

# RF Inductor



## BWLS 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. High Q-Factor (Quality Factor)
2. Ceramic body and wire wound construction provide high SRFs
3. Low DC resistance design
4. High Current Handling
5. Low inductance value

### Applications

1. Industrial and Medical Equipmen: RFID systems and medical imaging equipment.
2. Data Centers
3. Networking
4. Base Station
5. Consumer Electronics
6. Security system

### Product Information

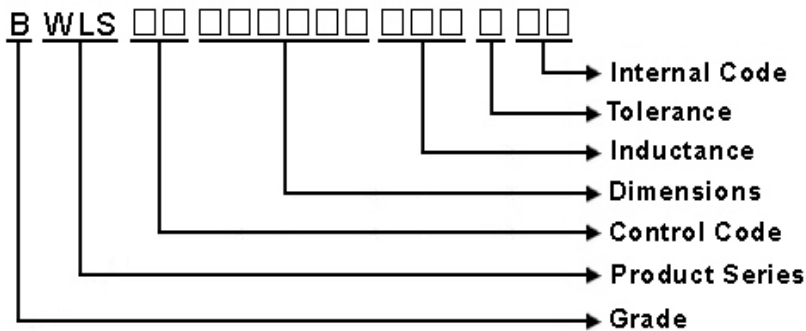
Series	Size Code (JIS/EIA)	Inductance (nH)
BWLS	0603/0201	0.0047 ~ 560
	1005/0402	
	1608/0603	
	2012/0805	
	2520/1008	



## BWLS00100606 Series Specification

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

**2 Part numbering:**



**3 Rating:**

Operating Temperature: - 40°C ~ 105°C  
(Including self - temperature rise)

Storage Temperature: - 40°C ~ 105°C  
(The storage temperature range is for after the assembly)

**4 Marking:**

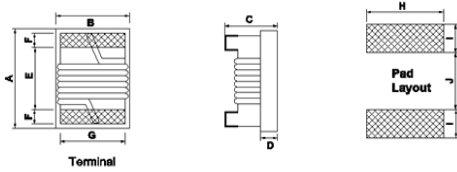
**No Marking**

**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

## BWLS00100606 Series Specification

### 6 Configuration and Dimensions and Unit Weight:



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H	I	J
100606	1.02±0.1	0.55±0.1	0.56±0.1	0.25ref	0.54	0.23	0.50	0.65	0.38	0.44

Net Weight (grms)

SIZE CODE	Net Weight (grms)
100606	0.001 (typ.)

### 7 Electrical Characteristics:

Part No.	Inductance (nH)	L/Q Test Freq. (MHz)	Q Typ.	SRF (MHz)Typ.	RDC (Ω)Max.	I <sub>rms</sub> (mA)Max.	Tolerance (±%)
BWLS0010060618N□00	18	100	10	2600	0.055	1600	5,10
BWLS0010060620N□00	20	100	10	2600	0.05	1600	5,10
BWLS0010060622N□00	22	100	10	2500	0.072	1300	10
BWLS0010060633N□00	33	100	10	2300	0.06	1400	5,10
BWLS0010060636N□00	36	100	10	2300	0.092	1000	5,10
BWLS0010060639N□00	39	100	10	2200	0.15	830	5,10
BWLS0010060651N□00	51	100	10	1930	0.07	1100	10
BWLS0010060656N□00	56	100	10	1900	0.125	900	10
BWLS0010060672N□00	72	100	10	1650	0.1	900	5,10
BWLS0010060678N□00	78	100	10	1600	0.19	850	5,10
BWLS00100606R10□00	100	100	9	1400	0.16	900	10
BWLS00100606R14□00	140	50	11	1220	0.26	540	5,10
BWLS00100606R16□00	160	50	11	1200	0.32	560	5,10
BWLS00100606R18□00	180	50	11	1150	0.33	560	5,10
BWLS00100606R20□00	200	50	11	1000	0.44	400	5,10
BWLS00100606R22□00	220	50	11	1150	0.53	380	5,10
BWLS00100606R25□00	250	25	11	900	0.36	520	5,10
BWLS00100606R27□00	270	25	11	860	0.55	360	5,10
BWLS00100606R30□00	300	25	11	860	0.41	420	5,10
BWLS00100606R33□00	330	7.9	11	820	0.68	350	5,10
BWLS00100606R36□00	360	7.9	11	810	0.575	360	5,10
BWLS00100606R39□00	390	7.9	11	760	0.89	300	5,10
BWLS00100606R42□00	420	7.9	11	700	1.1	340	5,10
BWLS00100606R47□00	470	7.9	11	650	0.73	310	10
BWLS00100606R56□00	560	7.9	11	600	1.1	200	5,10

