



ISO9001 & ISO14001 & TS16949 **CHILISIN ELECTRONICS CORP.**

RoHS & Halogen Free & REACH Compliance.

SPECIFICATION FOR APPROVAL

Customer : Eltech

Customer P/N: _____

Drawing No : _____

Quantity : 0 **Pcs.** **Date :** 2015/03/10

Chilisin P/N : LVH201B10H-100M-N

SPECIFICATION ACCEPTED BY:	
COMPONENT ENGINEER	
ELECTRICAL ENGINEER	
MECHANICAL ENGINEER	
APPROVED	
REJECTED	

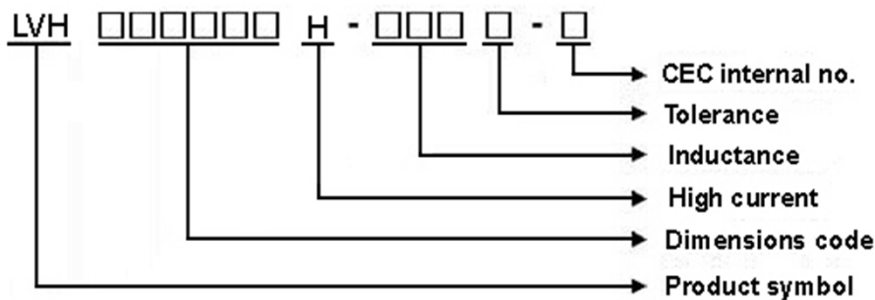
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LVH201B10H Series Specification

1 Scope: This specification applies to Wire Wound Power Inductors

2 Part Numbering:



3 Rating:

Operating Temperature: $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)

Storage Temperature: $20^{\circ}\text{C} \sim 25^{\circ}\text{C}$ R.H. 65% (In Tape & Reel Condition)

4 Marking:



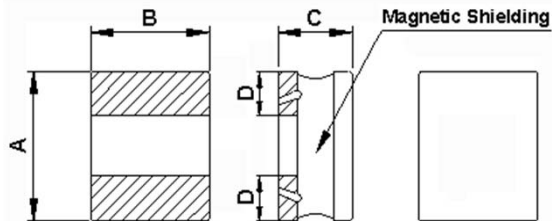
NO Marking

5 Standard Testing Condition

	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35°C)	20±2°C
Humidity	Ordinary Humidity(25 to 85% RH)	60 to 70 % RH

LVH201B10H Series Specification

6 Configuration and Dimensions:



TYPE	LVH201B10H
A	2.0±0.25 m/m
B	1.6±0.25 m/m
C	1.02Max.m/m
D	0.6 typ. m/m

7 Electrical Characteristics:

Part No.	Inductance (uH)	Test Freq.	RDC (Ω)±30%	Isat(mA) Typ.(Max)	Irms(mA) Typ.(Max)	Tolerance (±%)
LVH201B10H-R24□-N	0.24	1MHz,200mV	0.048	3700(3300)	2500(2100)	20,30
LVH201B10H-R33□-N	0.33	1MHz,200mV	0.048	3400(3000)	2500(2100)	20,30
LVH201B10H-R47□-N	0.47	1MHz,200mV	0.072	2900(2600)	2100(1800)	20,30
LVH201B10H-R56□-N	0.56	1MHz,200mV	0.072	2700(2400)	2100(1800)	20,30
LVH201B10H-R68□-N	0.68	1MHz,200mV	0.092	2500(2200)	1800(1500)	20,30
LVH201B10H-1R0□-N	1	1MHz,200mV	0.11	2200(2000)	1500(1200)	20,30
LVH201B10H-2R2□-N	2.2	1MHz,200mV	0.205	1400(1200)	1150(970)	20,30
LVH201B10H-3R3□-N	3.3	1MHz,200mV	0.38	1050(940)	900(800)	20,30
LVH201B10H-4R7□-N	4.7	1MHz,200mV	0.52	900(800)	800(680)	20,30
LVH201B10H-100□-N	10	1MHz,200mV	1.1	620(550)	450(380)	20,30

