

RoHS & Halogen Free & REACH Compliance.

SPECIFICATION FOR APPROVAL

Customer:			礎石	
Customer P/N:				
Drawing No:			C1X2100	221
Quantity:	0	Pcs.	Date :	2021/02/19
Chilisin P/N:		BDH	IH00201610	1R0MDB
	SPI	ECIFIC	ATION	
	A(CCEPTE	D BY:	
COMPONENT				
ENGINEER				
ELECTRICAL ENGINEER				
MECHANICAL				
ENGINEER				
APPROVED				
REJECTED				
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奇力新電子(越南廠)有限公 Chilisin Electronics (Vietnam) Lim No 143 - 145, Road No 10, VSIP Phong, Lap Le Commune, Thuy N Dist, Haiphong City, Vietnam Tel:84-316 255 688 Fax:84-3 689 E-mail:sales@chilisin.com	ited Hai Nguyen		HuNan Chilisin E No. 8, Shaziao L	
Drawn by		Checked	l by	Approved by
丢錘雯 Chang.Yuwen	35.75	逐 Chan	,	鍾瑞民Jacky.Chung

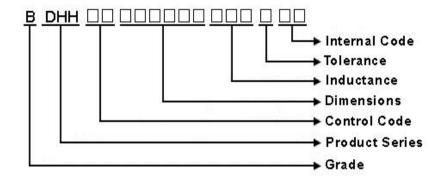
REVISIONS

REV.	Description	Date	APPROVED BY	CHECKED	DRAWN BY
Α	Preliminary release	2021/2/19	Jacky.Chung	Yuwen.Chang	Yuwen.Chang



BDHH00201610 Series Specification

- 1 Scope: This specification applies to Molding power inductors
- 2 Part Numbering:



3 Rating:

Operating Temperature: - 4 0 °C ~ 1 2 5 °C(Including self - temperature rise)

Storage Temperature: - 4 0 °C ~ 1 2 5 °C(after PCB)

- $5 \,^{\circ}\text{C} \sim 3 \, 5 \,^{\circ}\text{C}$, Humidity $4 \, 5 \,^{\circ}\text{M} \sim 8 \, 5 \,^{\circ}\text{M}$ (before PCB)

4 Marking:

No Marking

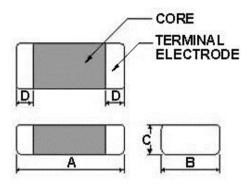
5 Standard Testing Condition

	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



BDHH00201610 Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	201610
А	2.0±0.2
В	1.6±0.2
С	1.0 Max
D	0.5±0.3

7 Electrical Characteristics:

Part No.	Inductance (uH)	Tolerance (±%)	Test Freq.	Irms(A) Max.(Typ)	Isat(A) Max.(Typ)	RDC(mΩ) Max.(Typ)
BDHH002016101R0MDB	1.00	20	2MHz,1V	2.6(2.9)	4.2(4.5)	48(45)

NOTE:

6. Rated current: Isat or Irms, whichever is smaller

^{1.} Operating temperature range $-40\,^{\circ}\text{C} \sim 125\,^{\circ}\text{C}$ (Including self - temperature rise)

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

^{3.}Irms for a 40°C temperature rise from 25°C ambient.

^{4.}All test data is referenced to 25°C ambient

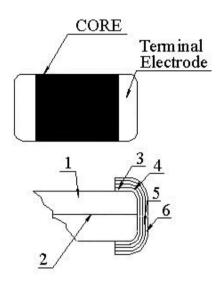
^{5.} Absolute maximum voltage 20VDC



BDHH00201610 Series Specification

8 BDHH00201610 Series

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



BDHH00201610 Series Specification 9 Reliability Of Molding power inductors

1-1.Mechanical Performance

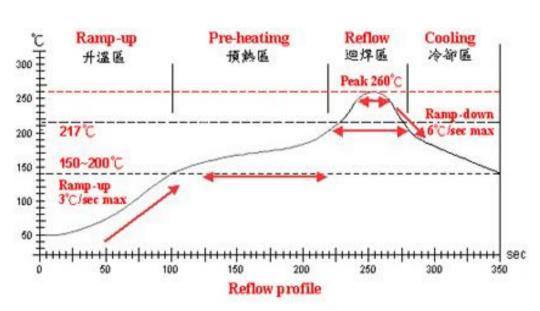
No	Item	Specification	Test Method
1-1-1	Flexure Strength	The forces applied on the right	Test device shall be soldered on the substrate
		conditions must not damage	Substrate Dimension: 100x40x1.6mm
		the terminal electrode and the	Deflection: 2.0mm
		metal body	Keeping Time: 30sec
1 1 0	Vilanatian	A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

1-2 Environmental Performance

No	ltem	Specification	Test Method				
1-2-1	Temperature Cycle	Appearance: No damage	One cycle:				
		Inductance:within±20% of	Step	Temperature (°ℂ)	Time (min)		
		initial value	1	-40±3	30		
			2	25±2	3		
			3	125±3	30		
			4	25±2	3		
			Total: 100	cycles	•		
			Measured	after exposure in the room co	ondition for 24hrs		
1-2-2	Humidity Resistance		Temperatu	ıre: 60±2°ℂ			
			Relative H	umidity: 90 ~ 95% / Time: 50	0hrs		
			Measured	after exposure in the room co	ondition for 24hrs		
1-2-3	High		Temperatu	ıre: 85±3°ℂ			
	Temperature Resistance		Relative H	umidity: 0% / Time: 500hrs			
			Measured	after exposure in the room co	ondition for 24hrs		
1-2-4	Low		Temperatu	ıre: -40±3°ℂ			
	Temperature Resistance		Relative H	umidity: 0% / Time: 500hrs			
			Measured	after exposure in the room co	ondition for 24hrs		



BDHH00201610 Series Specification



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
温度範圍 Temp.scope	R.T. ~150°C	150℃ ~ 200℃	217℃	260±5°C	Peak Temp. ~ 150℃
標準時間 Time spec.	12722	60 ~ 180 sec	60 ~ 150 sec	20 ~ 40 sec	-
實際時間 Time result	_	75 ~ 100 sec	90 ~ 120 sec	20 ~ 35 sec	3-3

NOTE:

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



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10 Packaging:

10.1 Packaging -Cover Tape

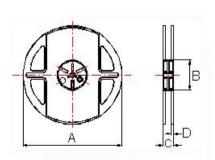
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



10.2 Packaging Quantity

TYPE	PCS/REEL
201610	3000

10.3 Reel Dimensions



Dimensions in mm

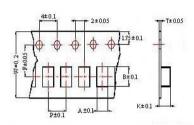
TYPE	Α	В	С	D
201610	178	60	12	1.5

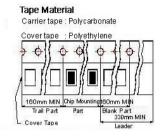


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10 Packaging:

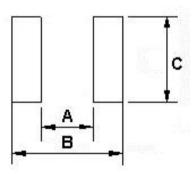
10.4 Tape Dimensions in mm





TYPE	Α	В	T	W	Р	F	K
201610	1.80	2.20	0.22	8	4	3.5	1.15

11 Recommended Land Pattern:



Dimensions in mm

TYPE	А	В	С
201610	0.7	2.3	1.8

12 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. After manufacturing process, there might be slight irregular shape on the edge of the products, and it's a normal phenomenon that can be neglected
- 6. The moisture sensitivity level (MSL) of products is classified as level 1.



13 Graph:

ISO9001 ISO14001 IATF16949 CHILISIN ELECTRONICS CORP.

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