

Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	LQH43CN Series
Spec No:	L154

【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

【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2024-07-19	New release	/	Li qing hui

Specification Sheet for SMD Power Inductor

1. Scope

This specification applies to the LQH43CN Series of wire wound SMD power inductor.

2. Product Description and Identification (Part Number)

1) Description:

LQH43CN series of Wire wound SMD power inductor.



2) Product Identification (Part Number)

<u>LQ</u>	<u>H</u>	<u>43</u>	<u>C</u>	<u>N</u>	<u>1R0</u>	<u>M</u>	<u>03</u>	<u>L</u>	<u>CAY</u>
Product ID	Structure	Dimension (L*W)	Applications	Category	Inductance	Tolerance	Electrode	Packaging L:Taping	Ceaiya

3. Electrical Characteristics

Please refer to Item 5.

- 1) Operating temperature range (individual chip without packing): $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including Self-heating)
- 2) Storage temperature range (packaging conditions): $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ and RH 70% (Max.).

4. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see Fig4-1 and Table4-1

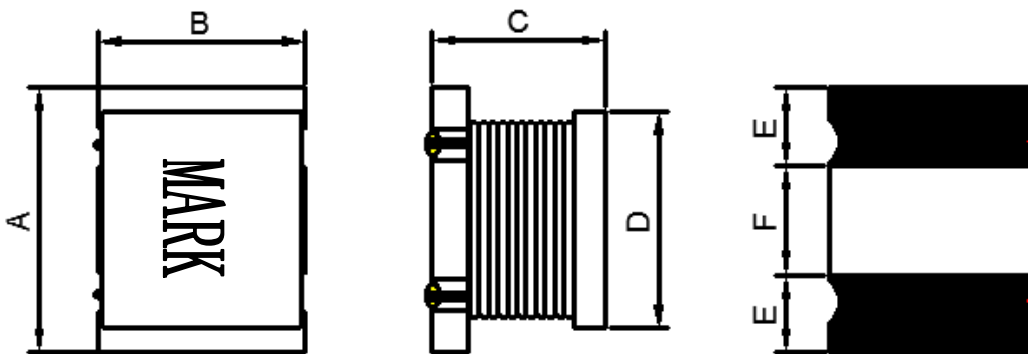


Fig4-1.

Table 4-1.

A	B	C	D	E	F
4.5 ± 0.3	3.2 ± 0.2	2.6 ± 0.2	3.6 ± 0.2	1.55 ± 0.3	1.4 ± 0.3

产品需喷码印字黑色，“MARK”表示感量。

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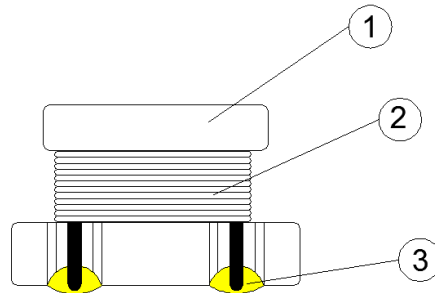
5. Electrical Characteristics

Part Number	Inductance	Tolerance	L Test Freq.	DC Resistance	Rated Current	Self-resonant Frequency	Marking
				Max.	Max.	Min.	
Units	uH	±%	/	Ω	A	MHz	
Symbol	L	Tol	/	DCR	Idc	S.R.F	
LQH43CN1R0M03LCAY	1.0	20	1MHz/0.25V	0.08	1.08	100	1R0
LQH43CN2R2M03LCAY	2.2	20	1MHz/0.25V	0.11	0.90	60	2R2
LQH43CN3R3M03LCAY	3.3	20	1MHz/0.25V	0.13	0.80	47	3R3
LQH43CN4R7M03LCAY	4.7	20	1MHz/0.25V	0.15	0.75	35	4R7
LQH43CN6R8M03LCAY	6.8	20	1MHz/0.25V	0.20	0.72	30	6R8
LQH43CN100K03LCAY	10	10	1MHz/0.25V	0.24	0.65	23	100
LQH43CN150K03LCAY	15	10	1MHz/0.25V	0.32	0.57	20	150
LQH43CN220K03LCAY	22	10	1MHz/0.25V	0.60	0.42	15	220
LQH43CN330K03LCAY	33	10	1MHz/0.25V	1.2	0.27	11	330
LQH43CN470K03LCAY	47	10	1MHz/0.25V	1.5	0.22	9.0	470
LQH43CN101K03LCAY	100	10	1MHz/0.25V	2.5	0.16	6.8	101
LQH43CN221K03LCAY	220	10	1MHz/0.25V	5.4	0.11	4.5	221
LQH43CN331K03LCAY	330	10	1MHz/0.25V	8.2	0.095	3.0	331
LQH43CN471K03LCAY	470	10	1KHz/0.25V	11.8	0.080	2.5	471
LQH43CN561K03LCAY	560	10	1KHz/0.25V	14.5	0.070	2.0	561

Note: This indicates the value of current when the inductance is 10% lower than its initial value at D.C superposition and D.C current when temperature rise $\Delta T=40^{\circ}\text{C}$. ($T_a=25^{\circ}\text{C}$)

6. Structure

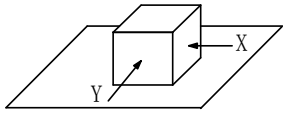
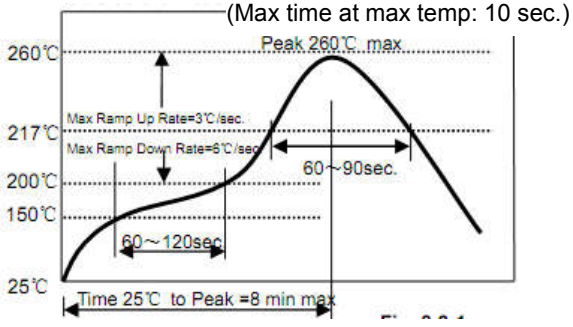
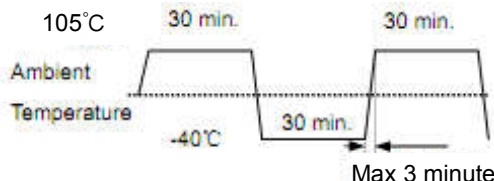
The structure of LQH43CN product.