NOTE: □-tolerance M=±20% / T=±30%

1. Operating temperature range - 55°C ~ 125°C (Including self - temperature rise)

2. Isat for Inductance drop 30% from its value without current.

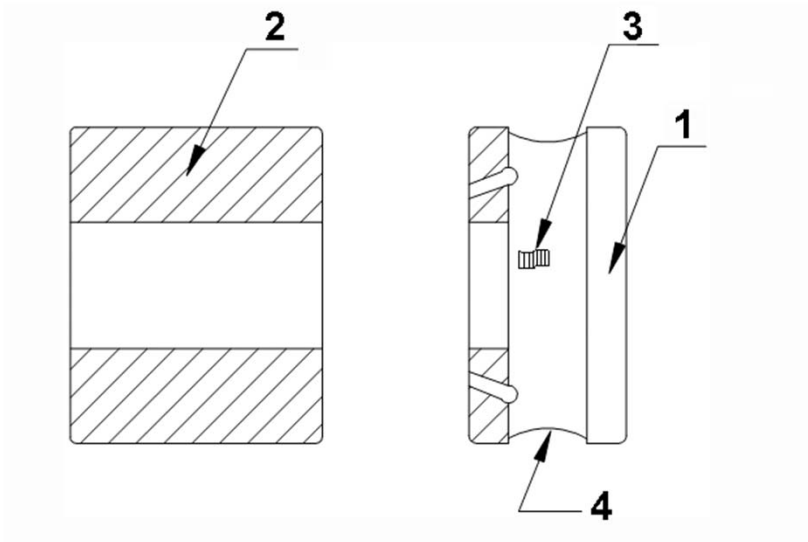
3. I rms for a 40°C temperature rise from 25°C ambient.

"-N" FOR COMPLETELY LEAD FREE TYPE (INCLUDING FERRITE BODY & SOLDER)

LVH201B10H Series Specification

8 LVH201B10H Series

8.1 Construction:



8.2 Material List:

ITEM	PART	DESCRIPTION	SUPPLIES
1	CORE	FERRITE	CHILISIN
2	TERMINAL	Ag/Ni/Sn	
3	WIRE	Grade 180	ELEKTRISOLA
4	EPOXY	Magnetic powder resin	



LVH201B10H Series Specification

9 Reliability Of Wire Wound Power Inductors

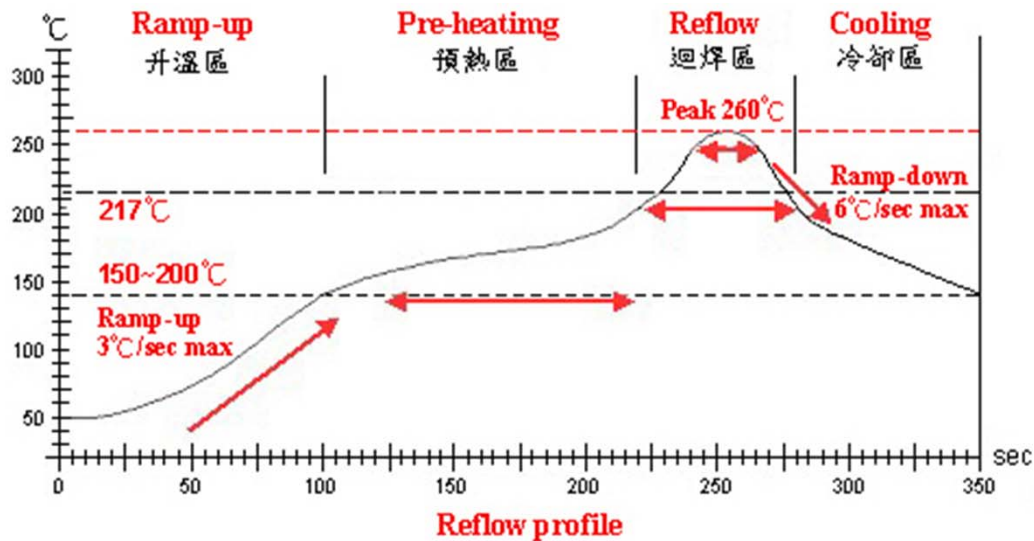
1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Vibration	Chip coil shall not be damaged after tested as test method	Oscillation Frequency:10Hz to 55 Hz to 10 hZ for 1 min Total Amplitude:1.5mm Testing Time:A period of 2 hours in each of 3 mutually perpendicular directions(Total 6 hours)
1-1-2	Solderability	The wetting area of the electrode shall be at least 95% covered with new solder coating	Solder:Sn/Ag3.0/Cu0.5 per-Heating:150°C±10°C/1min to 2min solder Temperature:245°C±5°C Immersion Time:4s±1s
1-1-3	Resistance to Soldering Heat	Appearance:No damage	Solder:Sn/Ag3.0/Cu0.5 per-Heating:150°C±10°C/1min to 2min solder Temperature:260°C±5°C Immersion Time:10s±1s

