



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

**RoHS & Halogen Free & REACH Compliance.**

**SPECIFICATION FOR APPROVAL**

Customer : 靈心

Customer P/N: \_\_\_\_\_

Drawing No : \_\_\_\_\_

Quantity : 0 Pcs. Date : 2018/01/12

Chilisin P/N : MHCD201610A-R24M-A8L

SPECIFICATION ACCEPTED BY:	
<b>COMPONENT ENGINEER</b>	
<b>ELECTRICAL ENGINEER</b>	
<b>MECHANICAL ENGINEER</b>	
<b>APPROVED</b>	
<b>REJECTED</b>	

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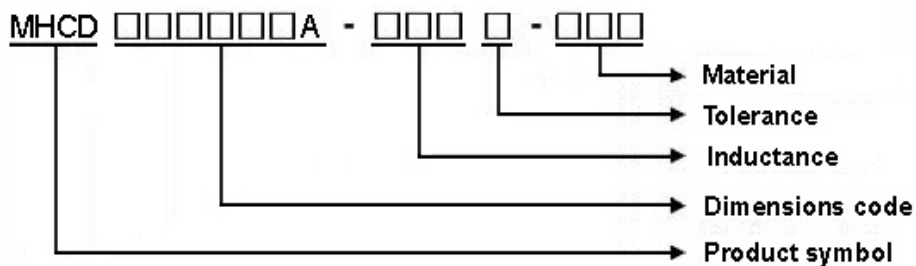
  

Drawn by <b>張鈺雯 chang.yuwen</b>	Checked by <b>張鈺雯 chang.yuwen</b>	Approved by <b>鍾瑞民 jacky.chung</b>
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## MHCD201610A Series Specification

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

**2 Part Numbering:**



**3 Rating:**

Operating Temperature:  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (Including self - temperature rise)

Storage Temperature:  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$  (after PCB)

$-5^{\circ}\text{C} \sim 35^{\circ}\text{C}$ , Humidity 45% ~ 85% (before PCB)

**4 Marking:**

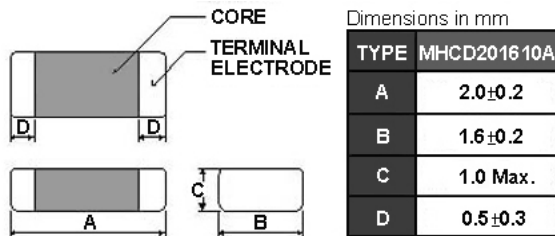
No Marking

**5 Standard Testing Condition**

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

## MHCD201610A Series Specification

### 6 Configuration and Dimensions:



### 7 Electrical Characteristics:

Part No.	Inductance (uH)	Tolerance (±%)	Test Freq.	I <sub>rms</sub> (A) Max.(Typ)	I <sub>sat</sub> (A) Max.(Typ)	RDC(mΩ) Max.(Typ)
MHCD201610A-R24M-A8L	0.24	20	2MHz,0.2V	4.6(5.8)	5.6(7.0)	30(21)

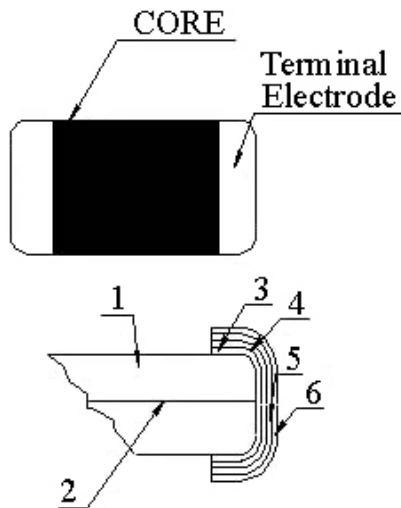
#### NOTE:

1. Operating temperature range - 40°C ~ 125°C (Including self - temperature rise)
2. I<sub>sat</sub> for Inductance drop 30% from its value without current.
3. I<sub>rms</sub> for a 40°C temperature rise from 25°C ambient.
4. All test data is referenced to 25°C ambient
5. Absolute maximum voltage 25VDC

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#### 8.1 Construction:



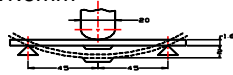
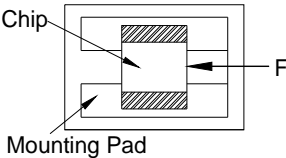
#### 8.2 Material List:

No	Part	Material
1	Core	Metal Powder
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

