RF Inductor

BWLT 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

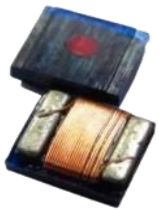
1. High Q-Factor (Quality Factor)
2. Ceramic body and wire wound construction provide high SRFs
3. Low profile
4. High Current Handling
5. Can maintain excellent thermal stability at different temperatures

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

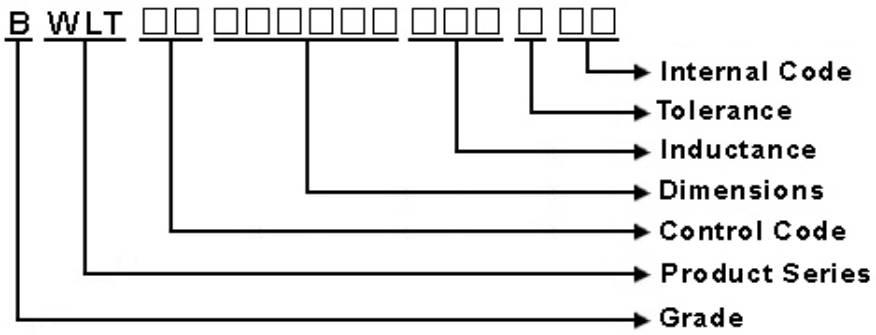
Series	Size Code (JIS/EIA)	Inductance (nH)
BWLT	2012/0805 3225/1210	0.12 ~ 39



BWLT00373110 Series Specification

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

2 Part Numbering:

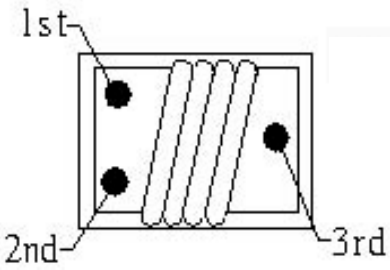


3 Rating:

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:



EX : 1R0
Marking: 1st→Brown
2nd→Black
3rd→Red

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

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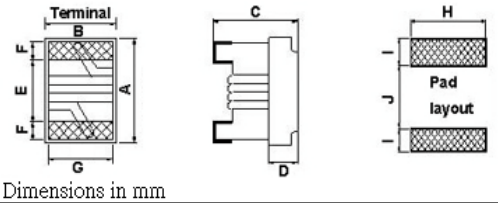
6 Configuration and Dimensions and Unit Weight:



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H	I	J
373110	3.75Max	3.1Max	1.05Max	0.65	1.8	0.65	2.35	2.70	1.0	2.0

7 Electrical Characteristics:

Part No.	Inductance (uH)	L/Q Test Freq. (MHz)	QTyp.	SRF (MHz)Min.	RDC (Ω)Max.	IDC (mA)	Tolerance (±%)	Color Code 1st	2nd	3rd
BWLT003731101R0□00	1	7.96/7.96	20	350	0.45	1500	5,10	BRN	BLK	RED
BWLT003731101R2□00	1.2	7.96/7.96	20	330	0.49	1300	5,10	BRN	RED	RED
BWLT003731101R5□00	1.5	7.96/7.96	20	310	0.68	1200	5,10	BRN	GRN	RED
BWLT003731101R8□00	1.8	7.96/7.96	20	290	0.72	1150	5,10	BRN	GRY	RED
BWLT003731102R2□00	2.2	7.96/7.96	20	270	1.02	1020	5,10	RED	RED	RED
BWLT003731102R7□00	2.7	7.96/7.96	20	265	1.15	1000	5,10	RED	VIO	RED
BWLT003731103R3□00	3.3	7.96/7.96	20	195	1.2	970	5,10	ORN	ORN	RED
BWLT003731103R9□00	3.9	7.96/7.96	20	170	1.35	910	5,10	ORN	WHT	RED
BWLT003731104R7□00	4.7	7.96/7.96	20	155	1.48	880	5,10	YEL	VIO	RED
BWLT003731105R6□00	5.6	7.96/7.96	20	125	1.65	820	5,10	GRN	BLU	RED
BWLT003731106R8□00	6.8	7.96/7.96	20	110	1.68	750	5,10	BLU	GRY	RED
BWLT003731108R2□00	8.2	7.96/7.96	20	100	1.88	700	5,10	GRY	RED	RED
BWLT00373110100□00	10	2.52/2.52	16	85	2.9	610	5,10	BRN	BLK	ORN
BWLT00373110120□00	12	2.52/2.52	16	70	3.05	540	5,10	BRN	RED	ORN
BWLT00373110150□00	15	2.52/2.52	16	65	3.45	500	5,10	BRN	GRN	ORN
BWLT00373110180□00	18	2.52/2.52	16	55	4.79	420	5,10	BRN	GRY	ORN
BWLT00373110220□00	22	2.52/2.52	16	50	5.2	350	5,10	RED	RED	ORN

NOTE: □-tolerance J=±5% / K=±10% X

1.Operating temperature range - 40°C ~ 105°C(Including self - temperature rise)

2.L/Q Test OSC @200mV.

3.IDC for Inductance drop 10% from its value without current.

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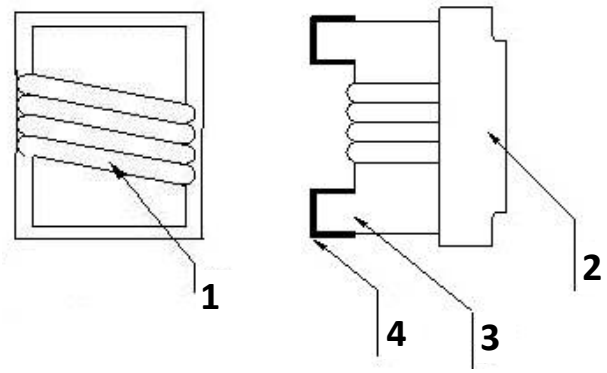
8 BWLT00373110 Series

8.1 Construction:



8.2 Material List:

ITEM	PART	DESCRIPTION
1	WIRE	COPPER 180
2	EPOXY	UV GLUE
3	CORE	FERROTE
4	TERMINAL	Ag/Cu/Ni/Sn

BWLT00373110 Series Specification

9 Reliability Of Ferrite Wire Wound Chip Inductor/FERRITE SERIES

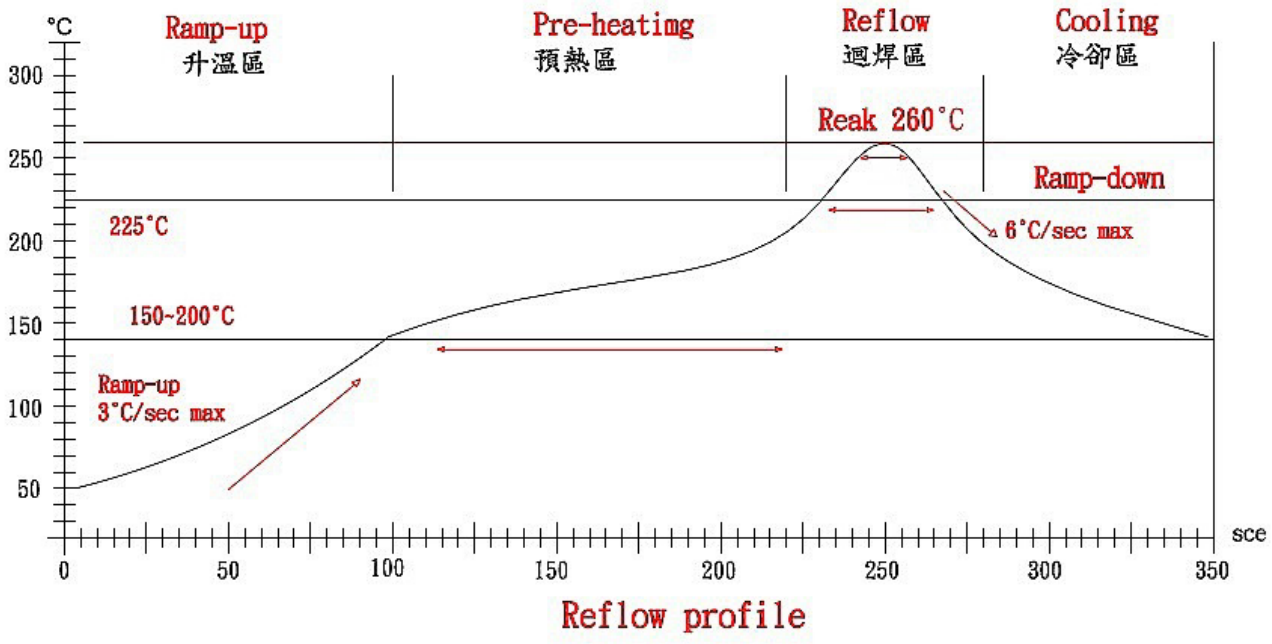
1-1.Environmental Performance

<table>
<tr><th>No</th><th>Item</th><th>Specification</th><th>Test Method</th></tr>
<tr><td>1-1-1</td><td>Temperature Cycle</td><td rowspan="3">Appearance: No Damage
Inductance:within±10% of initial value
Q change:within±30% of initial value</td><td>One cycle:
<table>
<tr><th>Step</th><th>Temperature (℃)</th><th>Time (min)</th></tr>
<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>105±3</td><td>30</td></tr>
<tr><td>4</td><td>25±2</td><td>3</td></tr>
</table>
Total: 5 cycles
Measured After Exposure in The Room Condition For 1hrs</td></tr>
<tr><td>1-1-3</td><td>High Temperature Resistance</td><td>Temperature: 105±3°C
Time: 1000Hrs
Measured After Exposure In The Room Condition For 1Hrs</td></tr>
<tr><td>1-1-4</td><td>Low Temperature Resistance</td><td>Temperature: -40±3°C
Time: 1000Hrs
Measured After Exposure In The Room Condition For 1Hrs</td></tr>
<tr><td>1-1-6</td><td>Humidity Load Life</td><td>There should be no evidence of short or open circle</td><td>Temperature: 40±2℃
Relative Humidity: 90~95%
Load: Allowed DC Current
Time:96Hrs</td></tr>
</table>

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℃±5℃ 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℃,1min. 2. Solder Composition: Sn/Ag3.0/Cu0.5 3. Solder Temperature: 245±5℃. 4. Immersion Time: 4±1 sec.
1-2-3	Component Adhesion (Push Test)	1 Lbs. For LS0402 / LS0603 1 Lbs. For LT0603 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±5℃ 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

BWLT00373110 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℃	Above 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 3 times
2.Nitrogen adopted is recommendes while in re-flow
3.Products can only be soldered with reflow

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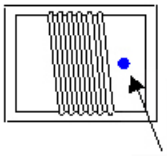
0603/0805/201614 Series

Because of their small size, these parts are marked with a single color dot. The inductance value represented by the dot is shown on the data page for each series.

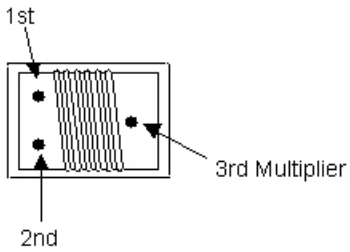


1008/1206/1210/252018/322522 Series

These parts are marked with 3 color dots. The table at right side shows the significance of each color.

Dots 1 and 2 indicate the inductance in nanoHenries.

Dot 3 indicates the number of zeroes to be added.



0=Black	5=Green
1=Brown	6=Blue
2=Red	7=Violet
3=Orange	8=Gray
4=Yellow	9=White

Examples：

Blue, Gray, Red = 6800 nH
Red, Red, Brown = 220 nH
Yellow, Violet, Black = 47 nH

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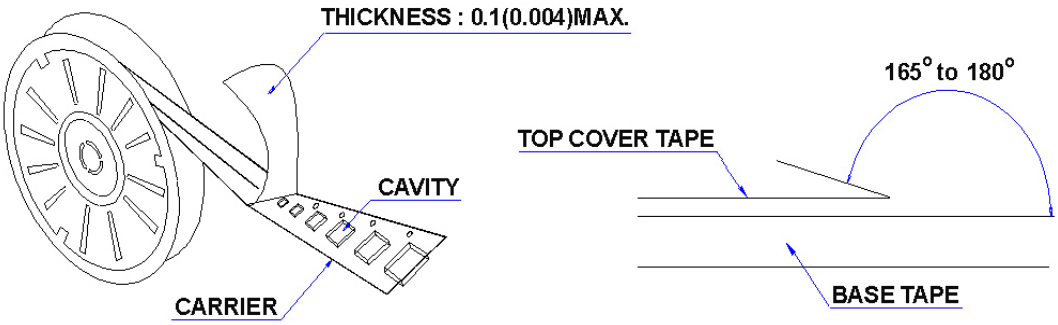
10 Packaging:

10.1 Packaging -Cover Tape

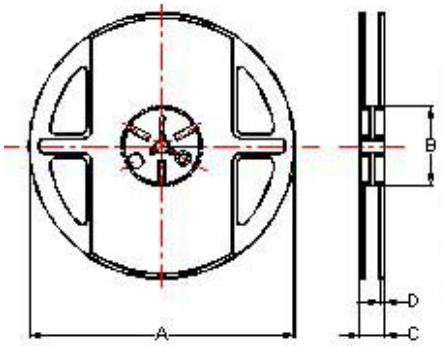
The force for tearing off cover tape is 10 to 130 grams in the arrow direction.



10.2 Packaging Quantity

TYPE	PCS/REEL
373110	2000

10.3 Reel Dimensions



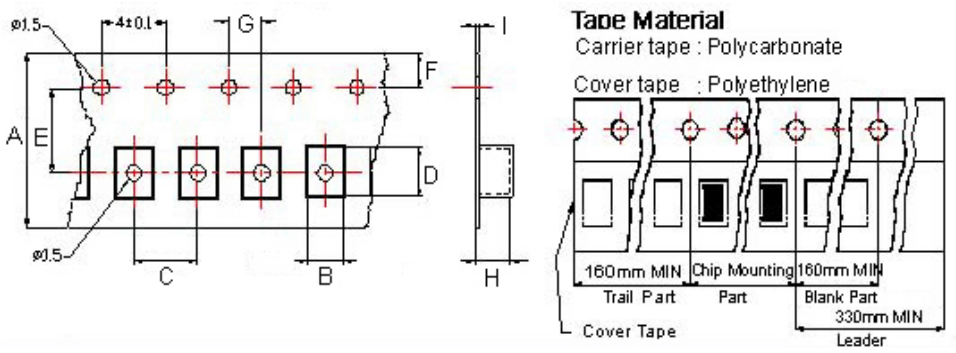
Dimensions in mm

TYPE	A	B	C	D
373110	178±1	60±0.5	12±0.5	1.5±0.5

BWLT00373110 Series Specification

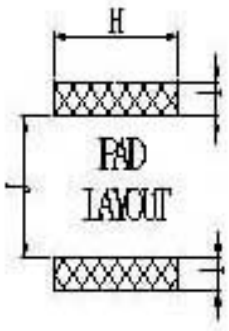
10 Packaging:

10.4 Tape Dimensions in mm



TYPE	A	B	C	D	E	F	G	H	I
373110	12	3.05	4	3.70	5.5	1.75	2	1.1	0.25

11 Recommended Land Pattern:



Dimensions in mm

TYPE	I(In/mm)	J(In/mm)	H(In/mm)
353228	0.039/1.00	0.079/2.00	0.106/2.70

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% RHor 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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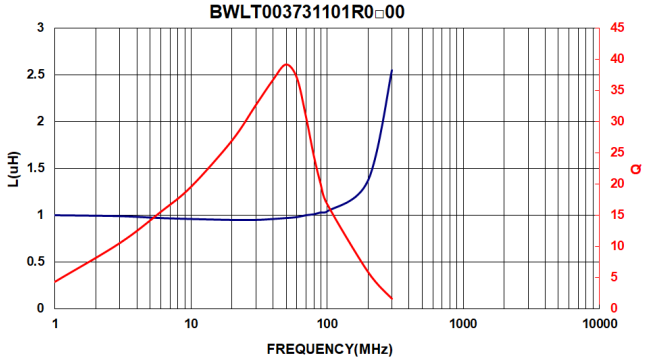
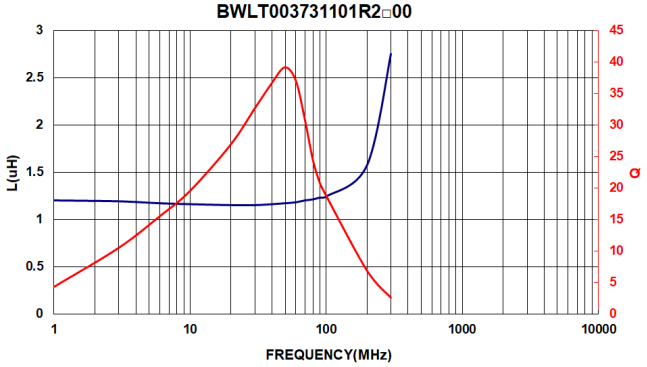
13 Graph:

BWLT003731101R0□00



BWLT003731101R2□00



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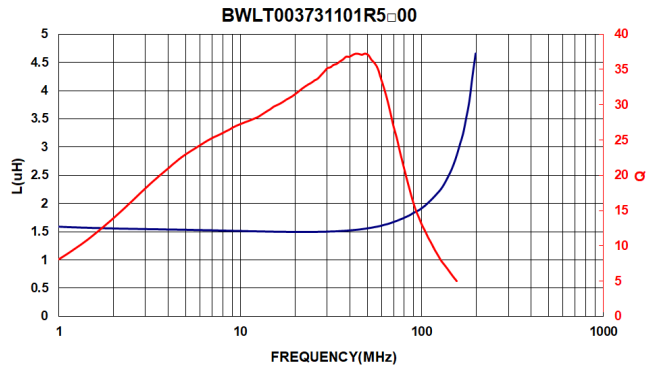

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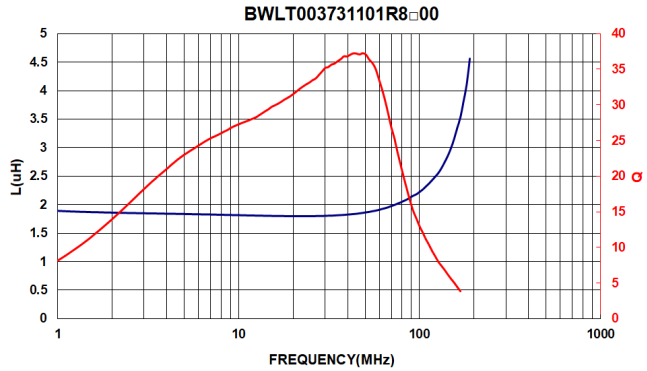

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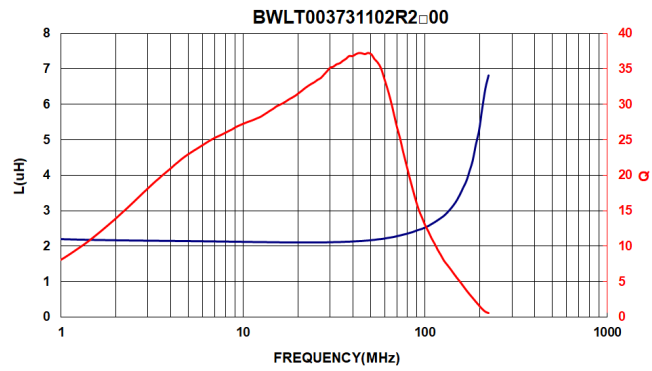

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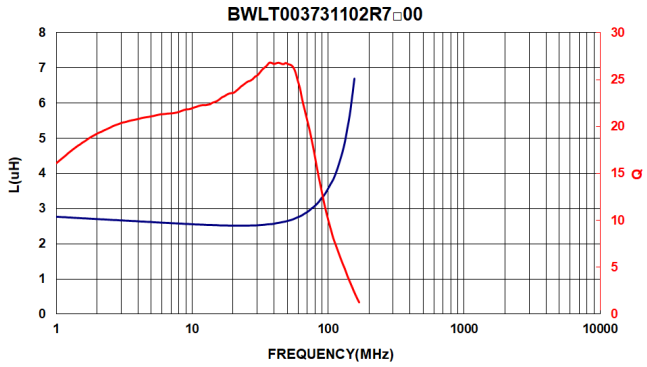

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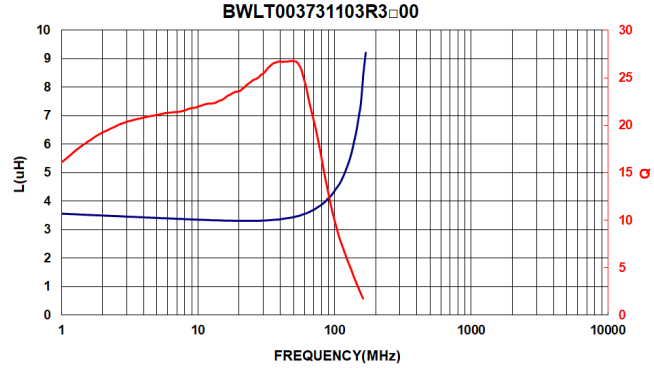

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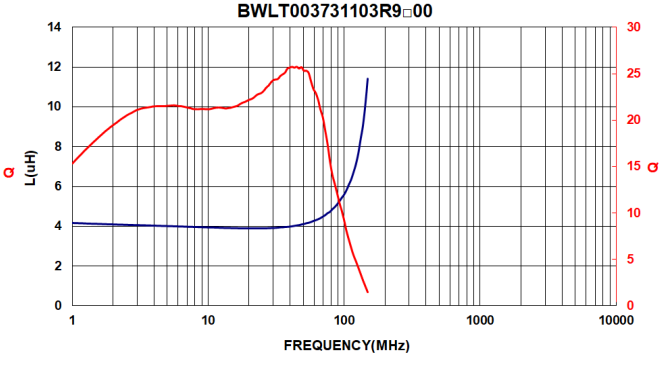

BWLT00373110 Series Specification

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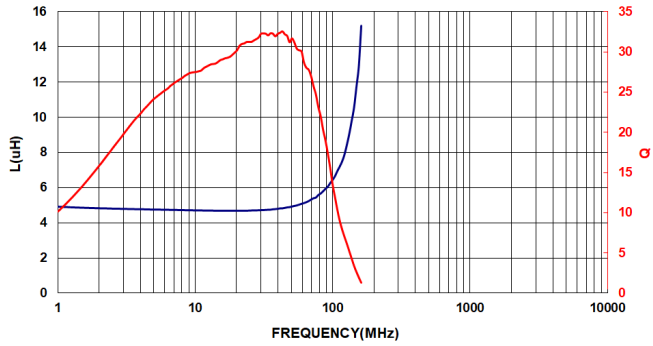

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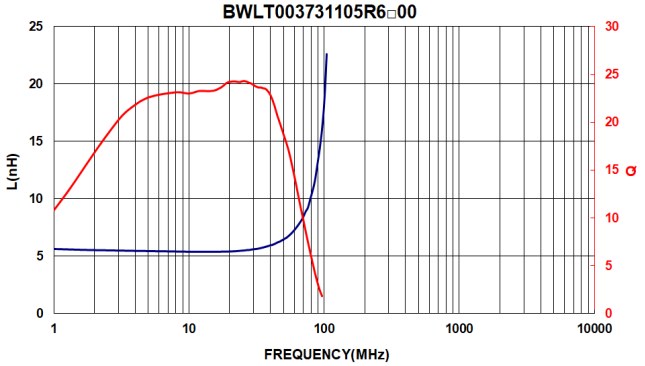

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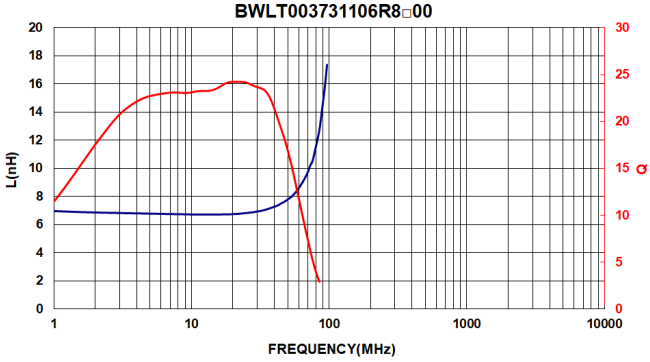

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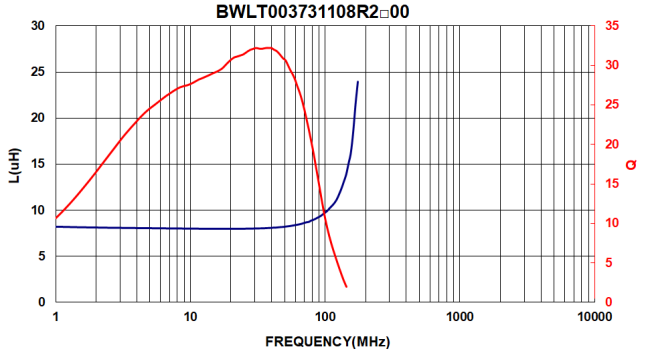

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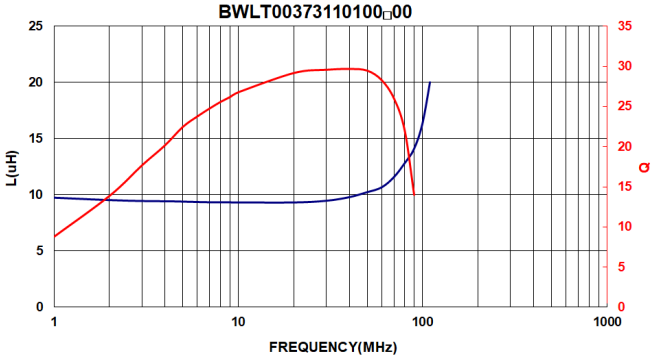

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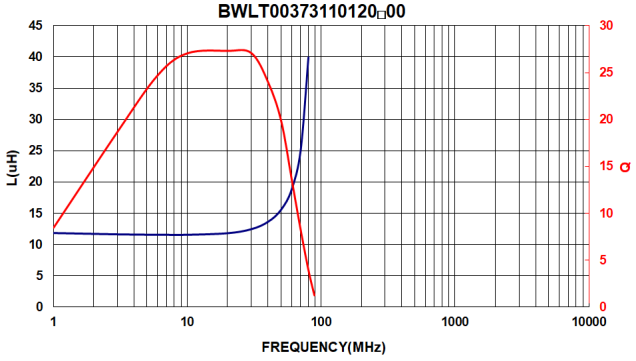

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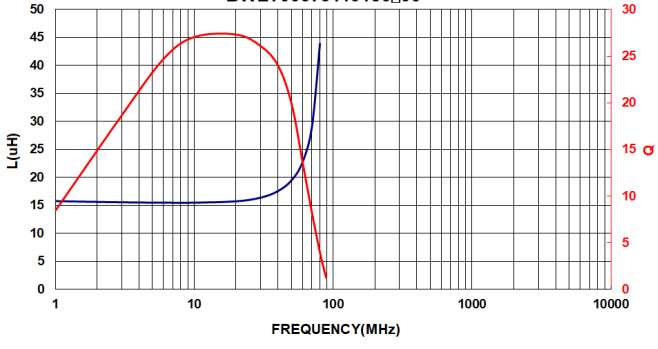

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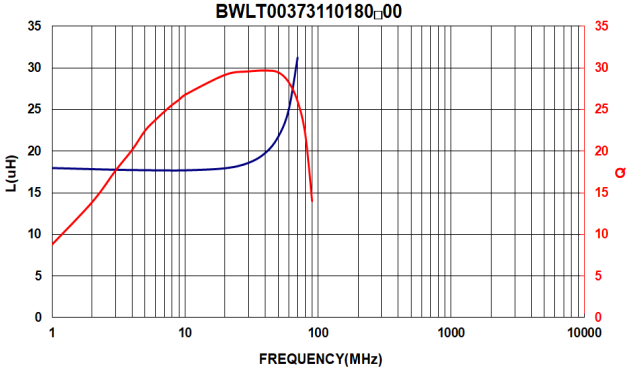

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