1-2.Environmental Performance

No	Item	Specification	Test Method															
1-2-1	Heat Resistance	Appearance: No damage Inductance Change:within±10%	Temperature:125°C±3°C Time:500h Then measured after exposure in the room Condition for 24h±2h															
1-2-2	Cold Resistance		Temperature: -55°C±3°C Time:500h Then measured after exposure in the room Condition for 24h±2h															
1-2-3	Humidity		Temperature: 40°C±2°C Humidity:90%(RH) to 95%(RH) Time:500h Then measures after exposure in the room Condition for 24h±2h															
1-2-4	Temperature Cycle		One cycle: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>3</td> </tr> </tbody> </table> Total: 100cycles Measured after exposure in the room condition for 24hrs	Step	Temperature (°C)	Time (min)	1	-55±3	30	2	25±2	3	3	125±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-55±3	30																
2	25±2	3																
3	125±3	30																
4	25±2	3																

LVH201B10H Series Specification



Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item.	升温區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp.scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	260±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120sec	5 ~ 10 sec	—

NOTE :

1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow



LVH201B10H Series Specification

10 Test Data for Pre-production Samples

Chilisin P/N: LVH201B10H-100M-N

Measured Item	L (uH)	RDC (Ω)±30%	Isat (mA)Typ.	A m/m	B m/m	C m/m					
Spec Customer	10±20%										
Suggest		1.1	620	2.0±0.25	1.6±0.25	1.02 Max.					
Test Freq.	1MHz 200mV										
1	9.84	1.1	620	2.03	1.73	0.96					
2	9.83	1.15	620	2.05	1.72	0.95					
3	9.68	1.14	620	2.04	1.74	0.96					
4	9.89	1.12	620	2.05	1.72	0.95					
5	9.74	1.1	620	2.05	1.72	0.96					
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
<u>X</u>	9.796	1.122	620	2.044	1.726	0.956					
R	0.21	0.05	0	0.02	0.02	0.01					
Customer											
Sample											

Test Instrument

L: Agilent/HP4287A+Agilent/HP16197A,1MHz 200mV
 RDC: DIGITAL MILLIOHM METER CHROMA 16502, or equivalent
 Isat & Irms: Agilent/HP4284A,1MHz 200mV

Appearance and Dimensions:

SPEC : Refer to Item 6
 Test Method : Visual Inspection and Measured with Slide Calipers.

Test Conditions:

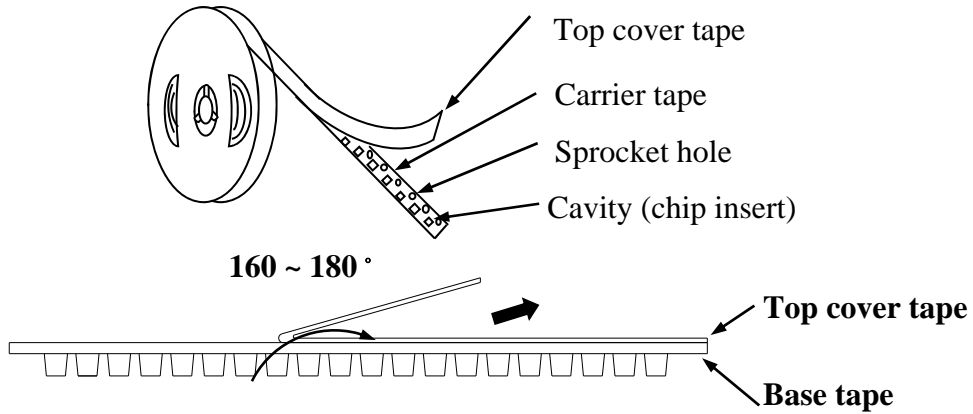
	Unless Otherwise Specified	In Case of Doubt
Temperature	Ordinary Temperature (15 to 35°C)	20 ± 2 °C
Humidity	Ordinary Humidity (25 to 85 %RH)	60 to 70 %RH

