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

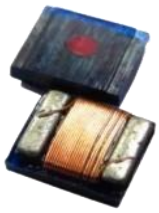
1. High Q-Factor (Quality Factor)
2. Ceramic body and wire wound construction provide high SRFs
3. Low profile
4. High Current Handling
5. Can maintain excellent thermal stability at different temperatures

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

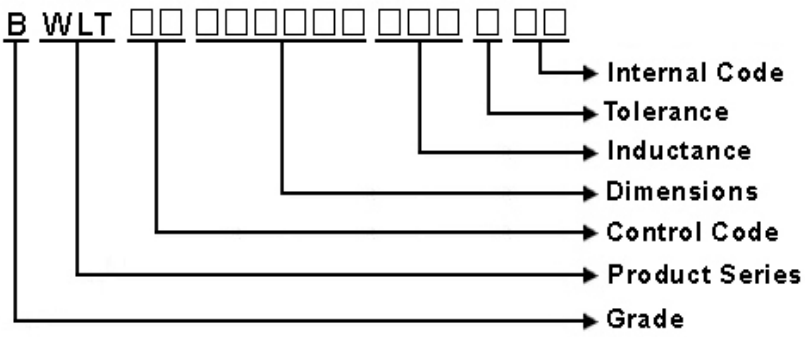
Series	Size Code (JIS/EIA)	Inductance (nH)
BWLT	2012/0805 3225/1210	0.12 ~ 39



BWLT00241810 Series Specification

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

2 Part numbering:

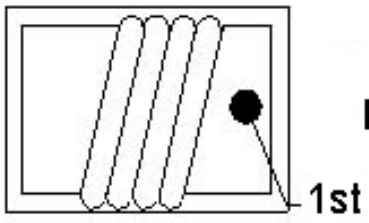


3 Rating:

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

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

4 Marking:



Ex Marking:1st→Yellow

5 Standard Testing Condition

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

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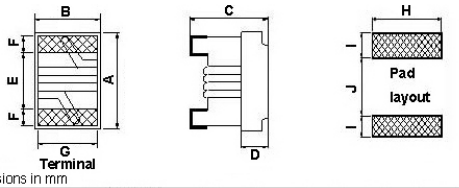
6 Configuration and Dimensions and Unit Weight:



Dimensions in mm

TYPE	A	B	C	D	E	F	G	H	I	J
241810	2.4 Max.	1.85 Max.	1.05 Max.	0.7	1.02	0.50	1.27	1.78	1.02	0.76

Net Weight (grms)

SIZE CODE	Net Weight (grms)
241810	0.0107 (typ.)

7 Electrical Characteristics:

Part No.	Inductance (uH)	L/Q Test Freq. (MHz)	Q Min.	SRF (MHz)Min.	RDC (Ω)Max.	IDC (mA)	Tolerance (±%)	Color Code 1st
BWLT00241810R12□00	0.12	25.2/25.2	22	1500	0.33	1200	5,10	BLK
BWLT00241810R15□00	0.15	25.2/25.2	22	1100	0.33	1200	5,10	BRN
BWLT00241810R18□00	0.18	25.2/25.2	22	1100	0.36	1100	5,10	RED
BWLT00241810R22□00	0.22	25.2/25.2	22	1100	0.39	1100	5,10	ORN
BWLT00241810R27□00	0.27	25.2/25.2	22	950	0.43	1050	5,10	YEL
BWLT00241810R33□00	0.33	25.2/25.2	22	650	0.46	900	5,10	GRN
BWLT00241810R39□00	0.39	25.2/25.2	22	640	0.48	850	5,10	BLU
BWLT00241810R47□00	0.47	25.2/25.2	22	570	0.65	800	5,10	VIO
BWLT00241810R56□00	0.56	25.2/25.2	22	540	0.67	770	5,10	GRY
BWLT00241810R68□00	0.68	25.2/25.2	22	500	0.73	750	5,10	WHT
BWLT00241810R82□00	0.82	25.2/25.2	22	480	0.85	730	5,10	BLK
BWLT002418101R0□00	1	7.96/7.96	15	470	0.87	720	5,10	BRN
BWLT002418101R2□00	1.2	7.96/7.96	15	450	0.97	690	5,10	RED
BWLT002418101R5□00	1.5	7.96/7.96	15	400	1.1	670	5,10	ORN
BWLT002418101R8□00	1.8	7.96/7.96	15	340	1.15	650	5,10	YEL
BWLT002418102R2□00	2.2	7.96/7.96	15	265	1.28	630	5,10	GRN
BWLT002418102R7□00	2.7	7.96/7.96	15	235	1.4	620	5,10	BLU
BWLT002418103R3□00	3.3	7.96/7.96	15	190	1.62	580	5,10	VIO
BWLT002418103R9□00	3.9	7.96/7.96	15	180	1.75	570	5,10	GRY
BWLT002418104R7□00	4.7	7.96/7.96	13	160	1.95	550	5,10	WHT
BWLT002418105R6□00	5.6	7.96/7.96	15	120	2.14	540	5,10	BLK
BWLT002418106R8□00	6.8	7.96/7.96	15	45	2.28	520	5,10	BRN
BWLT002418108R2□00	8.2	7.96/7.96	15	42	2.55	500	5,10	RED
BWLT00241810100□00	10	2.52/2.52	10	38	2.7	450	5,10	ORN
BWLT00241810120□00	12	2.52/2.52	10	33	4.2	400	5,10	YEL

