

## Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	LQH32CN Series
Spec No:	L137

### 【For Customer Approval Only】

If you Approval, Please Stamp

### 【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
李庆辉	刘志坚	劳水花

深圳市柯爱亚电子有限公司

**Shenzhen Ceaiya Electronics Co., Ltd.**

深圳地址 1: 深圳市龙华区观湖街道鹭湖社区观盛二路 5 号捷顺科技中心 B706

东莞地址 2: 东莞清溪镇青滨东路 105 号力合紫荆智能制造中心 10 栋

Http://www.szceaiya.com

Tel: 0769-89135516

Fax: 0769-89135519



# Specification Sheet for SMD Power Inductor

## 1. Scope

This specification applies to the LQH32CN Series of wire wound SMD power inductor.

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

1) Description:

LQH32CN series of Wire wound SMD power inductor.



2) Product Identification (Part Number)

<u>  LQ  </u>	<u>  H  </u>	<u>  32  </u>	<u>  C  </u>	<u>  N  </u>	<u>  R15  </u>	<u>  M  </u>	<u>  3  </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°C ~ +125°C (Including Self-heating) .

2) Storage temperature range (packaging conditions): -10°C ~ +40°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

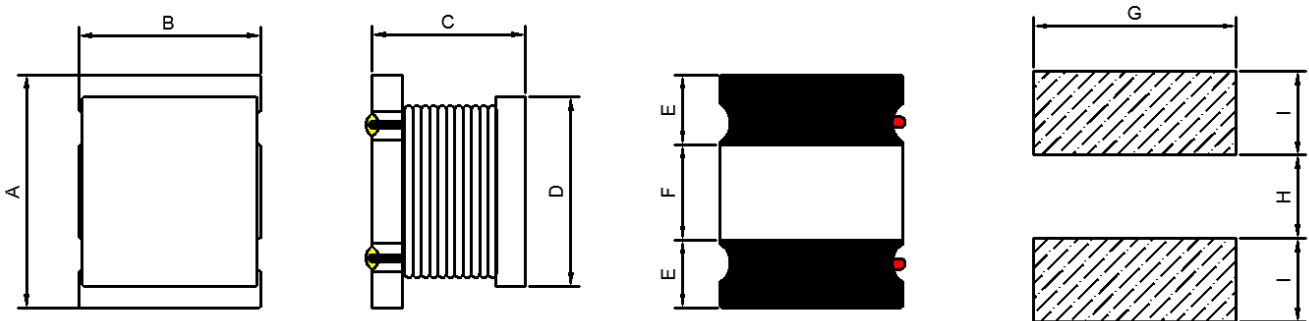


Fig4-1.

Table 4-1.

A	B	C	D	E	F	G	H	I
$3.2 \pm 0.3$	$2.5 \pm 0.2$	$2.0 \pm 0.2$	$2.5 \pm 0.3$	$1.1 \pm 0.3$	$1.0 \pm 0.3$	2.5Ref	1.3Ref	1.0Ref

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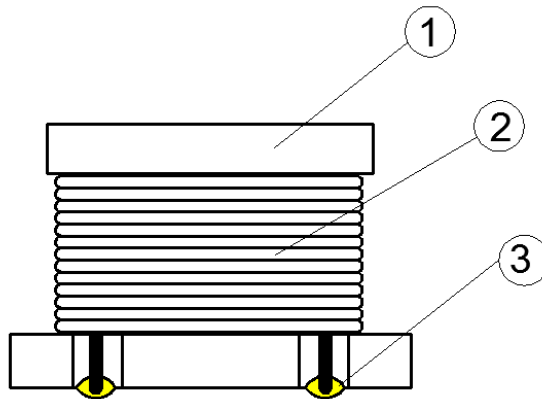
## 5. Electrical Characteristics

Part Number	Inductance	DC Resistance	Rated Current	Self-resonant Frequency
	1MHz/0.25V	$\pm 30\%$	Max.	Min.
Units	$\mu\text{H}$	$\text{m}\Omega$	A	MHz
Symbol	L	DCR	$I_{\text{sat}}$	S.R.F
LQH32CNR27M3LCAY	$0.27 \pm 20\%$	34	1.25	250
LQH32CNR47M3LCAY	$0.47 \pm 20\%$	42	1.10	150
LQH32CN1R0M3LCAY	$1.0 \pm 20\%$	60	1.00	100
LQH32CN2R2M3LCAY	$2.2 \pm 20\%$	97	0.79	64
LQH32CN4R7M3LCAY	$4.7 \pm 20\%$	150	0.65	43
LQH32CN100K3LCAY	$10 \pm 10\%$	300	0.45	26