No.	Part name	Material
①	Drum Core	Ni-Zn Ferrite Core
②	Wire	Polyurethane enameled copper wire
③	Electrode	Top surface solder coating Sn99%、Ag0.3%、Cu0.7%

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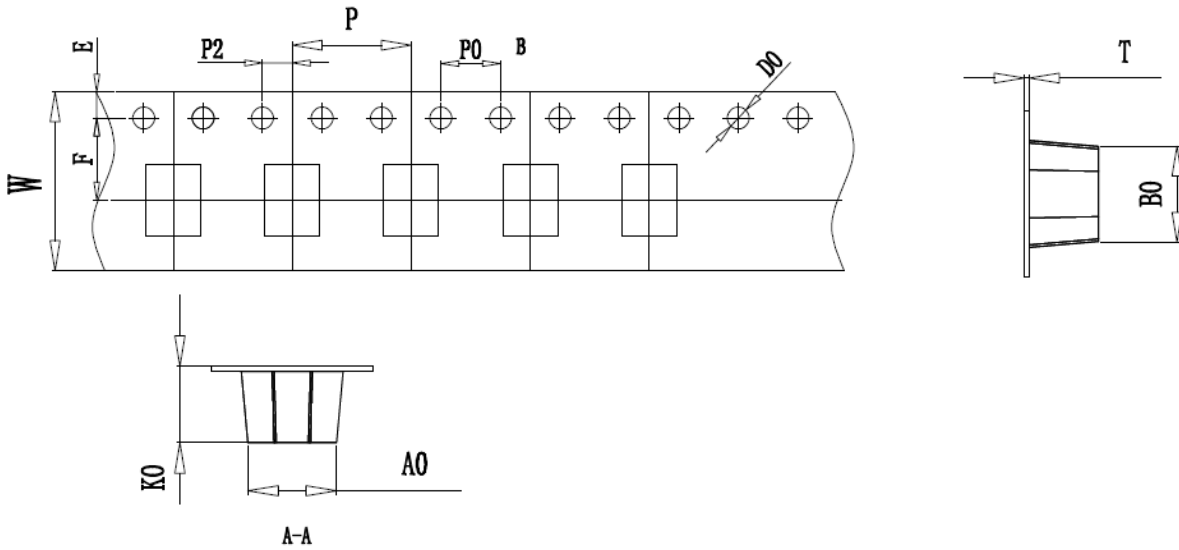
7. Reliability Test

Items	Requirements	Test Methods and Remarks
7.1 Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig.7.1-1	1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.7.1-1) using eutectic solder. Then apply a force in the direction of the arrow. 2) 10N force. 3) Keep time: 5±2s
7.2 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.
7.3 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) Recovery : then measured at room ambient temperature after placing 24 hours.
7.4 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
7.5 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% RH 3) Duration : 96 ±4 Hours 4)Recovery : then measured at room ambient temperature after placing 24 hours.
7.6 Resistance to Soldering Heat	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig.7.6-1	1) Re-flowing Profile: Please refer to Fig.7.6-1 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
7.7 Thermal Shock	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig.7.7-1	1) Temperature and time: -40±3°C for 30±3 min→105°C for 30±3min, please refer to Fig.7.7-1. 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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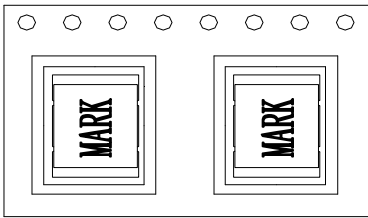
8. Packaging and Marking:

8-1. Carrier Tape Dimensions:

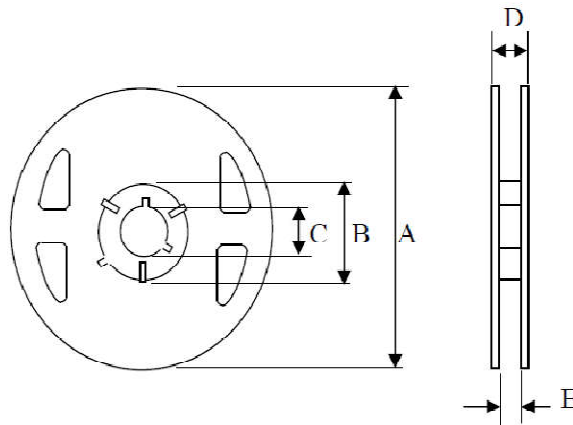


ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	12.00	3.75	4.85	3.0	8.00	5.5	1.75	1.50	4.00	2.00	0.35
TOLE	± 0.3	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	+0.1	± 0.1	± 0.1	± 0.05

8-2. Taping Dimensions:



8-3. Reel Dimensions:



Type	A	B	C	D	E
12mm	330	60 ± 0.8	13 ± 0.4	16	12.5

8-4. Packaging Quantity:

2500PCS/ Reel

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