	5.0	3.0	3.5
CMPI1050-680M	68	200	178	3.4	4.0	2.5	2.8

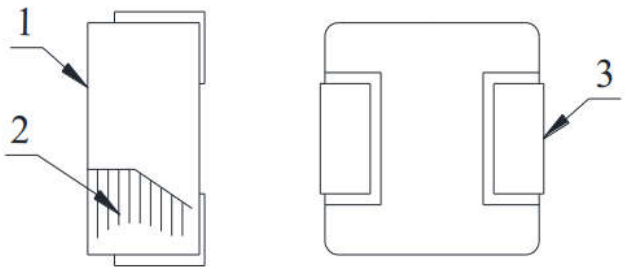
Notes:

1. Initial Inductance (L0) Test Parameters:100KHz,1V,Idc=0.0A,+25℃
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 △Tof 40℃ (referance ambient temperature is 25℃);

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 Fing.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℃ 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℃ 2) Duration: 96±4 hours 3) Recovery : 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℃ 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℃ for 30±3 min→105℃ for 30±3min, please refer to Fig.6.7-1. 2) Transforming interval: Max, 3 minutes 3) Tested cycle: 100 cycles 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring

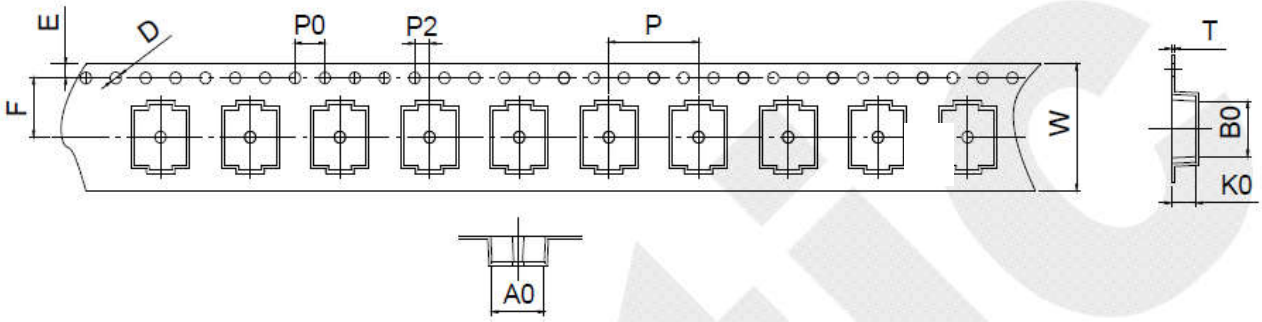
7. MATERIAL LIST



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

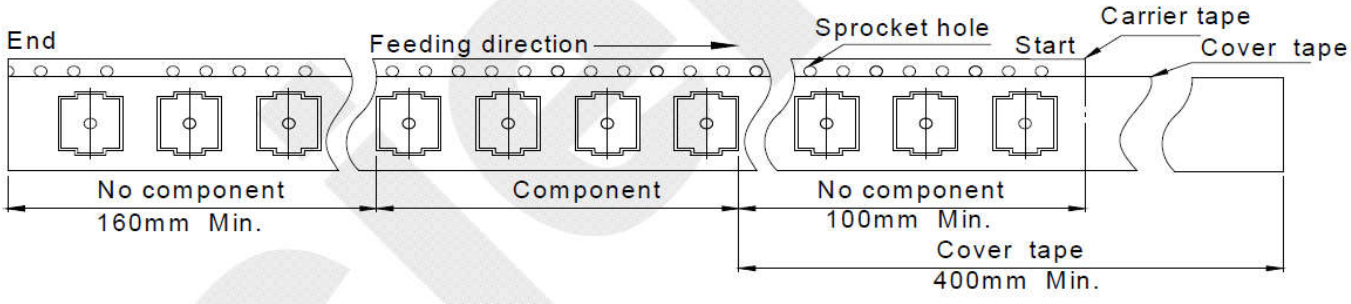
8. PACKAGE INFORMATION-mm

8.1Tape & Reel Packaging Dimensions

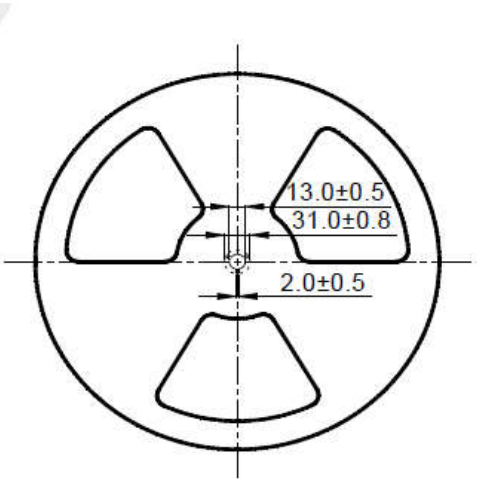


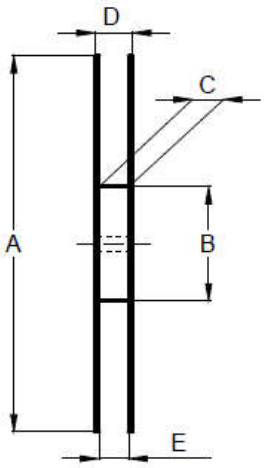
Item	W	A0	B0	K0	P	F	E	D	P0	P2	T
DIM	24.0	10.7	11.0	5.10	16.0	11.5	1.75	1.5	4.0	2.0	0.40
Tole	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05

8.2 Packaging direction



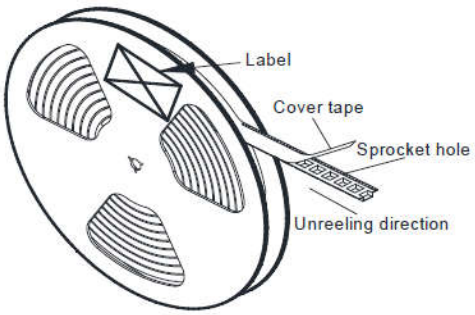
8.3 Reel dimensions(mm)

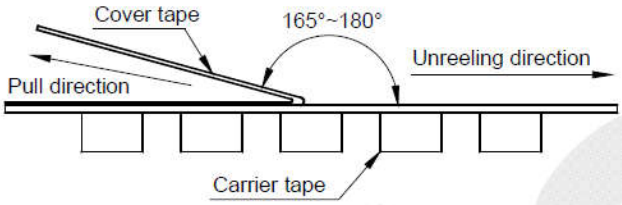




A	330±2.0
B	100Min
C	25.0+2.0/-0
D	30.0 Max
E	24.0 Min

8.4 Cover tape peel-off condition





※ Cover tape peel-off force will be 0.2 to 1.3N.

※ Reference peel-off speed 300±10mm/min.

8.5 Taping Quantity

500pieces/Reel,

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