

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
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【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2024-01-26	New release	/	Li qing hui

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): $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (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

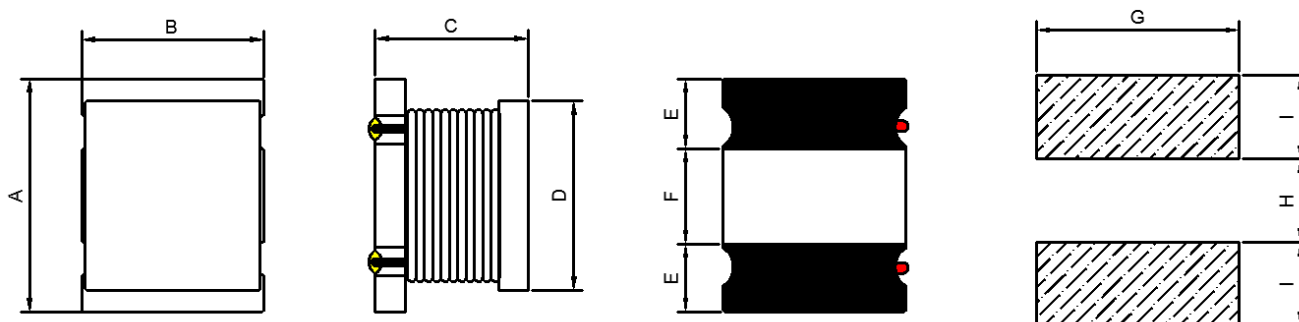


Fig4-1.

Table 4-1.

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

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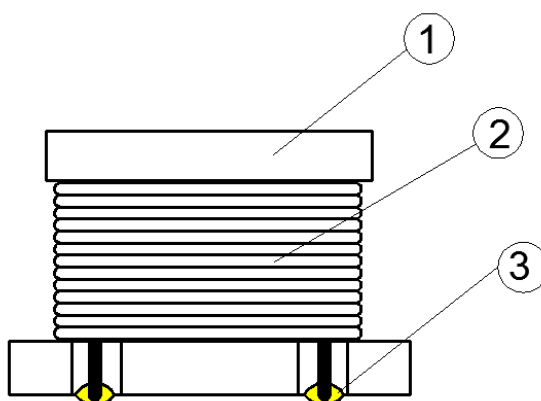
5. Electrical Characteristics

Part Number	Inductance	DC Resistance	Rated Current	Self-resonant Frequency
	1MHz/0.25V	$\pm 30\%$	Max.	Min.
Units	μH	$\text{m}\Omega$	A	MHz
Symbol	L	DCR	Isat	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
LQH32CN8R2M3LCAY	$8.2 \pm 20\%$	250	0.52	30
LQH32CN100K3LCAY	$10 \pm 10\%$	300	0.45	26
LQH32CN101K3LCAY	$100 \pm 10\%$	3100	0.10	10

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

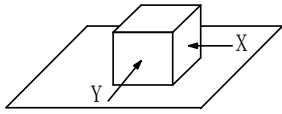
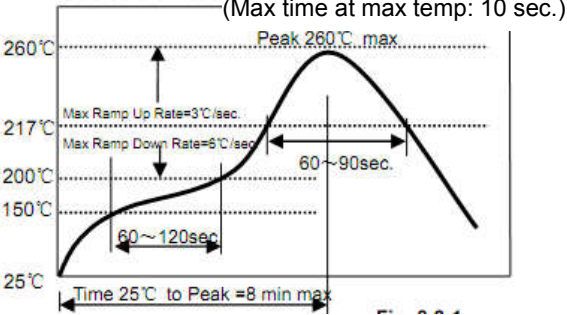
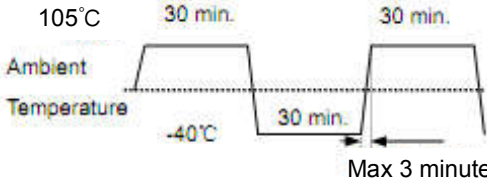
The structure of LQH32CN product.



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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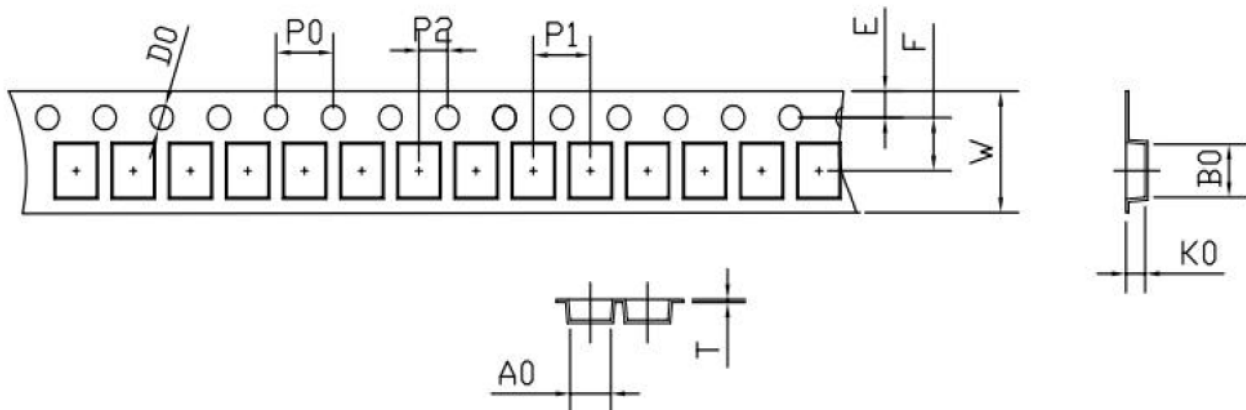
7. Reliability Test

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℃ 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℃ 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℃ 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℃ for 30±3 min→105℃ 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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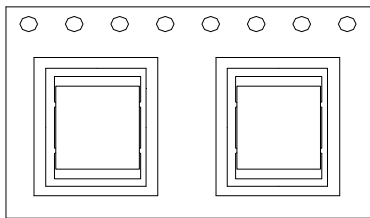
8.Packaging and Marking:

8-1.Carrier Tape Dimensions:



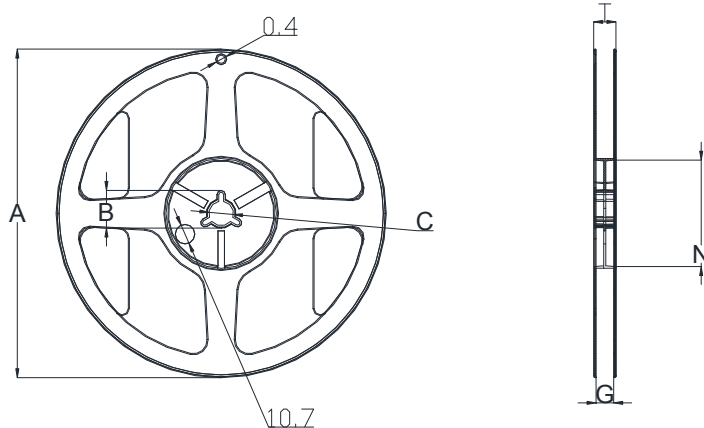
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	8.00	2.90	3.60	2.25	4.00	3.5	1.75	1.50	4.00	2.00	0.25
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

8-2.Taping Dimensions:



8-3.Reel Dimensions:

Carrier Tape Reel



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