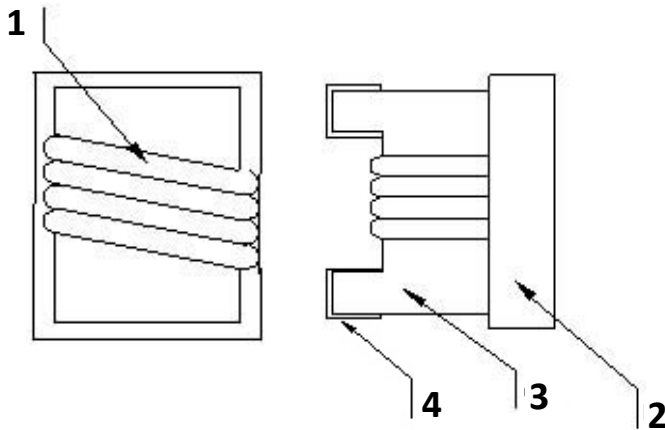
**NOTE:** □-tolerance J=±5% / K=±10%

1. Operating temperature range - 40°C ~ 105°C (Including self - temperature rise)
2. L/Q Test OSC @200mV.
3. I<sub>rms</sub> for a 15°C temperature rise from 25°C ambient.
4. weight: 1(mg) typ.

## BWLS00100606 Series Specification

### 8 BWLS00100606 Series

#### 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/Cu/Ni/Sn

## BWLS00100606 Series Specification

### 9 Reliability Of Ferrite Wire Wound Chip Inductor/FERRITE SERIES

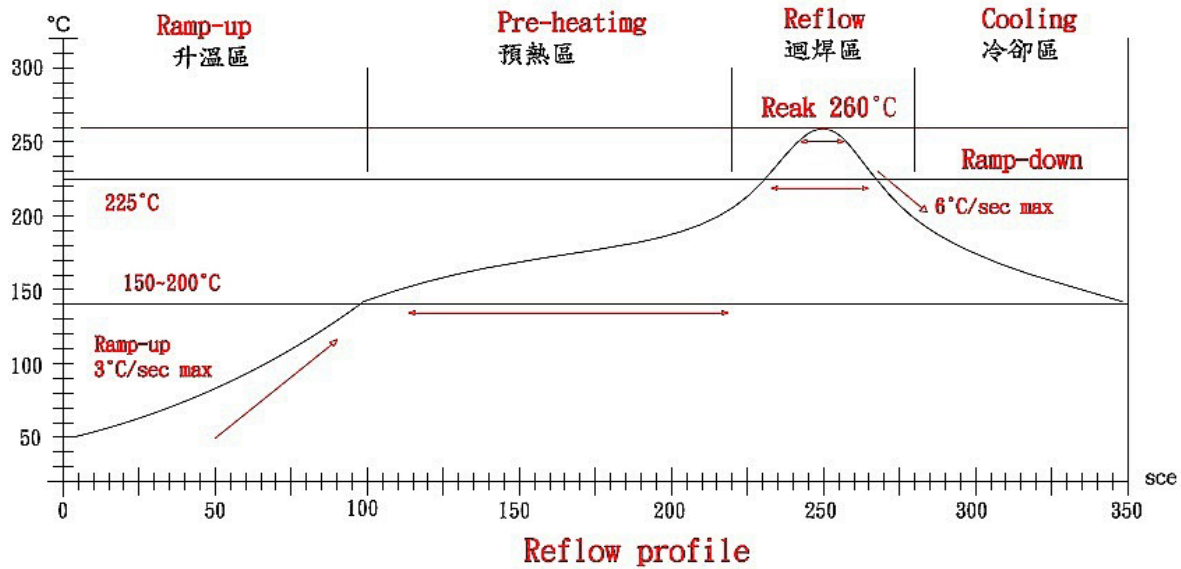
#### 1-1.Environmental Performance

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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Step</th> <th>Temperature (<math>^{\circ}\text{C}</math>)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> <tr> <td>3</td> <td>105<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature ( $^{\circ}\text{C}$ )	Time (min)	1	-40 $\pm$ 3	30	2	25 $\pm$ 2	3	3	105 $\pm$ 3	30	4	25 $\pm$ 2	3
Step	Temperature ( $^{\circ}\text{C}$ )	Time (min)																
1	-40 $\pm$ 3	30																
2	25 $\pm$ 2	3																
3	105 $\pm$ 3	30																
4	25 $\pm$ 2	3																
1-1-2	High Temperature Resistance		Temperature: 105 $\pm$ 3 $^{\circ}\text{C}$ Time: 1000Hrs Measured After Exposure In The Room Condition For 1Hrs															
1-1-3	Low Temperature Resistance		Temperature: -40 $\pm$ 3 $^{\circ}\text{C}$ Time: 1000Hrs Measured After Exposure In The Room Condition For 1Hrs															
1-1-4	Humidity Load Life	There should be no evidence of short or open circle	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 $^{\circ}\text{C}$ , 1min. 2. Solder Composition: Sn/Ag3.0/Cu0.5 3. Solder Temperature: 245 $\pm$ 5 $^{\circ}\text{C}$ . 4. Immersion Time: 4 $\pm$ 1 sec.
1-2-3	Component Adhesion (Push Test)	1 Lbs. For LS0402 / 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

**BWLS00100606 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	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:**

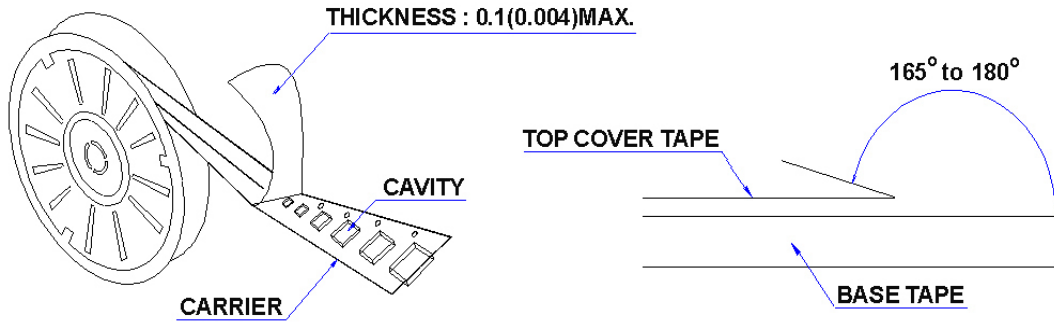
- 1.Re-flow possible times : within 3 times
- 2.Nitrogen adopted is recommends while in re-flow
- 3.Products can only be soldered with reflow

# BWLS00100606 Series Specification

## 10 Packaging:

### 10.1 Packaging -Cover Tape

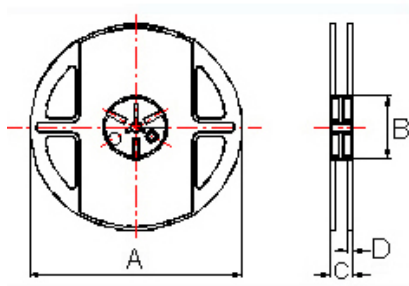
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



### 10.2 Packaging Quantity

TYPE	PCS/REEL
100606	4000

### 10.3 Reel Dimensions



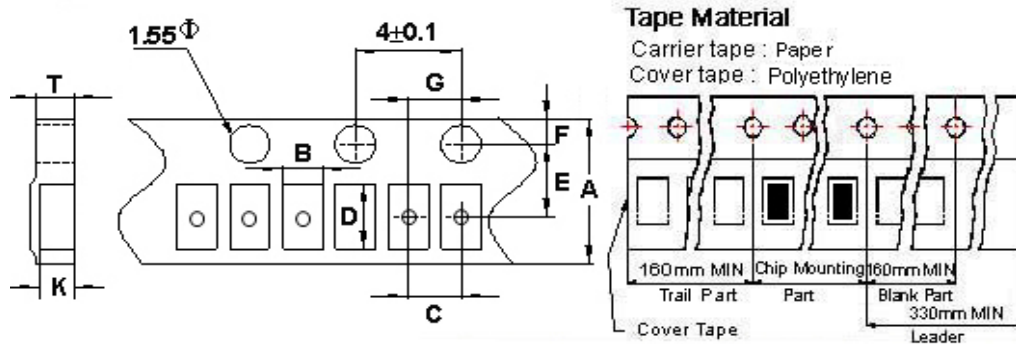
Dimensions in mm

TYPE	A	B	C	D
100606	178±1	60±0.5	12±0.5	1.5±0.5

## BWLS00100606 Series Specification

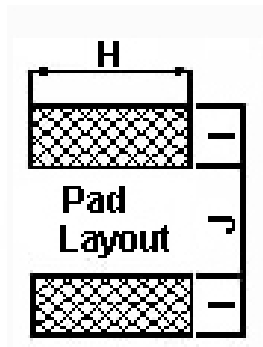
### 10 Packaging:

#### 10.4 Tape Dimensions in mm



TYPE	A	B	C	D	E	F	G	T	K
100606	8.0	0.67	2	1.20	3.5	1.75	2	0.75	0.59

### 11 Recommended Land Pattern:



Dimensions in mm

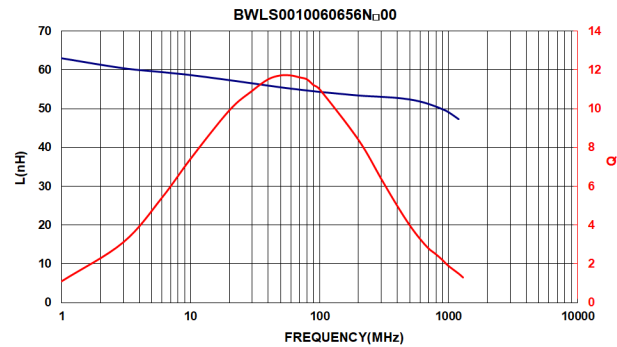
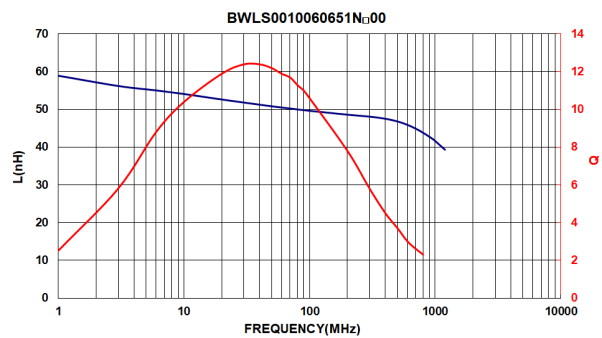
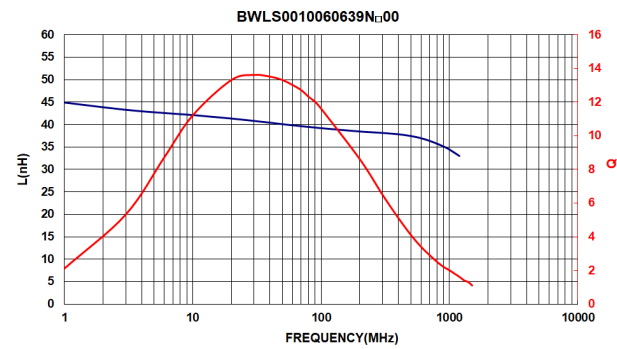
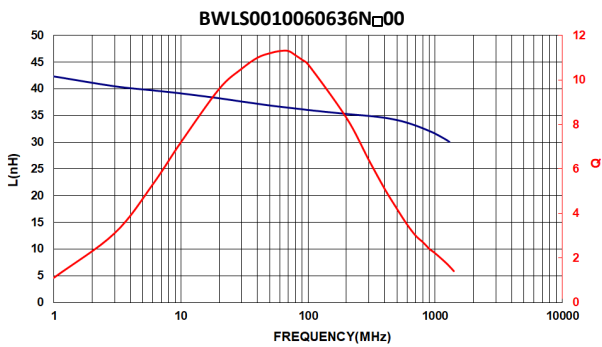
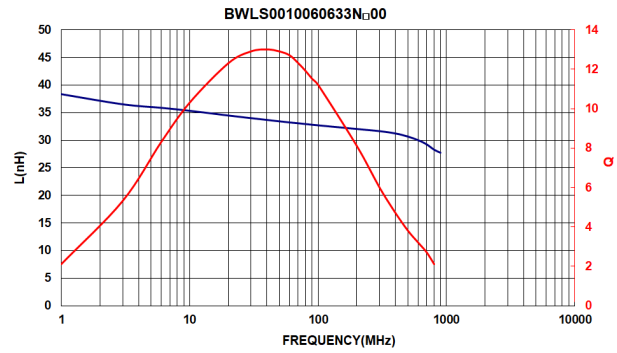
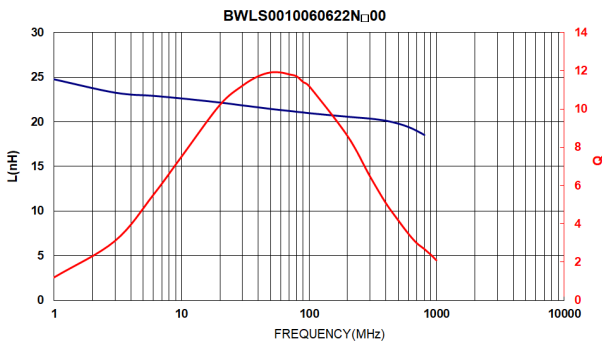
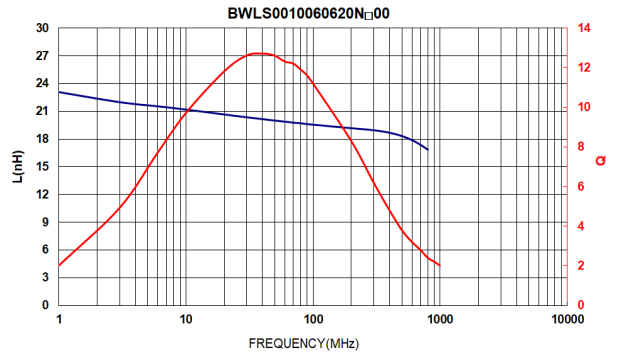
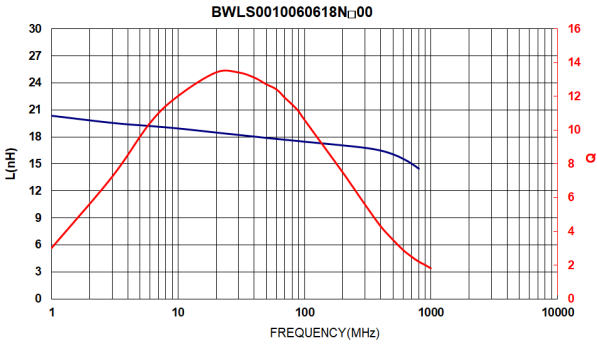
TYPE	H(In/mm)	I(In/mm)	J(In/mm)
100606	0.025/0.65	0.14/0.38	0.017/0.44

### 12 Note:

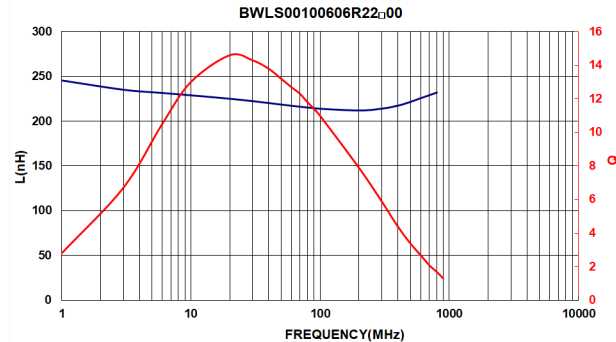
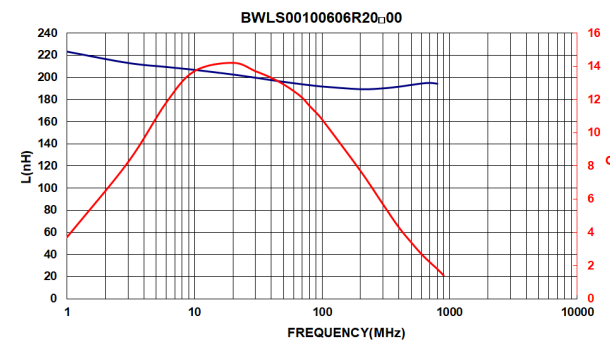
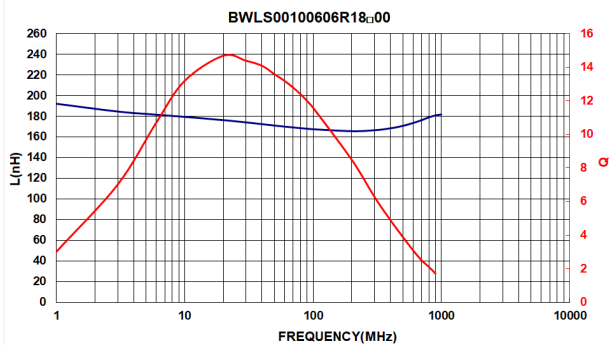
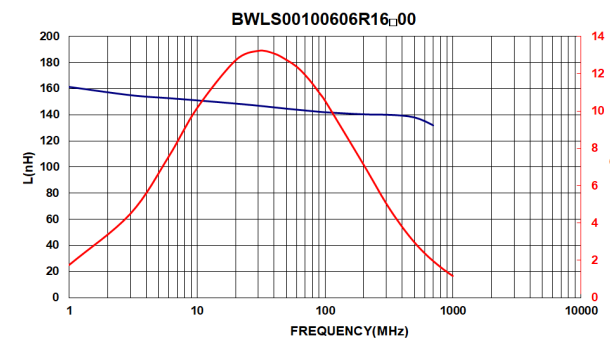
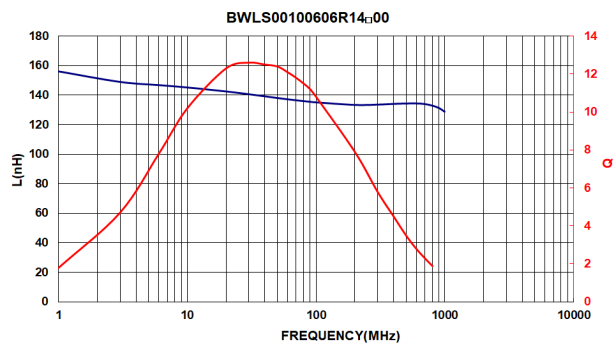
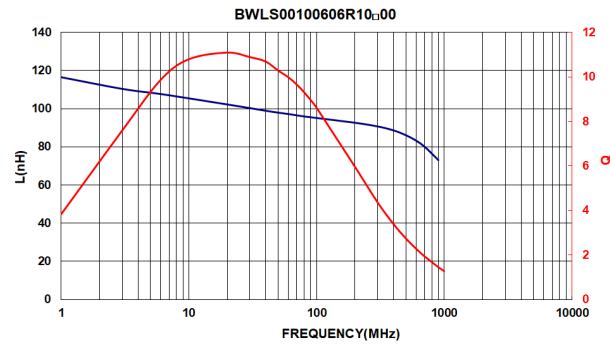
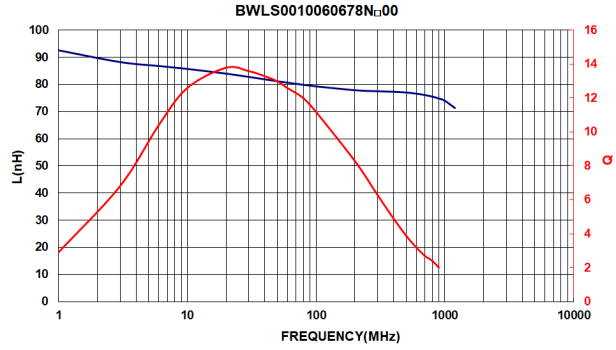
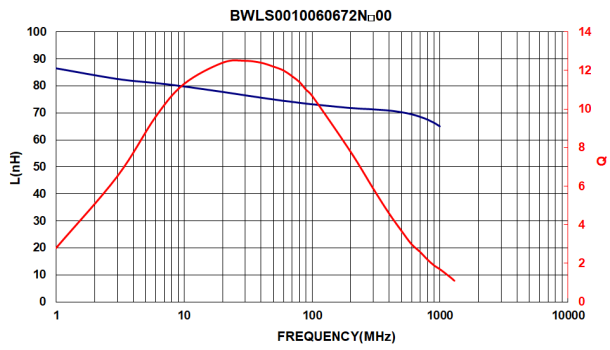
- Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
- Do not knock nor drop.
- All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose, 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.
- 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.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- The moisture sensitivity level (MSL) of products is classified as level 1.

