

## 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)

LQ	H	43	C	N	1R0	M	03	L	CAY
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

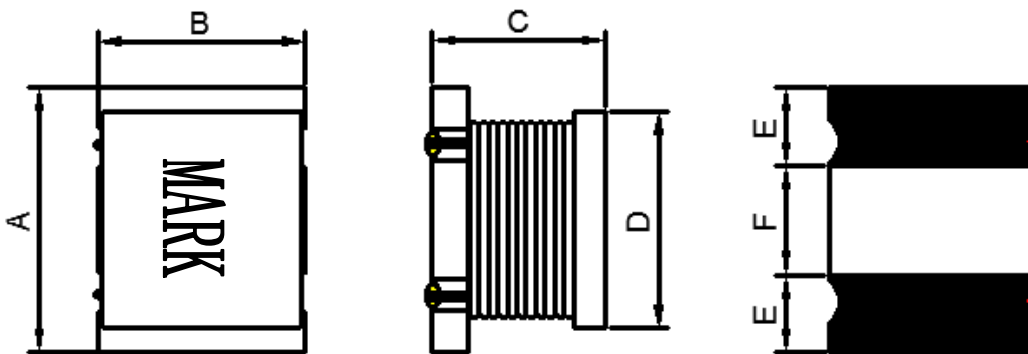


Fig4-1.

Table 4-1.

A	B	C	D	E	F
$4.5 \pm 0.3$	$3.2 \pm 0.2$	$2.6 \pm 0.2$	$3.6 \pm 0.2$	$1.55 \pm 0.3$	$1.4 \pm 0.3$

产品需喷码印字黑色，“MARK”表示感量。

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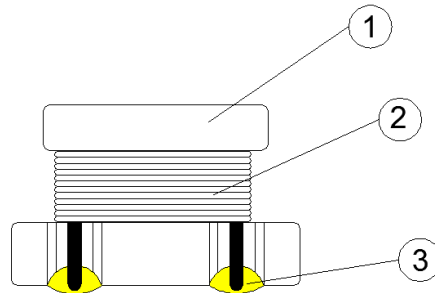
## 5. Electrical Characteristics

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

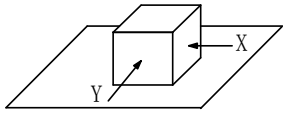
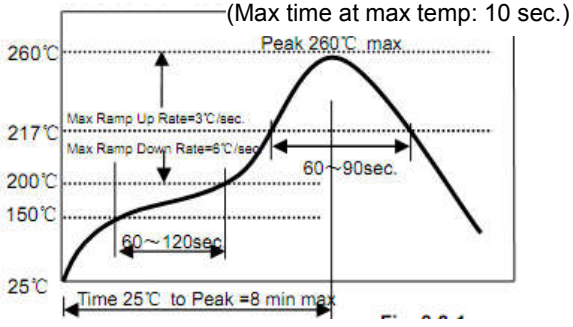
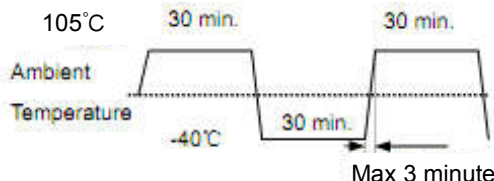
The structure of LQH43CN product.



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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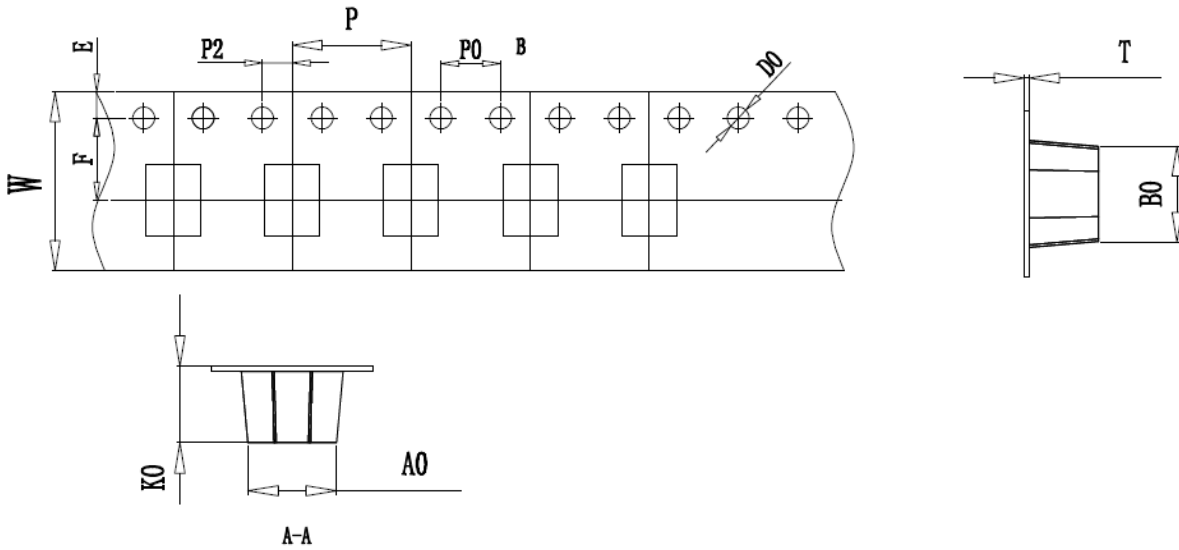
## 7. Reliability Test

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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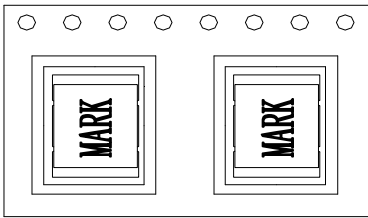
## 8. Packaging and Marking:

### 8-1. Carrier Tape Dimensions:

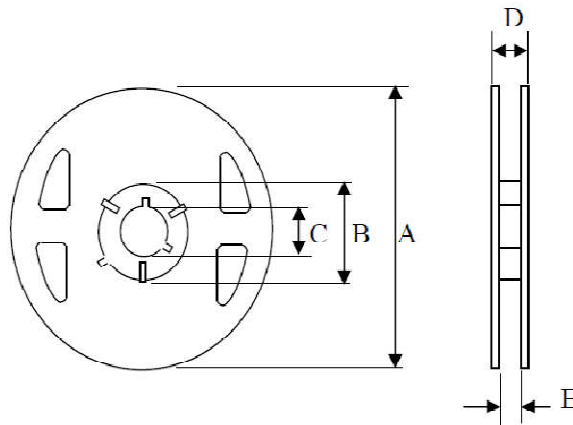


ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	12.00	3.75	4.85	3.0	8.00	5.5	1.75	1.50	4.00	2.00	0.35
TOLE	$\pm 0.3$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	$\pm 0.1$	+0.1	$\pm 0.1$	$\pm 0.1$	$\pm 0.05$

### 8-2. Taping Dimensions:



### 8-3. Reel Dimensions:



Type	A	B	C	D	E
12mm	330	$60 \pm 0.8$	$13 \pm 0.4$	16	12.5

### 8-4. Packaging Quantity:

2500PCS/ Reel

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