

RF Inductor



BWLM Series



Overview

Wire-wound RF inductors are electronic components designed to store energy in a magnetic field when electrical current passes through them. They are constructed by winding a conductive wire (usually copper or gold-plated) around a core material such as air, ceramic, or ferrite.

This configuration allows them to provide high inductance values with minimal power loss, especially at high frequencies.

Benefits

1. Low DCR & better Q value in ferrite series
2. Ceramic body and wire wound construction provide high SRFs
3. Very strong solderability by reflow soldering and soldering iron
4. High Current Handling
5. Terminals are highly resistant to external forces

Applications

1. Telecom and datacom applications such as XDSL
2. Cable modem
3. Set-top box
4. CATV filter/tuner
5. Wireless LAN, etc

Product Information

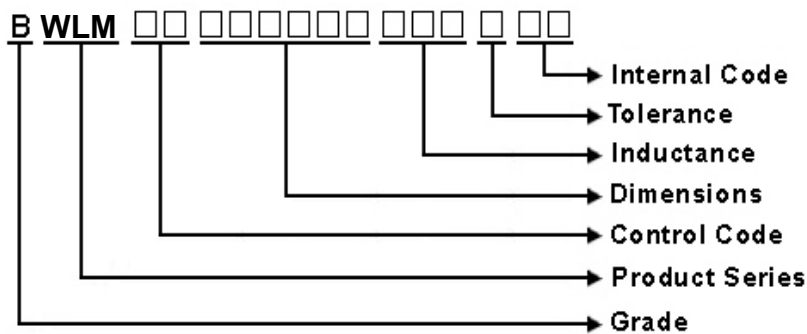
Series	Size Code (JIS/EIA)	Inductance (nH)
BWLM	1005/0402 1608/0603	4.9 ~ 650



BWLM00110706 Series Specification

1 Scope: This specification applies to Wire Wound Ferrite Chip Inductors

2 Part numbering:



3 Rating:

Operating Temperature: - 40°C ~ 125°C
(Including self - temperature rise)

Storage Temperature: - 40°C ~ 125°C
(The storage temperature range is for after the assembly)

4 Marking:

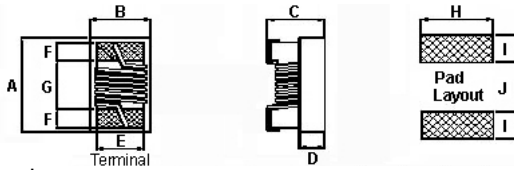
No Marking

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

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6 Configuration and Dimensions and Unit Weight:



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H	I	J
110706	1.1±0.1	0.7±0.1	0.6±0.1	0.25	0.5	0.25	0.5	0.6	0.5	0.4

Net Weight (grms)

SIZE CODE	Net Weight (grms)
110706	0.0012 (typ.)

7 Electrical Characteristics:

Part No.	Inductance (nH)	L Test Freq. (MHz)	SRF (MHz)Min.	RDC (Ω)Max.	I _{rms} (mA)Max.	Tolerance
BWLM0011070618N□00	18	100	3000	0.046	1400	J
BWLM0011070633N□00	33	100	1800	0.065	1300	J
BWLM0011070648N□00	48	100	1400	0.078	1100	J
BWLM0011070670N□00	70	100	1300	0.12	820	J
BWLM0011070696N□00	96	100	1100	0.16	730	J
BWLM00110706R13□00	130	100	1000	0.23	640	J
BWLM00110706R16□00	160	100	900	0.33	480	J
BWLM00110706R20□00	200	100	800	0.47	390	J

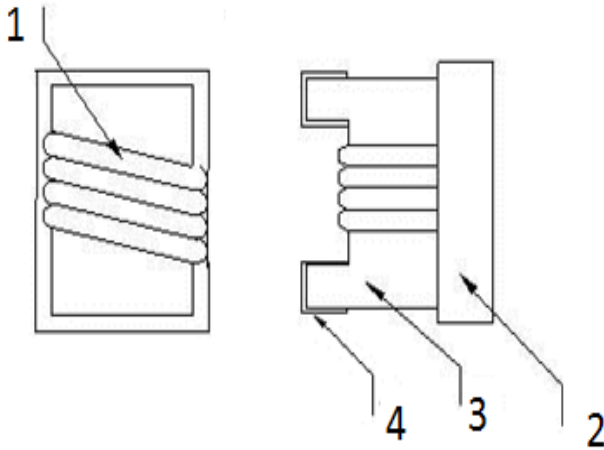
NOTE: □-tolerance J=±5%

1. Operating temperature range -40°C ~ 125°C (Including self - temperature rise)
2. L/Q Test OSC @200mV.
3. I_{rms} for a 20°C temperature rise from 25°C ambient.
4. Inductance would be correct Chilisin standard piece.
5. Offset value : -0.556nH

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8.1 Construction::