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

BWLT00241810 Series Specification

Part No.	Inductance (uH)	L/Q Test Freq. (MHz)	Q Min.	SRF (MHz)Min.	RDC (Ω)Max.	IDC (mA)	Tolerance (±%)	Color Code 1st
BWLT00241810150□00	15	2.52/2.52	10	30	4.8	380	5,10	GRN
BWLT00241810180□00	18	2.52/2.52	10	25	5.74	300	5,10	BLU
BWLT00241810220□00	22	2.52/2.52	10	23	7.75	260	5,10	VIO
BWLT00241810270□00	27	2.52/2.52	10	21	10	230	5,10	GRY
BWLT00241810330□00	33	2.52/2.52	10	16	13.5	200	5,10	WHT
BWLT00241810390□00	39	2.52/2.52	10	15	16	190	5,10	BLK

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

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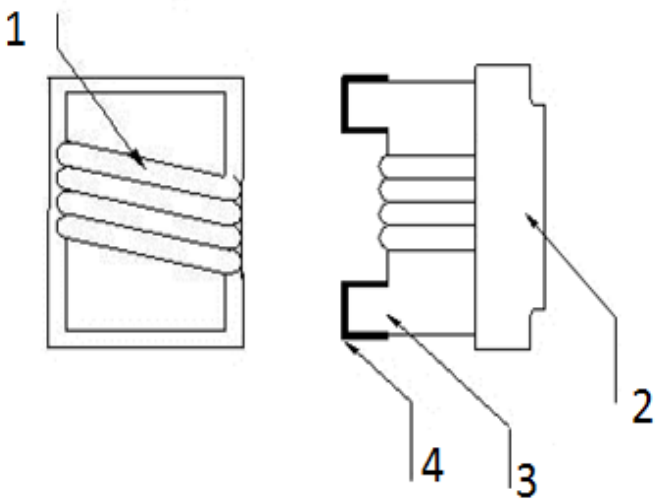
8 BWLS00302522 Series

