



Form No.: QF-1274
Edition: 2

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

RoHS & Halogen Free & REACH Compliance.

SPECIFICATION FOR APPROVAL

Customer : 各廠家

Customer P/N:

Drawing No :

Quantity : 0 Pcs. Date : 2018/11/13

Chilisin P/N : LVC201B10-2R2M-N

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

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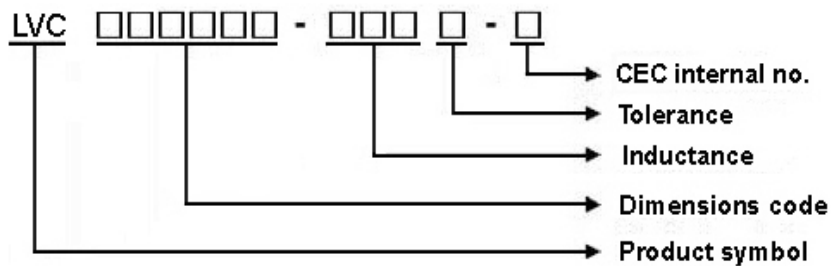
Approved by
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YG18B00744

LVC201B10 Series Specification

1 Scope: This specification applies to Wire Wound Power Inductors

2 Part Numbering:

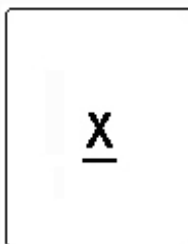


3 Rating:

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:



Ex : LVC201B10-1R0M-N

Marking : B

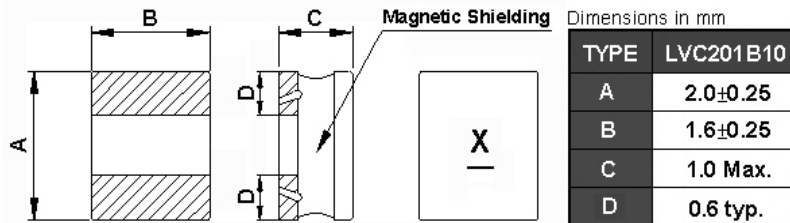
Marking color : Black

5 Standard Testing Condition

| | Unless otherwise specified | In case of doubt |
|-------------|----------------------------------|------------------|
| Temperature | Ordinary Temperature(15 to 35°C) | 20 to 30°C |
| Humidity | Ordinary Humidity(25 to 85% RH) | 50 to 80 %RH |

LVC201B10 Series Specification

6 Configuration and Dimensions:



7 Electrical Characteristics:

| Part No. | Inductance (uH) | Test Freq. | RDC (Ω)±30% | Isat(mA) Typ.(Max) | Irms(mA) Typ.(Max) | Tolerance (±%) | Marking |
|------------------|-----------------|------------|-------------|--------------------|--------------------|----------------|---------|
| LVC201B10-R24□-N | 0.24 | 1MHz,200mV | 0.026 | 3200(2800) | 3000(2700) | 20,30 | M |
| LVC201B10-1R0□-N | 1 | 1MHz,200mV | 0.095 | 1860(1670) | 1860(1670) | 20,30 | B |
| LVC201B10-1R5□-N | 1.5 | 1MHz,200mV | 0.14 | 1640(1470) | 1650(1480) | 20,30 | C |
| LVC201B10-2R2□-N | 2.2 | 1MHz,200mV | 0.19 | 1300(1170) | 1300(1170) | 20,30 | D |
| LVC201B10-3R3□-N | 3.3 | 1MHz,200mV | 0.295 | 960(860) | 980(880) | 20,30 | E |
| LVC201B10-4R7□-N | 4.7 | 1MHz,200mV | 0.36 | 840(750) | 900(810) | 20,30 | F |
| LVC201B10-6R8□-N | 6.8 | 1MHz,200mV | 0.64 | 660(590) | 700(630) | 20,30 | G |
| LVC201B10-100□-N | 10 | 1MHz,200mV | 1 | 540(480) | 560(500) | 20,30 | H |
| LVC201B10-150□-N | 15 | 1MHz,200mV | 1.5 | 390(350) | 420(370) | 20,30 | K |
| LVC201B10-180□-N | 18 | 1MHz,200mV | 1.6 | 390(350) | 410(360) | 20,30 | J |
| LVC201B10-220□-N | 22 | 1MHz,200mV | 1.7 | 380(340) | 400(360) | 20,30 | I |