8.2 Material List:

NO	PART	MATERIAL
1	WIRE	Grade 180
2	EPOXY	UV GLUE
3	CORE	FERRITE CORE
4	TERMINAL	Ag/Ni/Sn

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9 Reliability Of Ferrite Wire Wound Chip Inductor/FERRITE SERIES

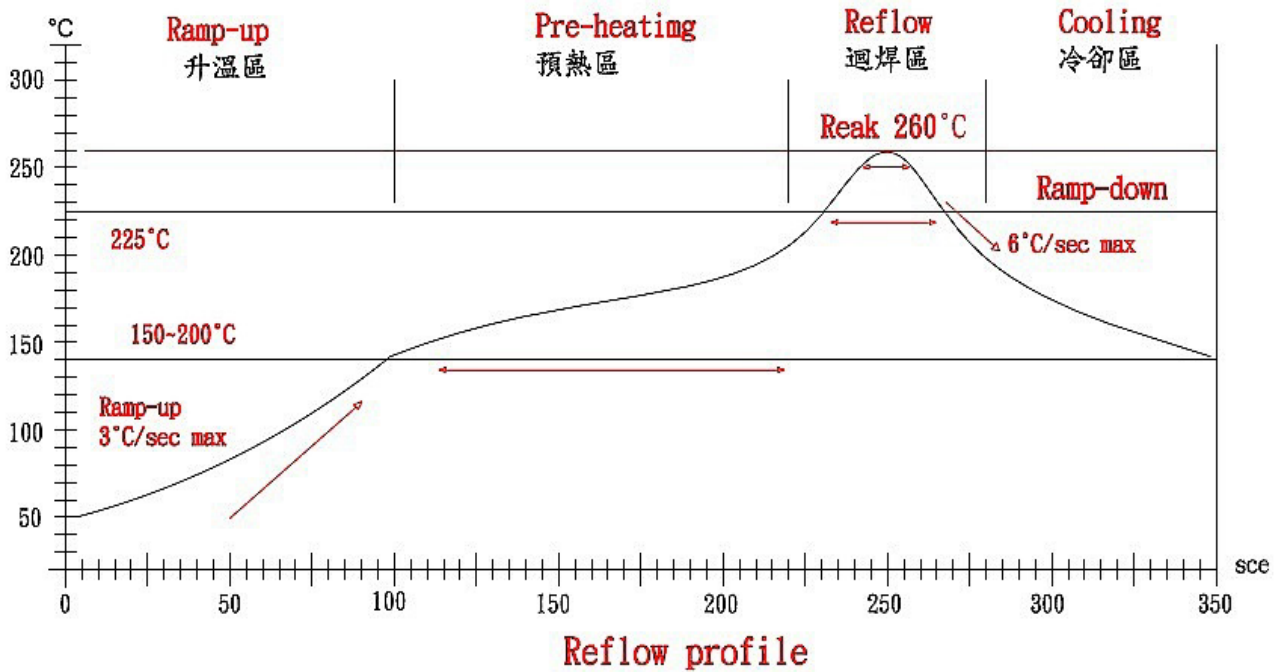
1-1. Environmental Performance

No	Item	Specification	Test Method															
1-1-1	Temperature Cycle	Appearance: No Damage Inductance: within $\pm 10\%$ of initial value Q change: within $\pm 30\%$ of initial value	One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature ($^{\circ}\text{C}$)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40 ± 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 ($^{\circ}\text{C}$)	Time (min)	1	-40 ± 3	30	2	25 ± 2	3	3	125 ± 3	30	4	25 ± 2	3
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1	-40 ± 3	30																
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3	125 ± 3	30																
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1-1-2	High Temperature Resistance		Total: 5 cycles Measured After Exposure in The Room Condition For 1hrs Temperature: $125 \pm 3^{\circ}\text{C}$ Time: 1000Hrs															
1-1-3	Low Temperature Resistance		Measured After Exposure In The Room Condition For 1Hrs Temperature: $-40 \pm 3^{\circ}\text{C}$ Time: 1000Hrs															
1-1-4	Humidity Load Life	There should be no evidence of short or open circle	Measured After Exposure In The Room Condition For 1Hrs Temperature: $40 \pm 2^{\circ}\text{C}$ Relative Humidity: 90~95% Load: Allowed DC Current Time: 96Hrs															