# BWLS00100606 Series Specification

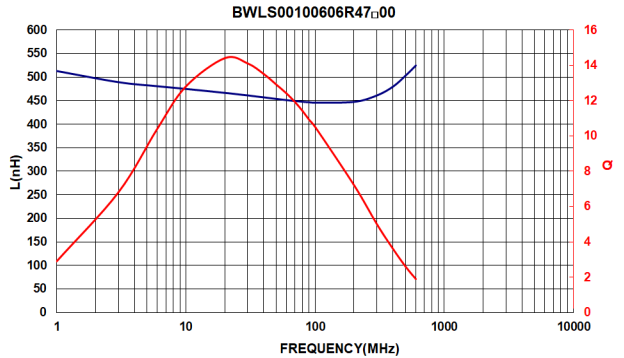
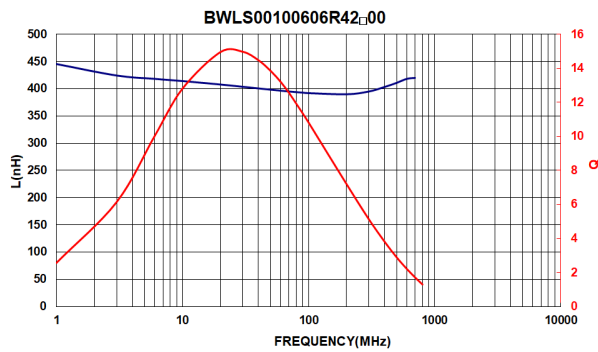
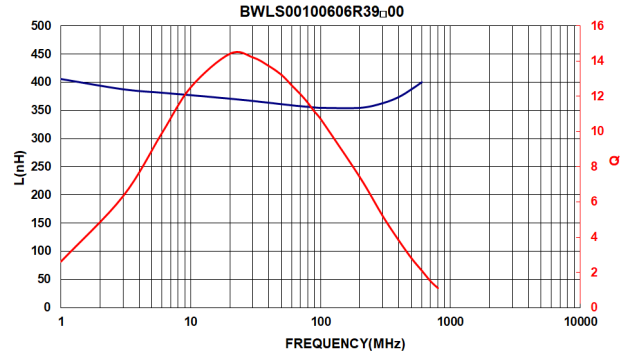
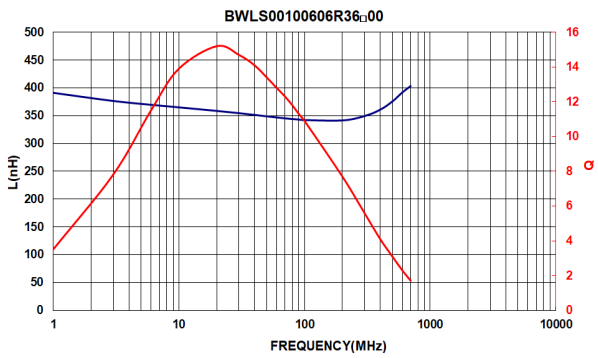
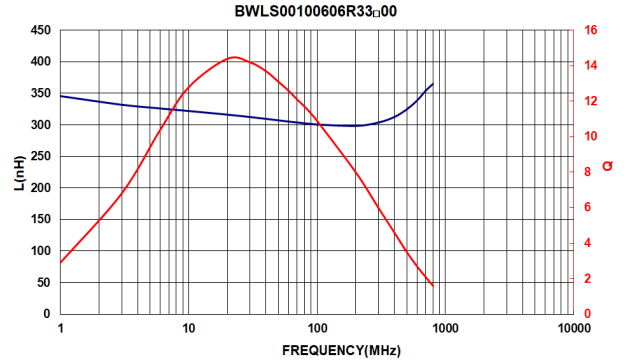
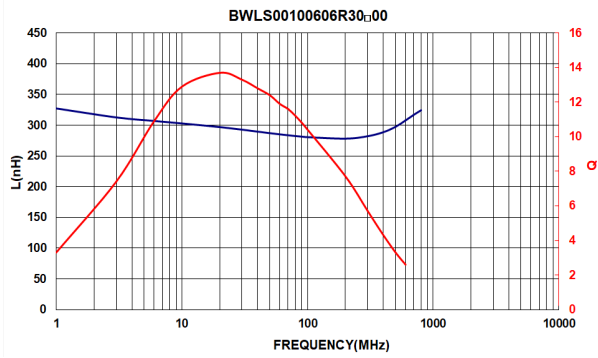
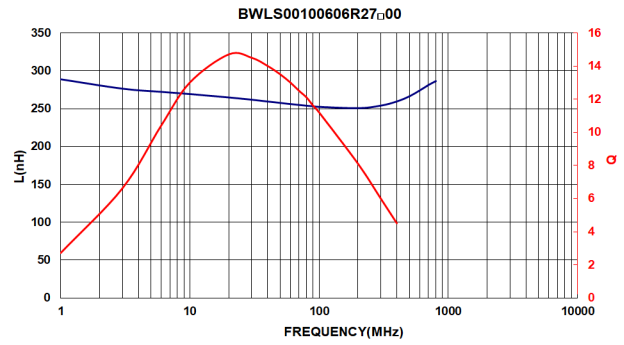
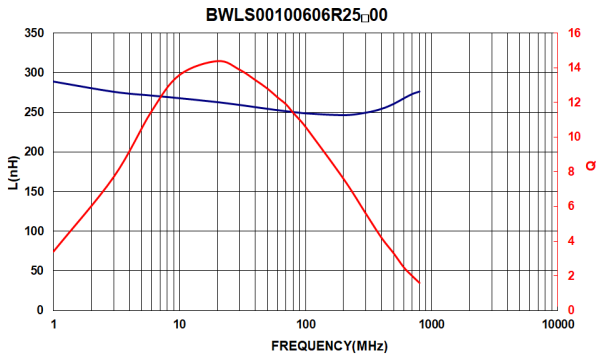
## 13 Graph:



# BWLS00100606 Series Specification



# BWLS00100606 Series Specification



## BWLS00100606 Series Specification