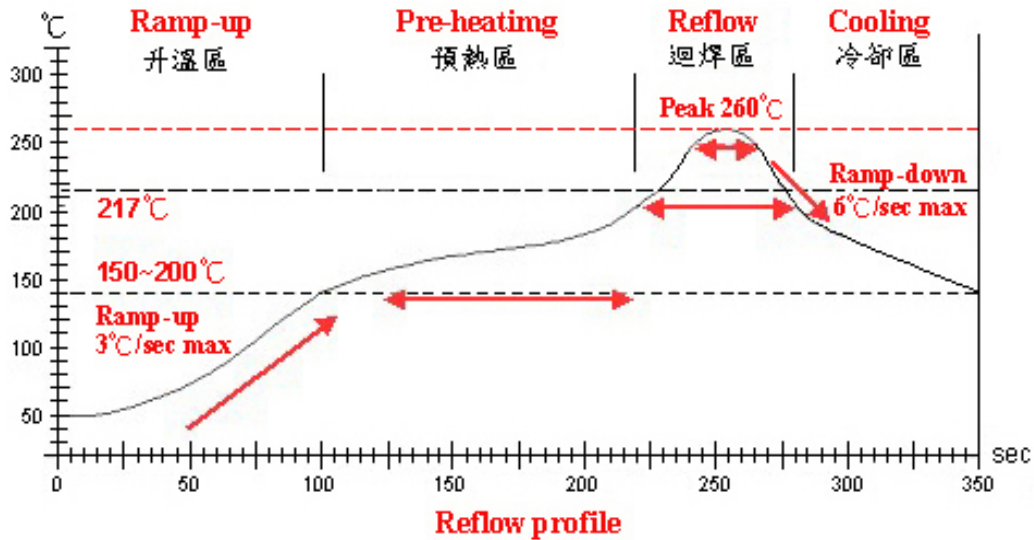
### 1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the metal body	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec 
1-1-2	Vibration	Appearance:No damage (for microscope of CASTOR MZ-45 20X) Inductance change shall be within $\pm 20\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder. Inductance: within $\pm 20\%$ of initial value	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260 $\pm 5$ °C Immersion Time: 10 $\pm 1$ sec
1-1-4	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245 $\pm 5$ °C Immersion Time: 4 $\pm 1$ sec
1-1-5	Terminal Strength Test	No split termination  Chip Mounting Pad	Test device shall be soldered on the substrate, then apply a force in the direction of the arrow. Force : 5N Keeping Time: 10 $\pm 1$ sec

### 1-2.Environmental Performance

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

## MHCD201610A 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 :

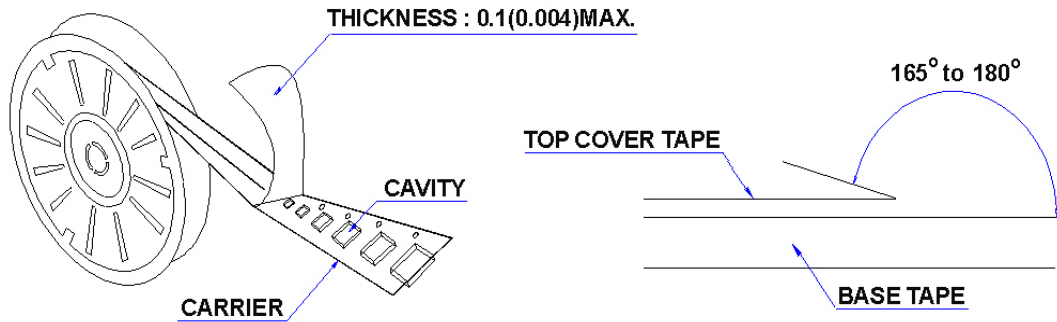
1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

# MHCD201610A Series Specification

## 10 Packaging:

### 10.1 Packaging -Cover Tape

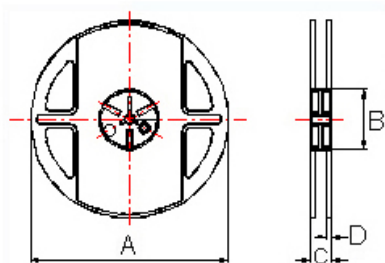
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



### 10.2 Packaging Quantity

TYPE	PCS/REEL
MHCD201610A	3000

### 10.3 Reel Dimensions



Dimensions in mm

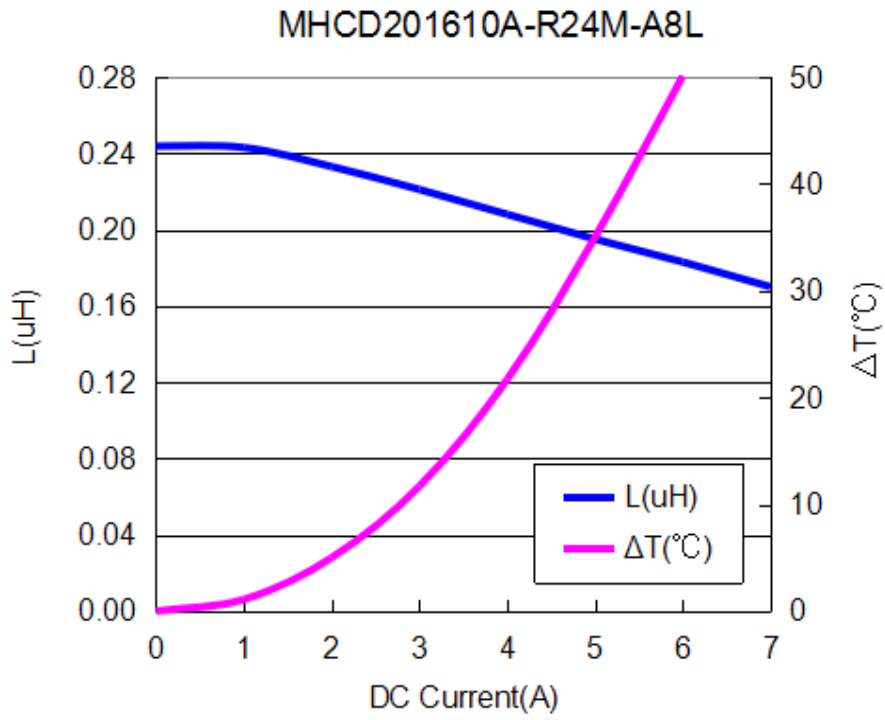
TYPE	A	B	C	D
MHCD201610A	178	60	12	1.5





## MHCD201610A Series Specification

**13** Graph:



单击下面可查看定价，库存，交付和生命周期等信息

[>>CHILISIN\(奇力新\)](#)