NOTE: □-tolerance M=±20% / T=±30%

1. Operating temperature range - 5 5 °C ~ 1 2 5 °C (Including self - temperature rise)

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

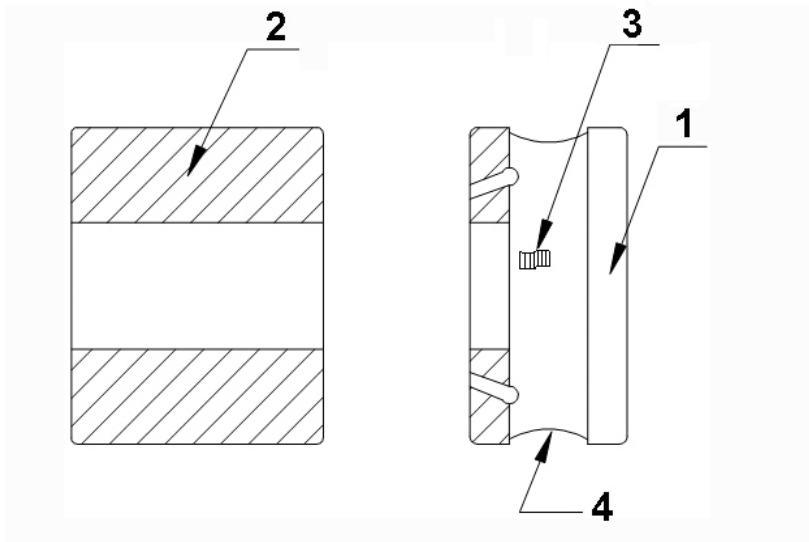
3. I rms for a 40°C temperature rise from 25°C ambient.

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

LVC201B10 Series Specification

8 LVC201B10 Series

8.1 Construction:



8.2 Material List:

| No | Part | Material |
|----|----------|-----------------------|
| 1 | CORE | FERRITE |
| 2 | TERMINAL | Ag/Cu/Ni/Sn |
| 3 | WIRE | Grade 180 |
| 4 | EPOXY | Magnetic powder resin |



LVC201B10 Series Specification

9 Reliability Of Wire Wound Power Inductors

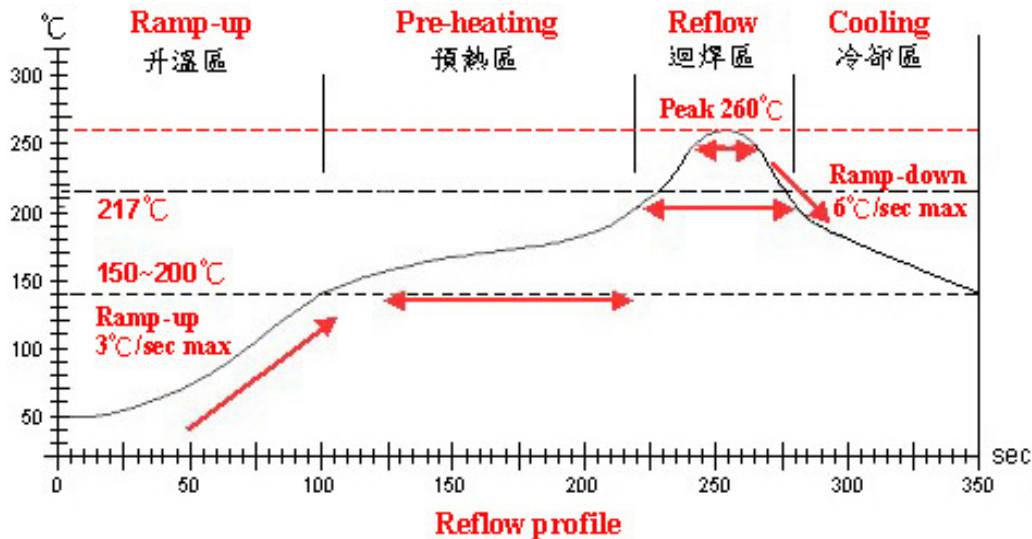
1-1.Mechanical Performance

| 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> | Step | Temperature (°C) | Time (min) | 1 | -55±3 | 30 | 2 | 25±2 | 3 | 3 | 125±3 | 30 | 4 | 25±2 |
| Step | Temperature (°C) | Time (min) | | | | | | | | | | | | | | | |
| 1 | -55±3 | 30 | | | | | | | | | | | | | | | |
| 2 | 25±2 | 3 | | | | | | | | | | | | | | | |
| 3 | 125±3 | 30 | | | | | | | | | | | | | | | |
| 4 | 25±2 | 3 | | | | | | | | | | | | | | | |
| | | | Total: 100cycles Measured after exposure in the room condition for 24hrs | | | | | | | | | | | | | | |