1-2. Mechanical Performance

No	Item	Specification	Test Method
1-2-1	Resistance TO Soldering Heat	Appearance: No Damage	1. The device should be reflow soldered on PCB (peak $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 10 seconds) 2. Solder Composition: Sn/Ag3.0/Cu0.5 3. Test time: 6 minutes
1-2-2	Solder ability	The electrodes shall be at least 95% covered with new solder coating	1. Pre-Heating: 150°C , 1min. 2. Solder Composition: Sn/Ag3.0/Cu0.5 3. Solder Temperature: $245 \pm 5^{\circ}\text{C}$. 4. Immersion Time: 4 ± 1 sec.
1-2-3	Component Adhesion (Push Test)	1 Lbs. For LS0402 / LM0402 / LS0603 2 Lbs. For NL201614 2 Lbs. For LS0805 2 Lbs. For LT0805 2 Lbs. For LD0805 4 Lbs. For The Rest	The device should be reflow soldered ($245 \pm 5^{\circ}\text{C}$ For 10 seconds) to a tinned copper substrate. A force gauge should be applied to the side of the component. The device must withstand a minimum force of 1or2or4 pounds without a failure of the termination attached to component

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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°C	150°C ~ 200°C	Above 217°C	260±5°C	Peak Temp.~150°C
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:

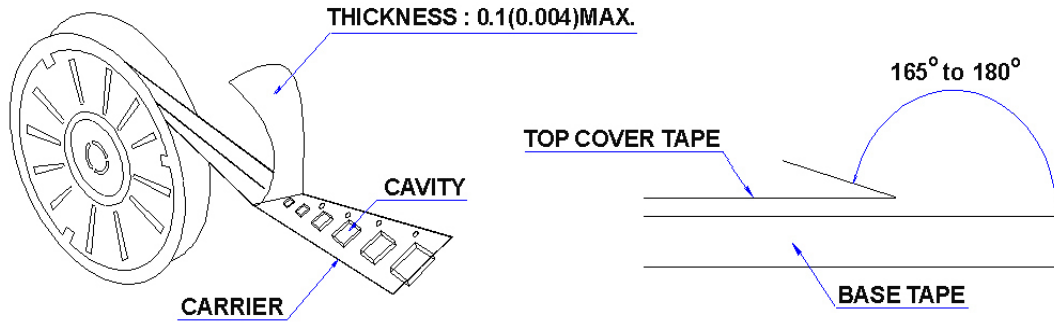
- 1.Re-flow possible times : within 3 times
- 2.Nitrogen adopted is recommends while in re-flow
- 3.Products can only be soldered with reflow

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10 Packaging:

10.1 Packaging -Cover Tape

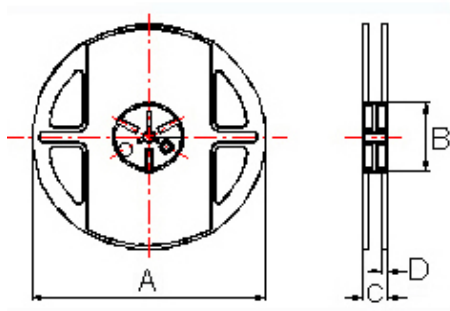
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



10.2 Packaging Quantity

TYPE	PCS/REEL
110706	4000

10.3 Reel Dimensions



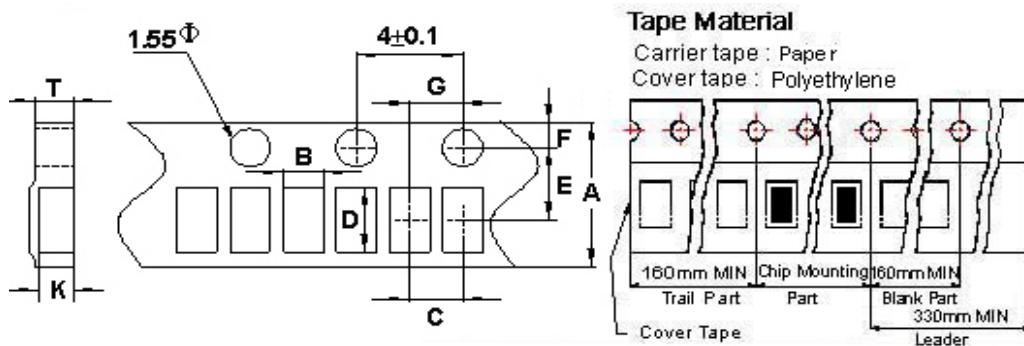
Dimensions in mm

TYPE	A	B	C	D
110706	178±1	60±0.5	12±0.5	1.5±0.5

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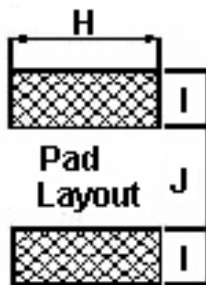
10 Packaging:

10.4 Tape Dimensions in mm



TYPE	A	B	C	D	E	F	G	T	K
110706	8.0	0.80	2	1.20	3.5	1.75	2	0.75	0.62

11 Recommended Land Pattern:



Dimensions in mm

TYPE	H(In/mm)	I(In/mm)	J(In/mm)
1170706	0.6	0.5	0.4

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. The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).

If the storage period elapses, the soldering of the terminal electrodes may deteriorate.

5. Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
6. The moisture sensitivity level (MSL) of products is classified as level 1.

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13 Graph:

