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

**Halogen Free & RoHs Compliance**

# SPECIFICATION FOR APPROVAL

**CUSTOMER :** _____

**CUSTOMER P/N :** _____

**OUR DWG No :** _____

**QUANTITY :** 0 **Pcs.** **DATE :** 2014/06/09

**ITEM :** MHCD201610A-1R0M-A8L

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


奇力新電子股份有限公司
Chilisin Electronic sCorp
No. 29, Alley 301, Tehhsin Rd.,
Hukou,Hsinchu 303, Taiwan
TEL：+886-3- 599-2646
FAX：+886-3- 599-9176
E-mail：sales@chilisin.com.tw
http：//www.chilisin.com.tw

東莞奇力新電子有限公司
Chilisin Electronics (Dongguan) Co., Ltd.
No. 78, Puxing Rd., Yuliangwei Administration
Area, Qingxi Town, Dongguan City,
Guangdong,China
TEL：+86-769-8773-0251~3
FAX： +86-769-8773-0232
E-mail：cect@chilisin.com.tw

奇力新電子(河南)有限公司
Chilisin Electronics (Henan) Co., Ltd.
XiuWu Xian, industry gathering area
JiaoZuo, Henan China
Postal Code:454350
TEL:+86-391-717-0682
FAX:+86-391-717-0666

奇力新電子(蘇州)有限公司
Chilisin Electronics (Suzhou) Co., Ltd.
No.143,Song Shan Rd., Suzhou New District,
Suzhou,China
Postal Code:215129
TEL:+86-512-6841-2350
FAX:+86-512-6841-2356


| DRAWN BY | CHECKED BY | APPROVED BY |
|---|---|---|
| 張鈺雯 **chang.yuwen** | 溫美玲 ling | 張鈺雯 chang.yuwen |

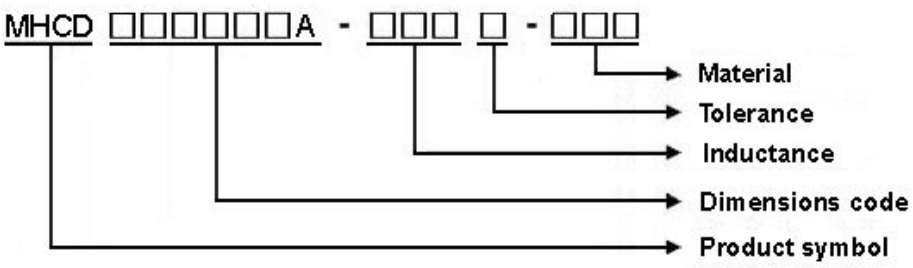
YC14600471

ISO9001 & ISO14001 & TS16949 CHILISIN ELECTRONICS CORP.

# MHCD201610A Series Specification

## 1 Scope: This specification applies to Alloy Molding power inductors

## 2 Part Numbering: Product Identification




## 3 Rating:

**Operating Temperature:** －４０℃～１２５℃**(Including self - temperature rise)**

**Storage Temperature:** －４０℃～１２５℃**(after PCB)**

－５℃～３５℃**,Humidity** ４５％～８５％**(before PCB)**

## 4 Marking:

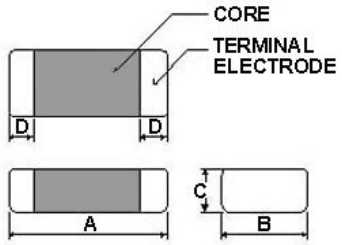
No Marking

## 5 Standard Testing Condition

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

# MHCD201610A Series Specification

## 6 Configuration and Dimensions:




Dimensions in mm

| TYPE | MHCD201610A |
|---|---|
| A | 2.0±0.2 |
| B | 1.6±0.2 |
| C | 1.0 Max. |
| D | 0.5±0.3 |

## 7 ELECTRICAL CHARACTERISTICS :

| Part No. | Inductance (uH ) | Test Freq. | Irms(A) Max.(Typ) | Isat(A) Max.(Typ) | RDC(mΩ) Max.(Typ) | Tolerance (±%) |
|---|---|---|---|---|---|---|
| MHCD201610A-1R0M-A8L | 1 | 2MHz,0.2V | 2.7(3.4) | 3.0(3.8) | 62(53) | 20 |

**NOTE:**

1.Operating temperature range －４０℃～１２５℃(Including self - temperature rise)

2.Irms DC current (A) that will cause an approximate ΔT of 40°C.