LVC201B10 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 ~ 120 sec | 20 ~ 35 sec | — |

NOTE :

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



LVC201B10 Series Specification

10 Product Test Data

Form No.: QF-1419
Edition: 2

Chilisin P/N: LVC201B10-2R2M-N

| Test Item (unit) | L (uH) | RDC (Ω)±30% | Isat (mA)Typ. | A mm | B mm | C mm | | | | |
|-----------------------|---------------|-------------|---------------|----------|----------|----------|--|--|--|--|
| Customer Requirement | 2.2±20% | | | | | | | | | |
| Spec Criteria | | 0.19 | 1300 | 2.0±0.25 | 1.6±0.25 | 1.0 Max. | | | | |
| Test Condition | 1MHz 200mV | | | | | | | | | |
| 1 | 2.02 | 0.185 | 1300 | 2.03 | 1.71 | 0.94 | | | | |
| 2 | 2.01 | 0.188 | 1300 | 2.05 | 1.72 | 0.95 | | | | |
| 3 | 1.99 | 0.189 | 1300 | 2.05 | 1.72 | 0.96 | | | | |
| 4 | 2.05 | 0.189 | 1300 | 2.05 | 1.72 | 0.95 | | | | |
| 5 | 2.08 | 0.192 | 1300 | 2.05 | 1.72 | 0.96 | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| \bar{X} | 2.03 | 0.1886 | 1300 | 2.046 | 1.718 | 0.952 | | | | |
| R | 0.09 | 0.007 | 0 | 0.02 | 0.01 | 0.02 | | | | |
| Customer Sample | | | | | | | | | | |

Test Instrument

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

Appearance and Dimensions:

Appearance: Visual inspection according to inspection criteria.
 Dimension: Measured with slide calipers.

Test Conditions:

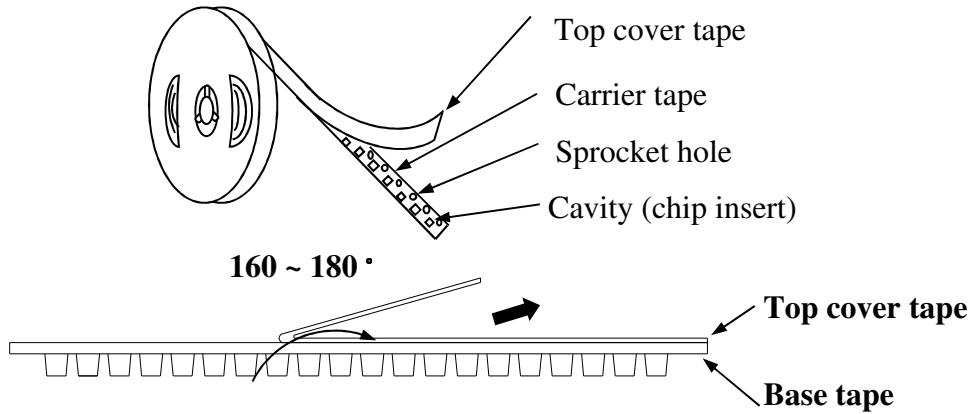
| | Unless Otherwise Specified | In Case of Doubt |
|-------------|-----------------------------------|------------------|
| Temperature | Ordinary Temperature (15 to 35°C) | 20 to 30°C |
| Humidity | Ordinary Humidity (25 to 85 %RH) | 50 to 80 %RH |

LVC201B10 Series Specification

11 Packaging:

11.1 Packaging -Cover tape

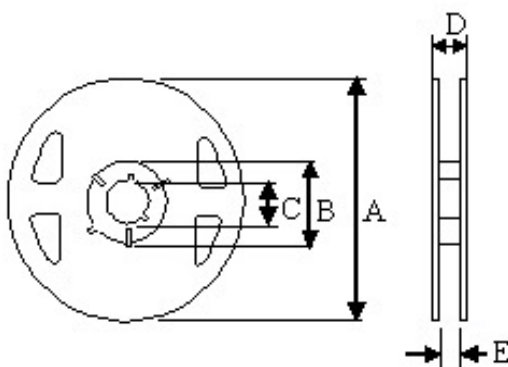
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

| TYPE | PCS/REEL |
|-----------|----------|
| LVC201B10 | 2000 |

11.3 Reel Dimensions



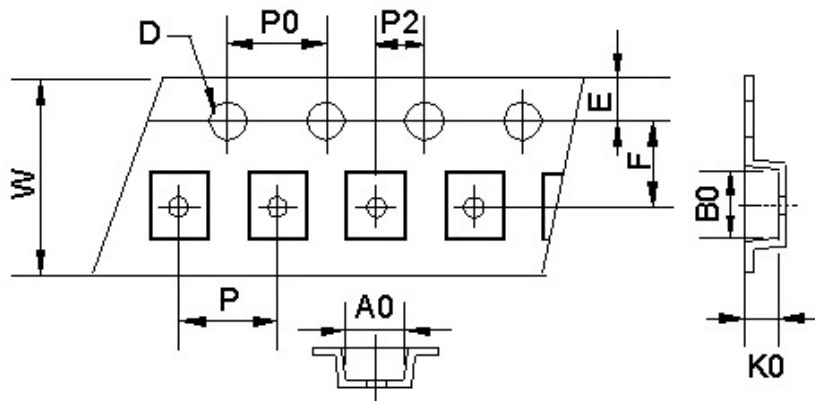
Dimensions in mm

| TYPE | A | B | C | D | E |
|-----------|-----|----|----|------|-----|
| LVC201B10 | 180 | 60 | 13 | 14.4 | 8.4 |

LVC201B10 Series Specification

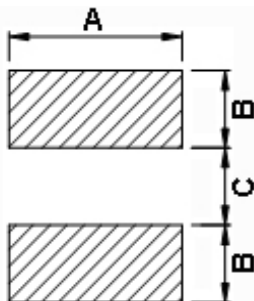
11 Packaging:

11.4 Tape Dimensions in mm



| TYPE | A0 | B0 | K0 | D | E | F | W | P | P0 | P2 |
|-----------|-----|-----|------|------|------|-----|---|---|----|----|
| LVC201B10 | 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 | B | C |
|-----------|-----|-----|-----|
| LVC201B10 | 1.8 | 0.8 | 0.8 |

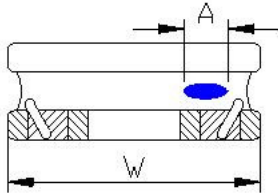
13 Note:

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)
5. The moisture sensitivity level (MSL) of products is classified as level 1.

LVC201B10 Series Specification

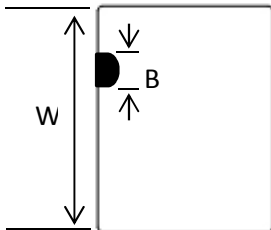
13 Note:

6. Void Appearance tolerance Limit



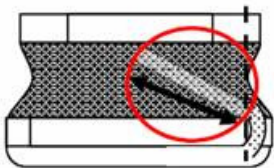
Exposed wire tolerance limit of coating resin part on product side.
The unilateral should be no more than two holes.

$$\begin{aligned} A &\leq W/2 \text{ GOOD} \\ A &> W/2 \text{ NG} \end{aligned}$$



The appearance standard of the chipping size in top side.

$$\begin{aligned} B &\leq W/5 \text{ GOOD} \\ B &> W/5 \text{ NG} \end{aligned}$$

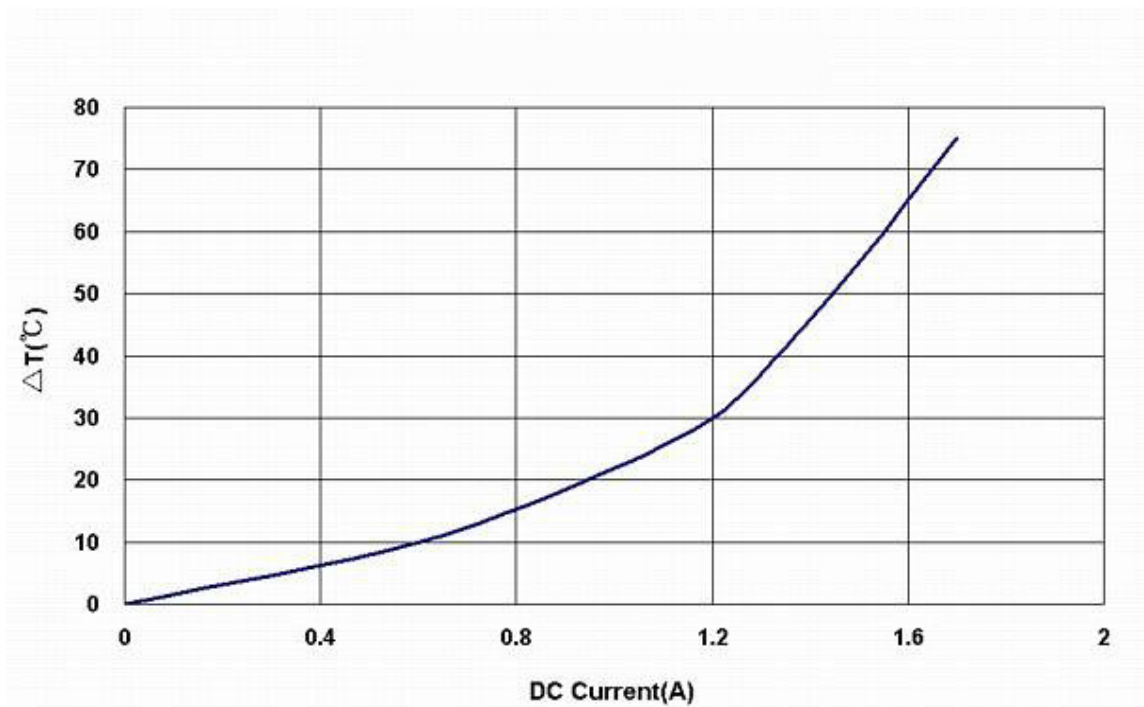
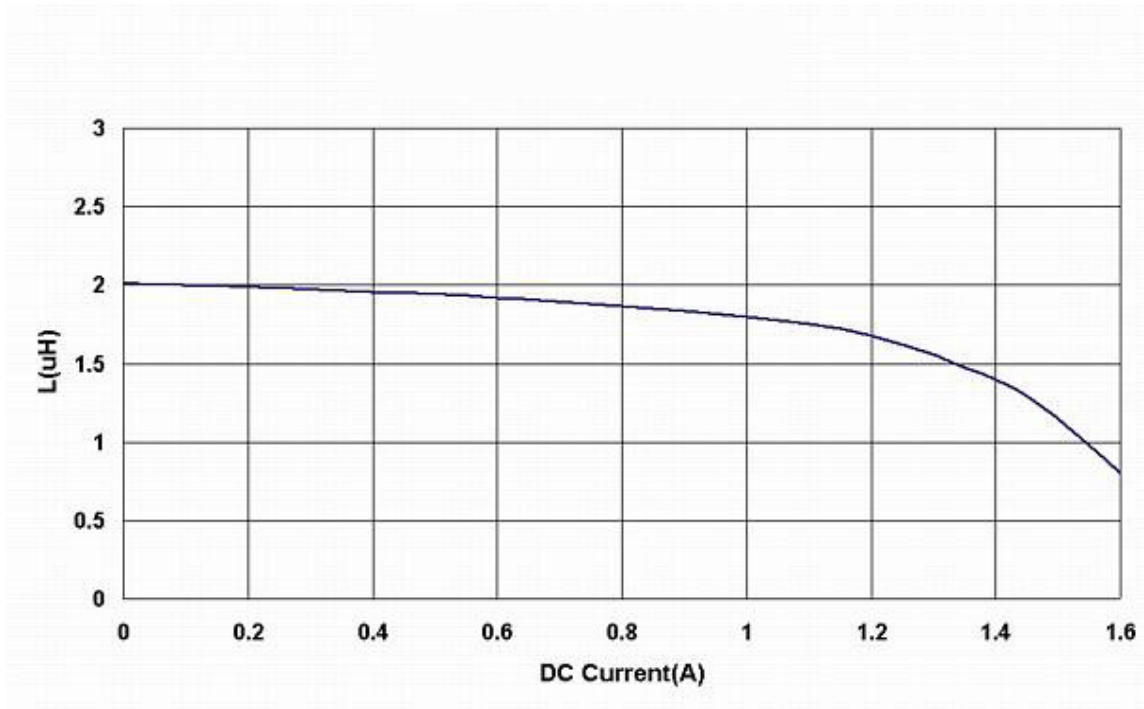


External appearance criterion for wxposed wire

Exposed end of the winding wire at the side should be acceptable.

LVC201B10 Series Specification

14 Graph: LVC201B10-2R2M-N



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.

单击下面可查看定价，库存，交付和生命周期等信息

[>>CHILISIN\(奇力新\)](#)