8.1 Construction:



8.2 Material List:

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

BWLT00241810 Series Specification

9 Reliability Of Ferrite Wire Wound Chip Inductor/FERRITE SERIES

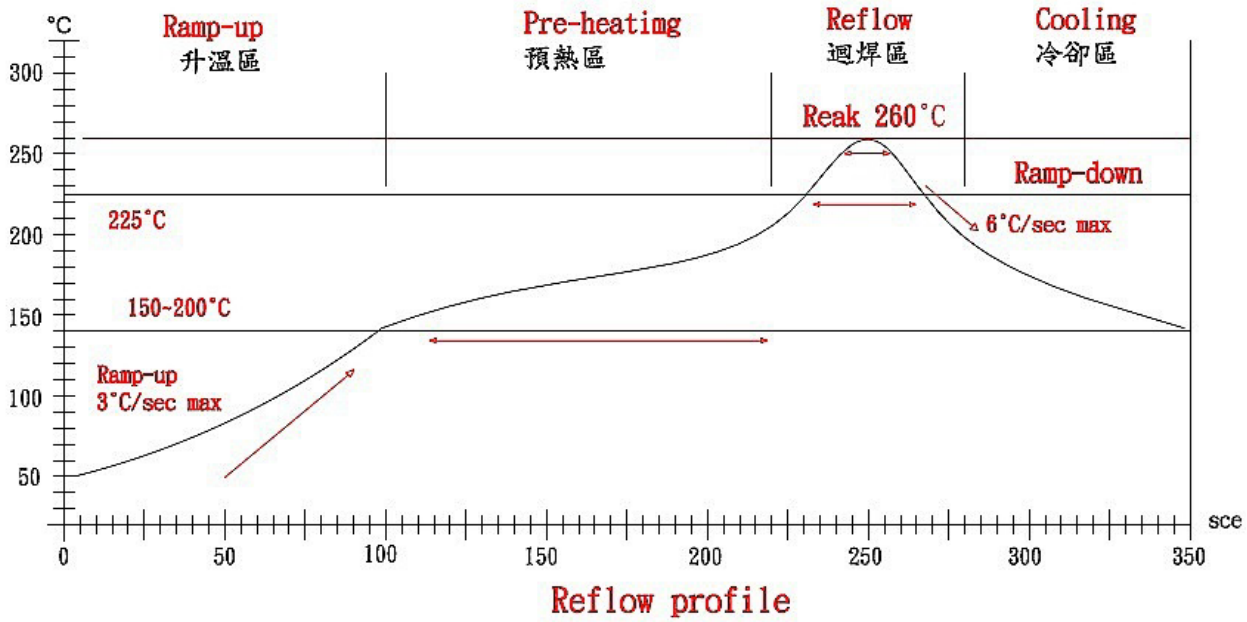
1-1.Environmental Performance

No	Item	Specification	Test Method
1-1-1	Temperature Cycle	Appearance: No Damage Inductance:within±10% of initial value Q change:within±30% of initial value	One cycle: Step / Temperature (℃) / Time (min) 1 / -40±3 / 30 2 / 25±2 / 3 3 / 105±3 / 30 4 / 25±2 / 3 Total: 5 cycles Measured After Exposure in The Room Condition For 1hrs
1-1-2	High Temperature Resistance		Temperature: 105±3℃ Time: 1000Hrs Measured After Exposure In The Room Condition For 1Hrs
1-1-3	Low Temperature Resistance		Temperature: -40±3℃ 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±2℃ 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℃±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 0402 1 Lbs. For 0603 2 Lbs. For 0805 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

BWLT00241810 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:

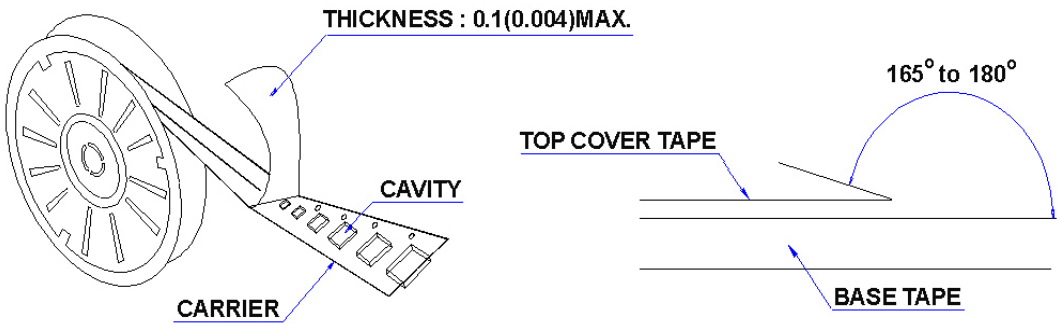
1.Re-flow possible times : within 3 times
2.Nitrogen adopted is recommendes while in re-flow
3.Products can only be soldered with reflow

BWLT00241810 Series Specification

10 Packaging:

10.1 Packaging -Cover Tape

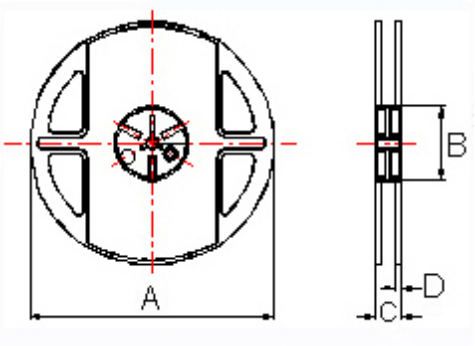
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



10.2 Packaging Quantity

TYPE	PCS/REEL
302522	2000

10.3 Reel Dimensions



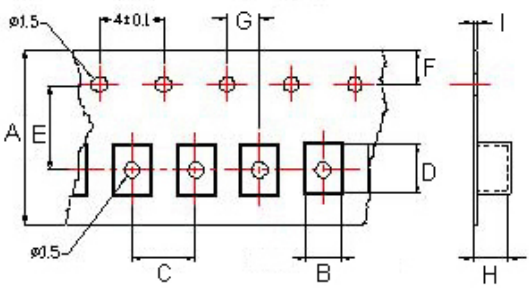
Dimensions in mm

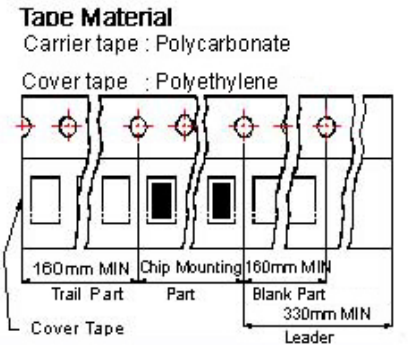
TYPE	A	B	C	D
241810	178±1	60±0.5	12±0.5	1.5±0.5

BWLT00241810 Series Specification

10 Packaging:

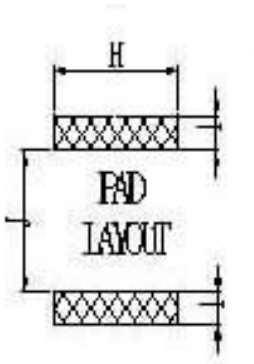
10.4 Tape Dimensions in mm





TYPE	A	B	C	D	E	F	G	H	I
241810	8	1.85	4	2.45	3.5	1.75	2	1.0	0.23

11 Recommended Land Pattern:



Dimensions in mm

TYPE	H(In/mm)	I(In/mm)	J(In/mm)
241810	0.07/1.78	0.04/1.02	0.03/0.76

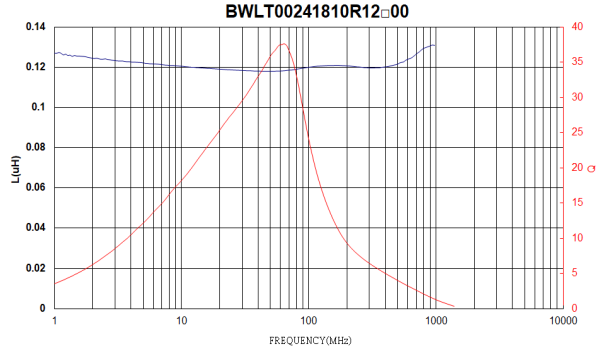
12 Note:

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.

BWLT00241810 Series Specification

13 Graph:

BWLT00241810R12□00



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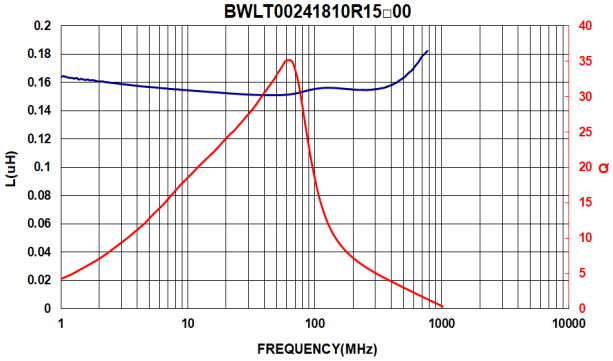

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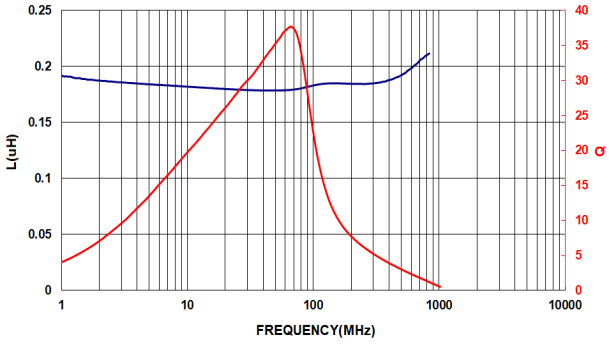

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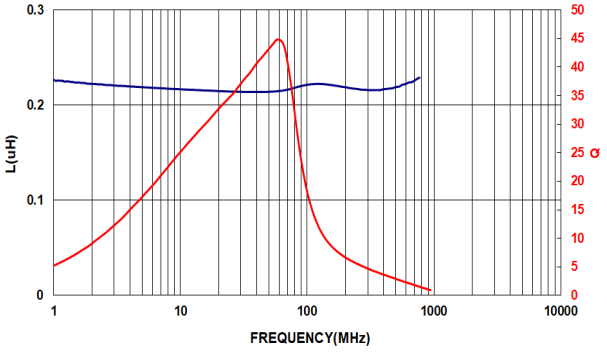

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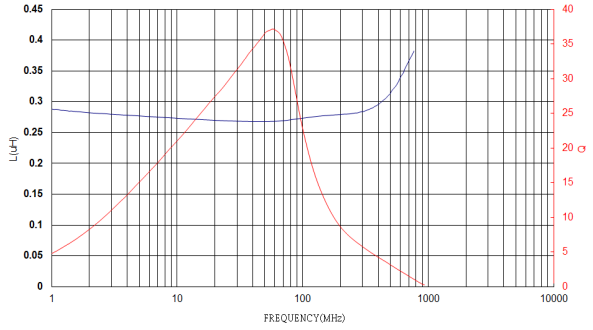

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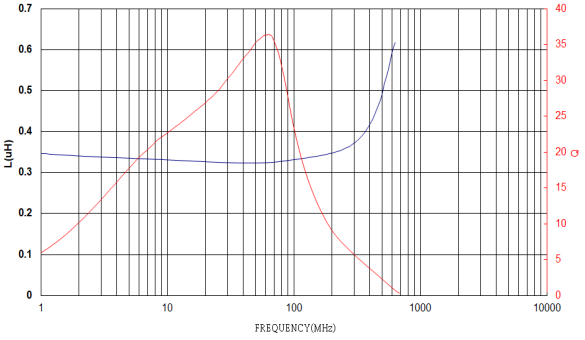

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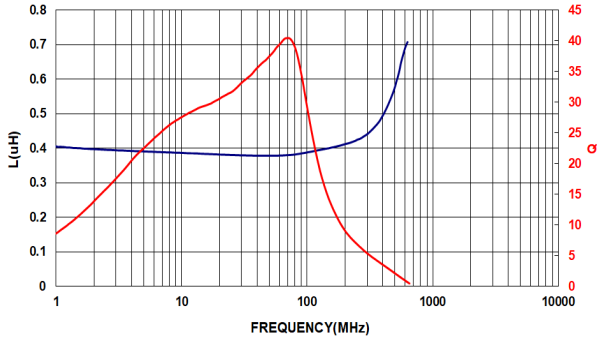

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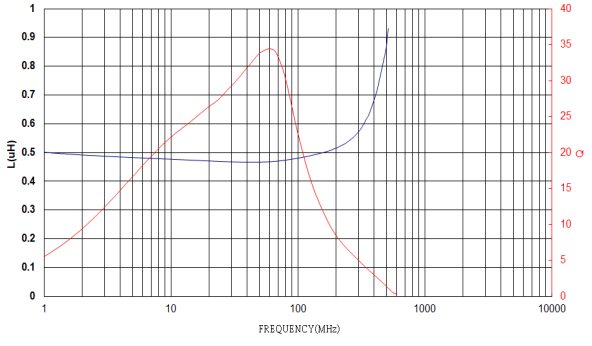
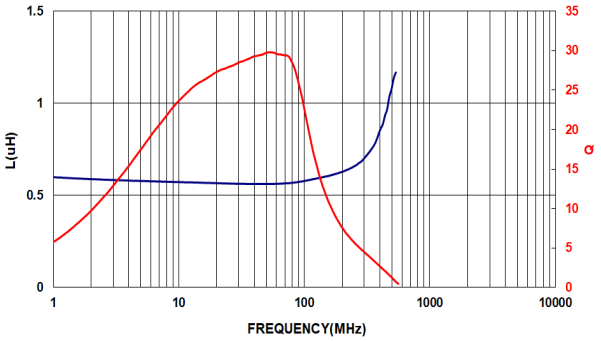


BWLT00241810 Series Specification

BWLT00241810R56□00



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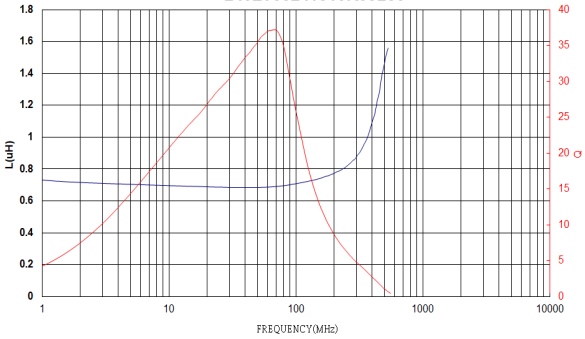

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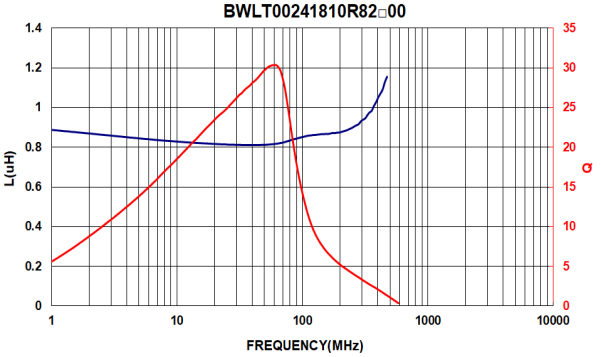

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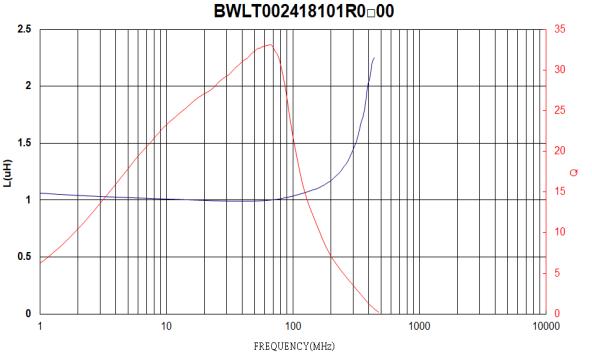

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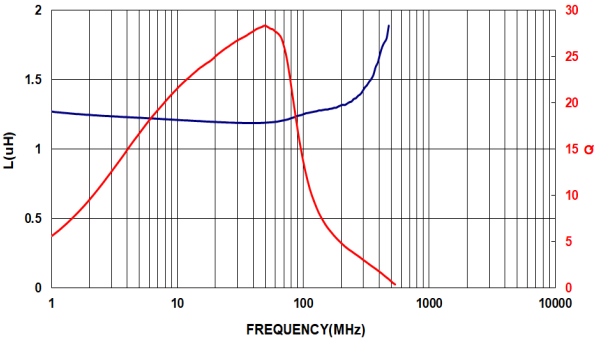

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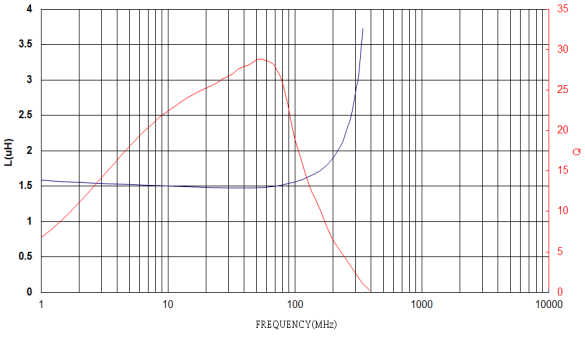

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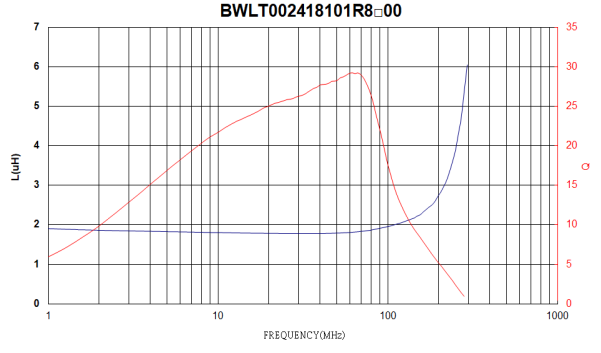

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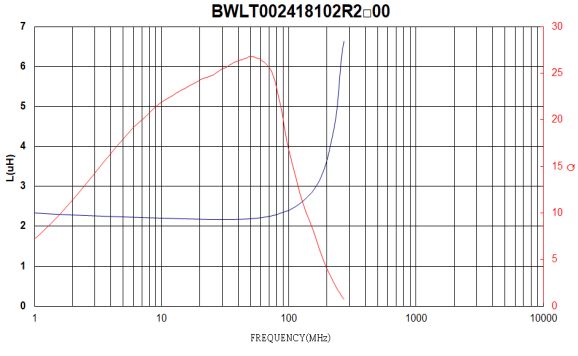

BWLT00241810 Series Specification

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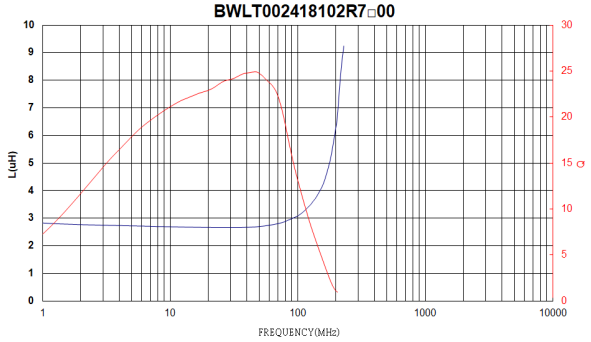

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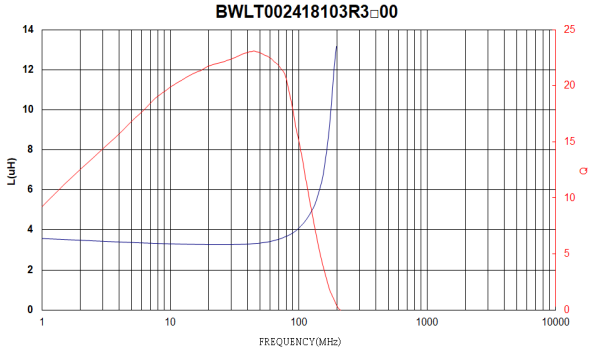

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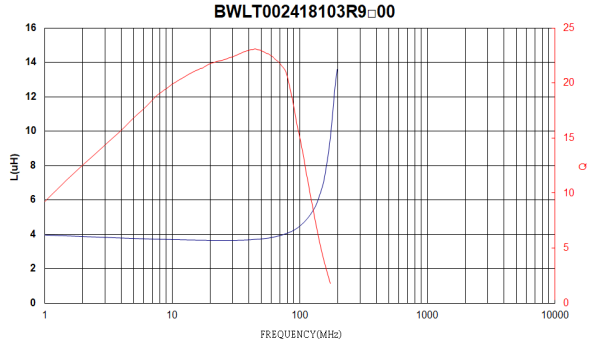

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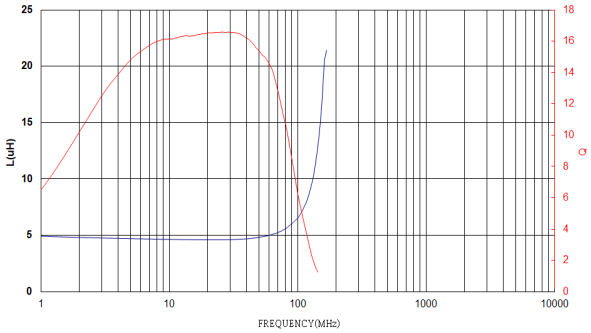

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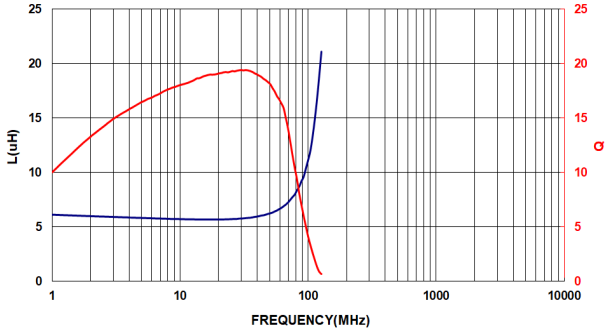

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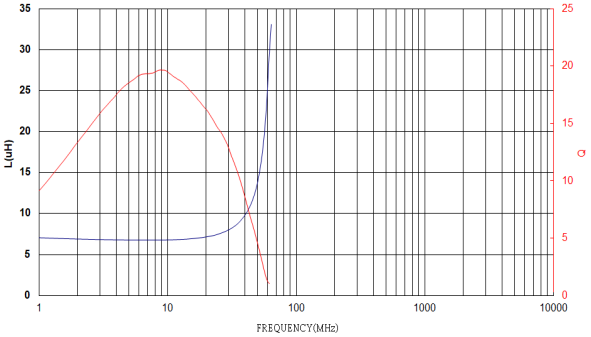

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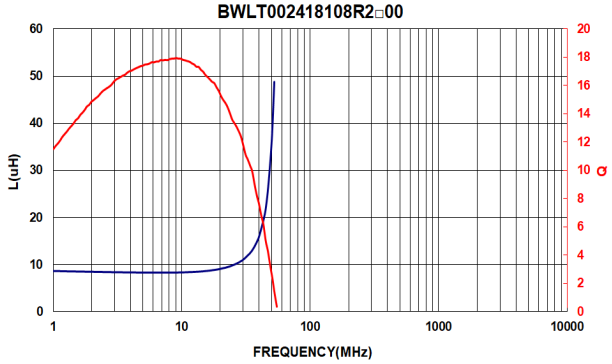

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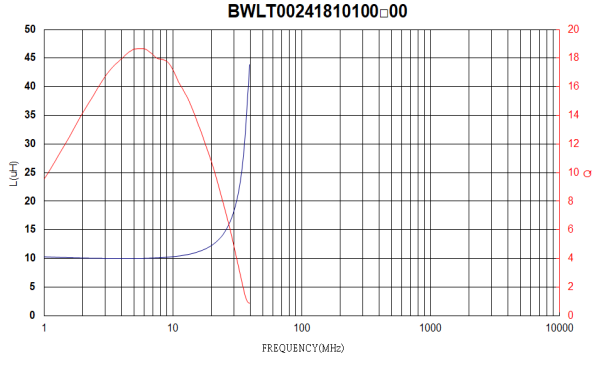

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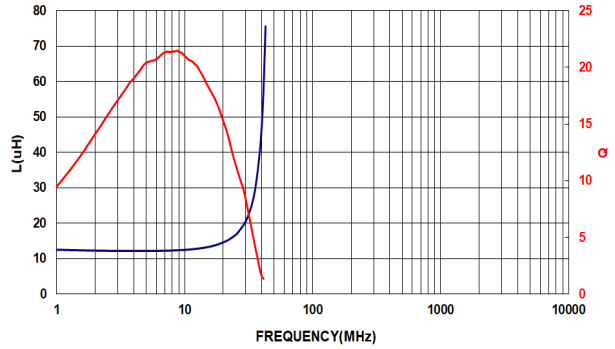

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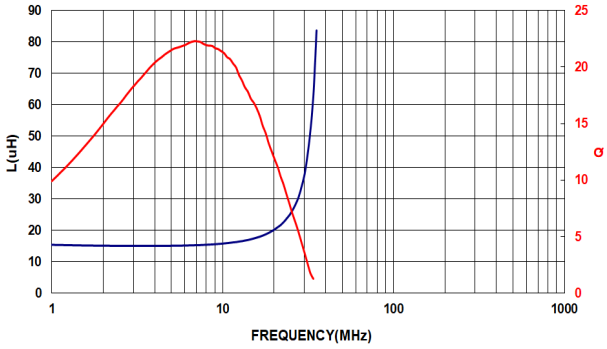

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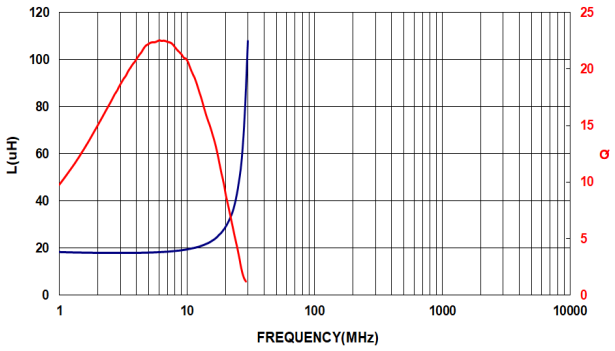

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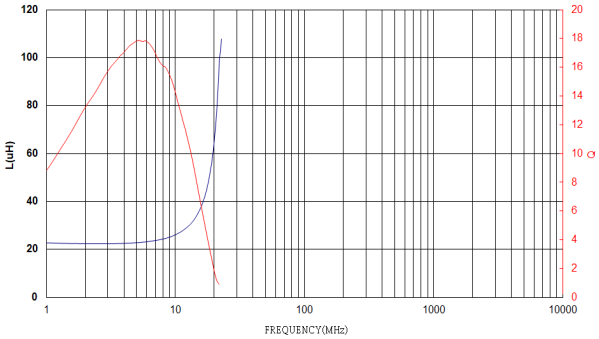

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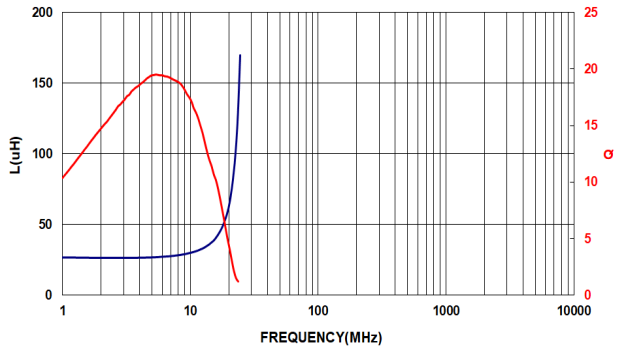

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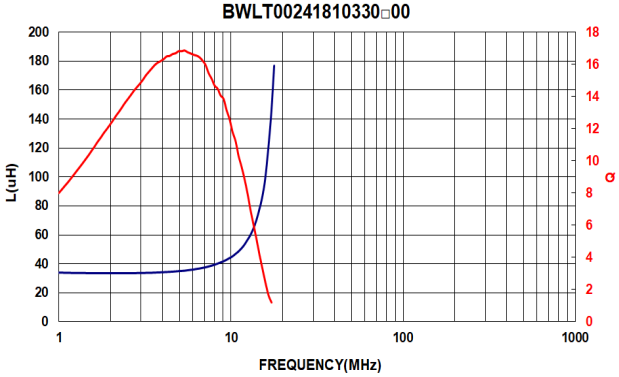

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