LVH201B10H Series Specification

11 Packaging:

11.1 Packaging -Cover tape

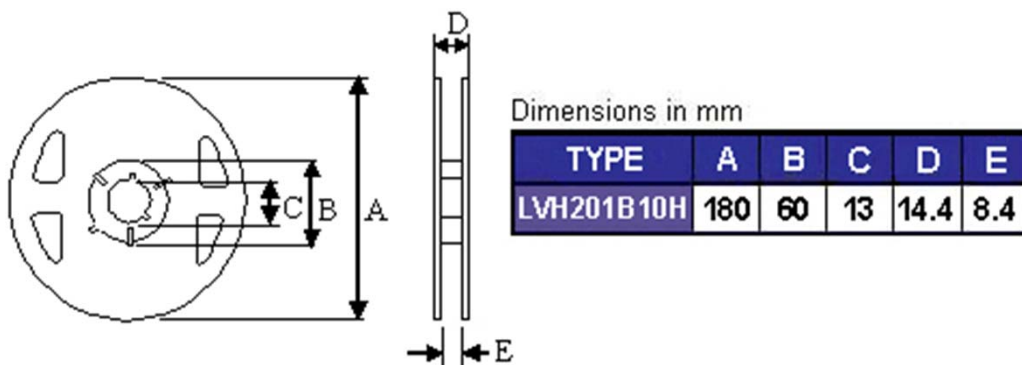
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	BULK	PCS/REEL
LVH201B10H	✓	2000

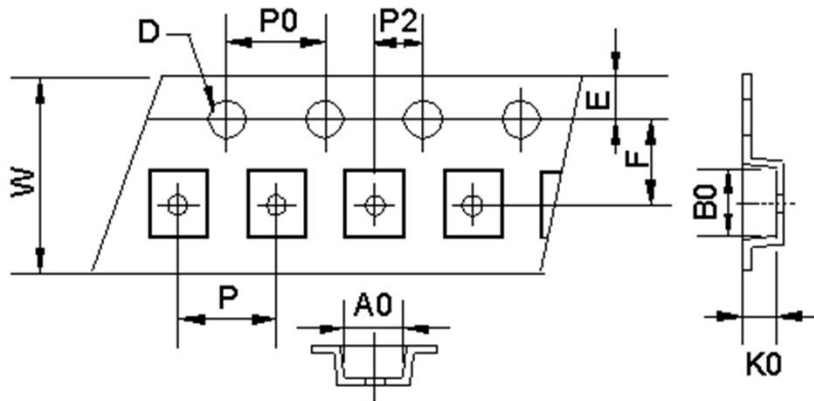
11.3 Reel Dimensions



LVH201B10H Series Specification

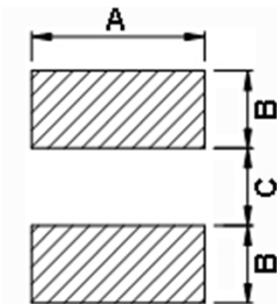
11 Packaging:

11.4 Tape Dimensions in mm



TYPE	A0	B0	K0	D	E	F	W	P	P0	P2
LVH201B10H	1.9	2.2	1.15	1.55	1.75	3.5	8	4	4	2

12 Recommended Land Pattern:



Dimensions in mm

TYPE	A(m/m)	B(m/m)	C(m/m)
LVH201B10H	1.8	0.8	0.8

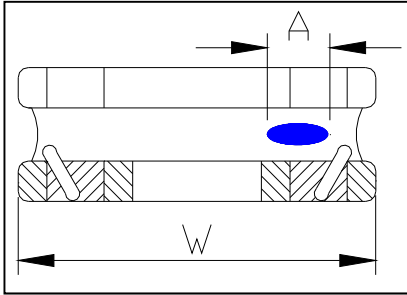
13 Note:

1. Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
4. Please keep the distance between transformer/coil and other components (refer to the standard IEC 950)