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

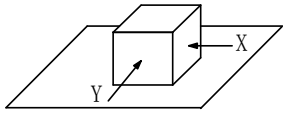
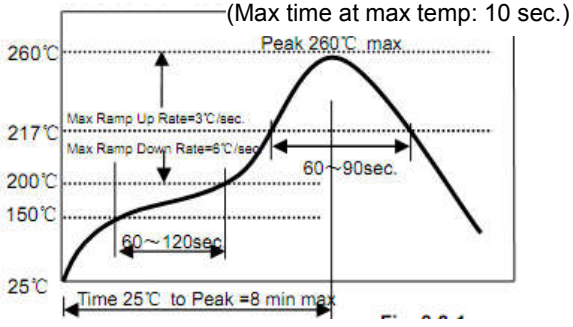
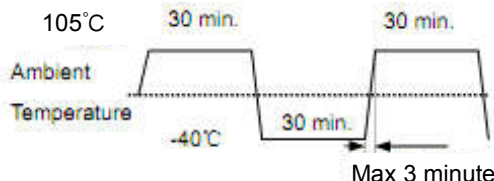
The structure of LQH32CN product.



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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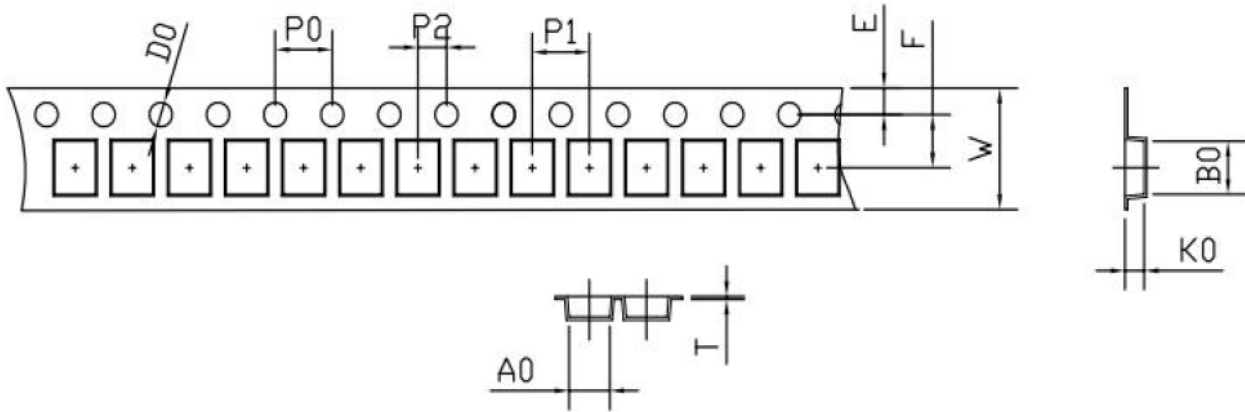
## 7. Reliability Test

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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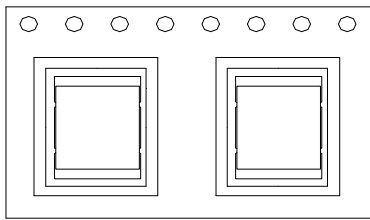
## 8. Packaging and Marking:

### 8-1. Carrier Tape Dimensions:

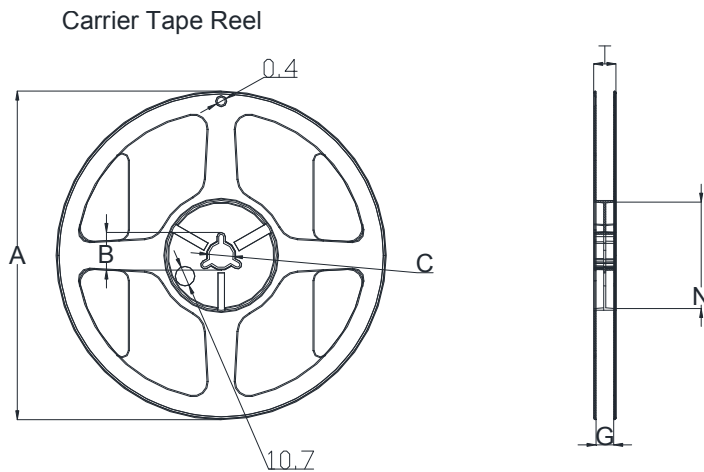


ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	8.00	2.90	3.60	2.25	4.00	3.5	1.75	1.50	4.00	2.00	0.25
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

### 8-2. Taping Dimensions:



### 8-3. Reel Dimensions:



Type	A	B	C	G	N	T
8mm	178	20.7±0.8	13±0.4	9	60	10.8

### 8-4. Packaging Quantity:

2KPCS/ Reel

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