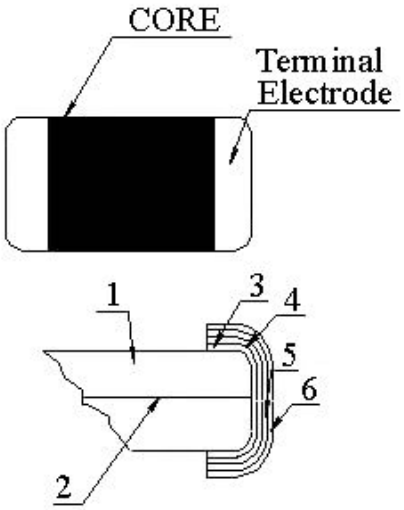
3.Isat DC current (A) that will cause Lo to drop approximately 30%

4.All test data is referenced to 25℃ ambient

# MHCD201610A Series Specification

## 8 MHCD201610A Series

### 8.1 Construction:



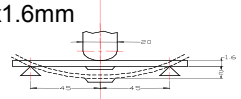
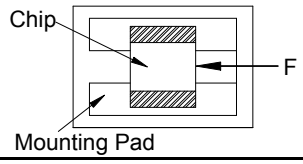

### 8.2 Material List:

| NO | Part | Description |
|---|---|---|
| 1 | Core | Metal Power |
| 2 | Wire | Copper wire |
| 3 | Sputter/Plating | Cu |
| 4 | Silver Electrode | Ag |
| 5 | Plating | Ni |
| 6 | Plating | Sn |

# MHCD201610A Series Specification

## 9 Reliability Of Molding power inductors

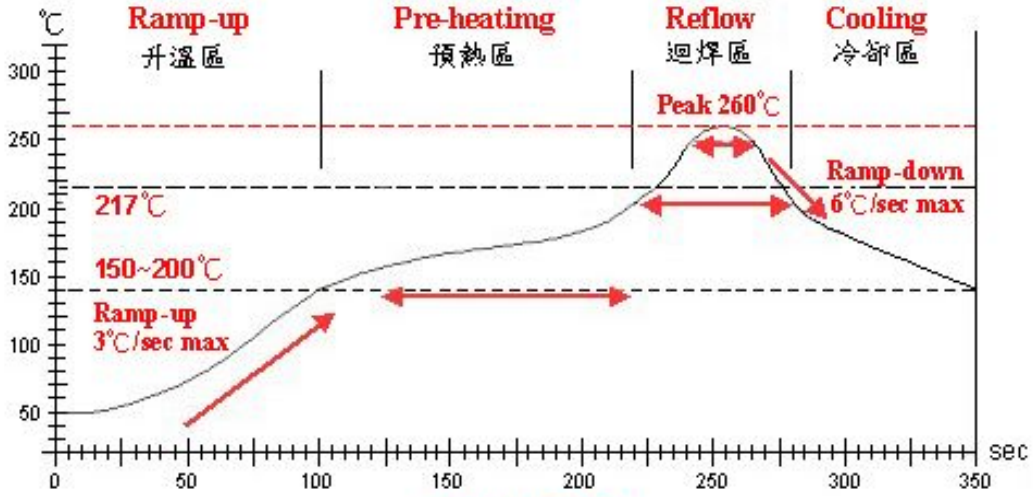
### 1-1.Mechanical Performance

| | Item | Specification | Test Method |
|---|---|---|---|
| 1-1-1 | Flexure Strength | The forces applied on the right conditions must not damage the terminal electrode and the ferrite | Test device shall be soldered on the substrate<br>Substrate Dimension: 100x40x1.6mm<br>Deflection: 2.0mm<br>Keeping Time: 30sec  |
| 1-1-2 | Vibration | | Test device shall be soldered on the substrate<br>Oscillation Frequency: 10 to 55 to 10Hz for 1min<br>Amplitude: 1.5mm<br>Time: 2hrs for each axis (X, Y & Z), total 6hrs |
| 1-1-3 | Resistance to Soldering Heat | Appearance: No damage<br>More than 75% of the terminal electrode should be covered with solder.<br>Inductance: within ±20% of initial value | Pre-heating: 150℃, 1min<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature: 260±5℃<br>Immersion Time: 10±1sec |
| 1-1-4 | Solder ability | The electrodes shall be at least 95% covered with new solder coating | Pre-heating: 150℃, 1min<br>Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)<br>Solder Temperature: 245±5℃<br>Immersion Time: 4±1sec |
| 1-1-5 | Terminal Strength Test | No split termination   | Test device shall be soldered on the substrate, then apply a force in the direction of the arrow.<br>Force : 5N<br>Keeping Time: 10±1sec |

### 1-2.Environmental Performance

| No | Item | Specification | Test Method |
|---|---|---|---|
| 1-2-1 | Temperature Cycle | Appearance: No damage<br>Inductance:within±20% of initial value | One cycle:<br>Step / Temperature (℃) / Time (min)<br>1 / -40±3 / 30<br>2 / 25±2 / 2<br>3 / 125±3 / 30<br>4 / 25±2 / 2<br>Total: 100cycles<br>Measured after exposure in the room condition for 24hrs |
| 1-2-2 | Humidity Resistance | | Temperature: 60±2℃<br>Relative Humidity: 90 ~ 95% / Time: 500hrs<br>Measured after exposure in the room condition for 12hrs |
| 1-2-3 | High Temperature Resistance | | Temperature: 85±3℃<br>Relative Humidity: 0% / Time: 500hrs<br>Measured after exposure in the room condition for 12hrs |
| 1-2-4 | Low Temperature Resistance | | Temperature: -40±3℃<br>Relative Humidity: 0% / Time: 500hrs<br>Measured after exposure in the room condition for 12hrs |

# MHCD201610A Series Specification




Reflow profile

Lead-Free(LF) 標準溫度分析範圍 Refer to J-STD-020C

| 管制項目 Item. | 升溫區 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℃ | 150℃~200℃ | 217℃ | 260±5℃ | Peak Temp.~150℃ |
| 標準時間 Time spec. | — | 60 ~ 180 sec | 60 ~ 150 sec | 20 ~ 40 sec | — |
| 實際時間 Time result | — | 75 ~ 100 sec | 90 ~ 120 sec | 20 ~ 35 sec | — |

NOTE :

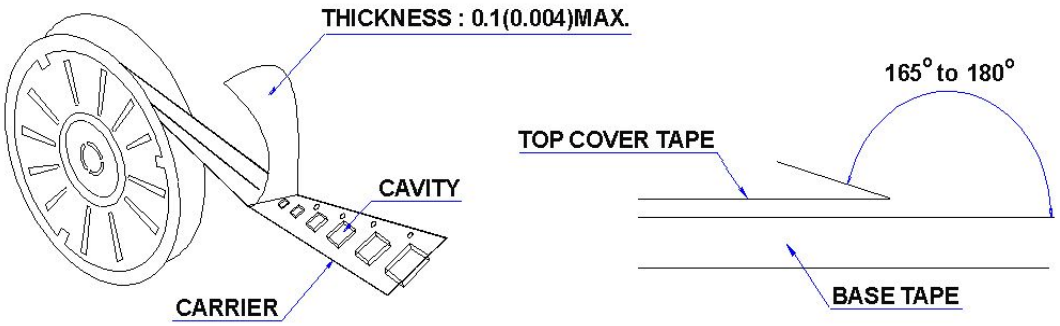
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

# MHCD201610A Series Specification

## 11 PACKAGING

### 11.1 Packaging -Cover tape

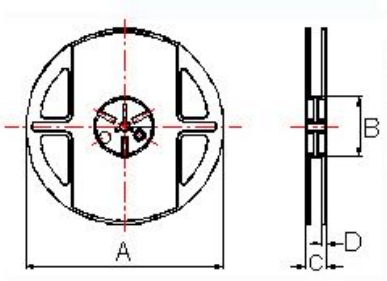
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.




### 11.2 Packaging Quantity

| TYPE | BULK | PCS/REEL |
|---|---|---|
| MHCD201610A | ✓ | 3000 |

### 11.3 Reel Dimensions



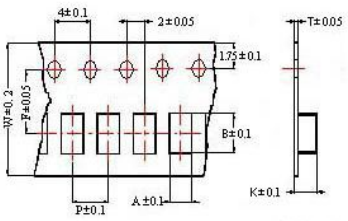

Dimensions in mm

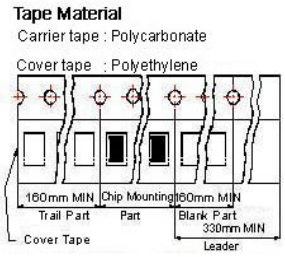
| TYPE | A | B | C | D |
|---|---|---|---|---|
| MHCD201610A | 178 | 60 | 12 | 1.5 |

# MHCD201610A Series Specification

## 11 PACKAGING

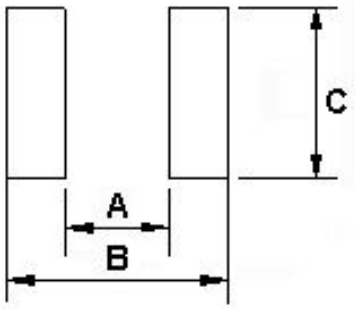
### 11.4 Tape Dimensions in mm




| TYPE | A | B | T | W | P | F | K |
|---|---|---|---|---|---|---|---|
| MHCD201610A | 1.8 | 2.2 | 0.22 | 8 | 4 | 3.5 | 1.15 |

## 12 Recommended Pattern




Dimensions in mm

| TYPE | A | B | C |
|---|---|---|---|
| MHCD201610A | 0.9 | 2.0 | 1.6 |

## 13 Note:

1. Please make sure that your product is 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)

# X-ON Electronics

Largest Supplier of Electrical and Electronic Components

***Click to view similar products for*** Fixed Inductors ***category:***

***Click to view products by*** Chilisin ***manufacturer:***

Other Similar products are found below :

MLZ1608M6R8WTD25 MLZ1608N6R8LT000 MLZ1608N3R3LTD25 MLZ1608N3R3LT000 MLZ1608N150LT000 MLZ1608M150WTD25 MLZ1608M3R3WTD25 MLZ1608M3R3WT000 MLZ1608M150WT000 MLZ1608A1R5WT000 MLZ1608N1R5LT000 B82432C1333K000 PCMB053T-1R0MS PCMB053T-1R5MS PCMB104T-1R5MS CR32NP-100KC CR32NP-151KC CR32NP-180KC CR32NP-181KC CR32NP-1R5MC CR32NP-390KC CR32NP-3R9MC CR32NP-680KC CR32NP-820KC CR32NP-8R2MC CR43NP-390KC CR43NP-560KC CR43NP-680KC CR54NP-181KC CR54NP-470LC CR54NP-820KC CR54NP-8R5MC MGDQ4-00004-P MGDU1-00016-P MHL1ECTTP18NJ MHL1JCTTD12NJ PE-51506NL PE-53601NL PE-53630NL PE-53824SNLT PE-62892NL PE-92100NL PG0434.801NLT PG0936.113NLT PM06-2N7 PM06-39NJ HC2LP-R47-R HC2-R47-R HC3-2R2-R HC8-1R2-R