LVH201B10H Series Specification

13 Note:

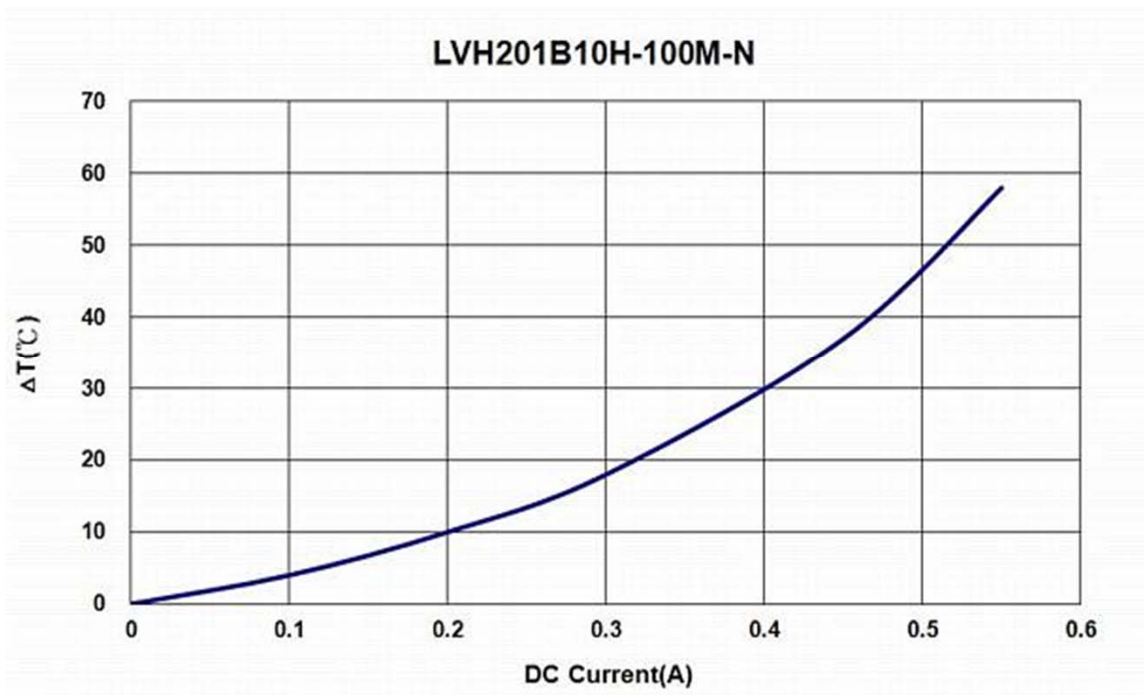
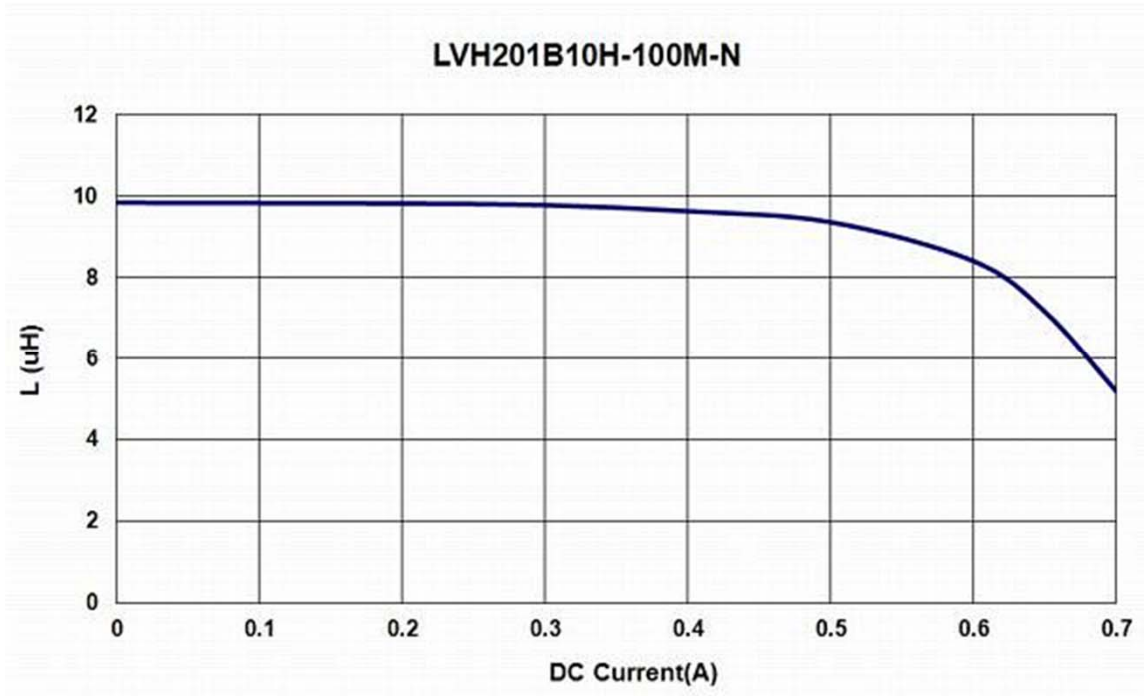
5. Void Appearance tolerance Limit



$A \leq W/2$ GOOD
 $A > W/2$ NG

LVH201B10H Series Specification

14 Graph:



Temperature test conditions:

1. Start as the atmosphere temp. @25°C.
2. Take the reading once it becomes stable.
3. Need to wait 90Sec at least, then change to the next applied current value.