chanhvinh.com

RF Inductor

BSCH Series

Overview

RF inductors are designed to operate at high frequencies, typically in the MHz to GHz range. Unlike power inductors, RF inductors are optimized for signal processing in radio frequency (RF) circuits. They play a vital role in tuning, filtering and impedance matching in communication and signal transmission systems.

Benefits

1. High frequency performance, for efficient operation at radio frequencies with minimal loss.
2. It can reduce noise and distortion and maintain the integrity of radio frequency signals.
3. Space-saving, suitable for constrained designs in portable devices and IoT applications.
4. Can be customized with specific requirements such as frequency range, impedance and size.

Applications

1. Communication Systems: Mobile phones, Wi-Fi routers, and 5G equipment.
2. Antenna Matching Networks
3. IoT and Smart Devices
4. Medical Devices
5. Consumer Electronics

Product Information

Series	Size Code (JIS/EIA)	Inductance (nH)
BSCH	0603/0201 1005/0402 1608/0603	1 ~ 390



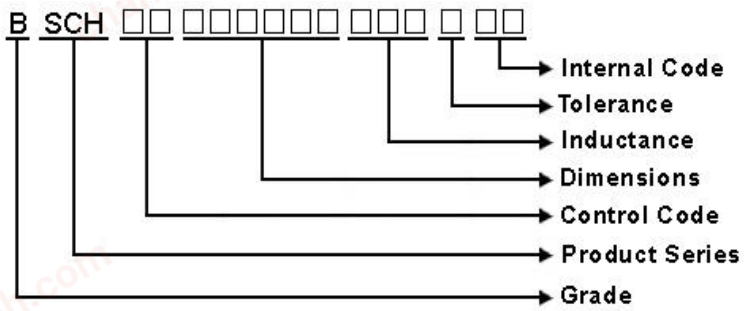
chanhvinh.com

YAGEO PULSE GROUP

BSCH00060303 Series Specification

1 Scope:
This specification applies to Multilayer ceramic chip inductors

2 Part Numbering:

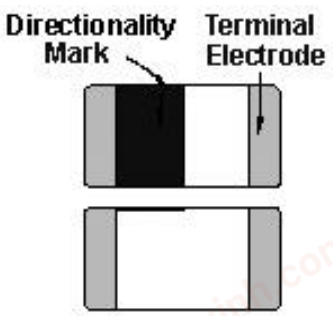


3 Rating:

Operating Temperature: - 55℃ ~ 125℃(Including self - temperature rise)

Storage Temperature: - 55℃ ~ 125℃(after PCB)
- 5℃~40℃,Humidity 40%~70%(before PCB)

4 Marking:



5 Standard Testing Condition

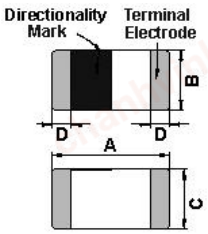
	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35℃)	20 to 30℃
Humidity	Ordinary Humidity(25 to 85% RH)	50 to 80 %RH

chanhvinh.com

YAGEO GROUP PULSE

BSCH00060303 Series Specification

6 Configuration and Dimensions:



Dimensions in mm

TYPE	060303
A	0.60±0.03
B	0.30±0.03
C	0.30±0.03
D	0.15±0.05

Net Weight (grms)

Size Code	Net Weight (grms)
BSCH00060303	0.000175

7 Electrical Characteristics:

Part No.	Inductance (nH)	L,Q Test Freq.	Q Min.	SRF (MHz)Min.	RDC (Ω)Max.	Rated Current (mA)Max.	Tolerance
BSCH000603031N0□00	1	100 MHz,500 mV	4	>10000	0.11	470	S
BSCH000603031N2□00	1.2	100 MHz,500 mV	4	>10000	0.12	450	S
BSCH000603031N5□00	1.5	100 MHz,500 mV	4	>10000	0.13	430	S
BSCH000603031N8□00	1.8	100 MHz,500 mV	4	>10000	0.16	390	S
BSCH000603032N0□00	2	100 MHz,500 mV	4	>10000	0.17	380	S
BSCH000603032N2□00	2.2	100 MHz,500 mV	4	8800	0.19	360	S
BSCH000603032N4□00	2.4	100 MHz,500 mV	4	8300	0.2	350	S
BSCH000603032N7□00	2.7	100 MHz,500 mV	4	7700	0.21	340	S
BSCH000603033N0□00	3	100 MHz,500 mV	4	7200	0.22	330	S
BSCH000603033N3□00	3.3	100 MHz,500 mV	4	6700	0.23	320	S
BSCH000603033N6□00	3.6	100 MHz,500 mV	4	6400	0.25	310	S
BSCH000603033N9□00	3.9	100 MHz,500 mV	4	6000	0.27	300	S
BSCH000603034N3□00	4.3	100 MHz,500 mV	4	5700	0.3	280	S
BSCH000603034N7□00	4.7	100 MHz,500 mV	4	5300	0.3	280	S
BSCH000603035N1□00	5.1	100 MHz,500 mV	4	5000	0.33	270	S
BSCH000603035N6□00	5.6	100 MHz,500 mV	4	4600	0.36	260	S
BSCH000603036N2□00	6.2	100 MHz,500 mV	4	4200	0.38	250	S
BSCH000603036N8□00	6.8	100 MHz,500 mV	4	3900	0.39	250	S,J
BSCH000603037N5□00	7.5	100 MHz,500 mV	4	3600	0.41	240	J
BSCH000603038N2□00	8.2	100 MHz,500 mV	4	3400	0.45	230	S,J
BSCH000603039N1□00	9.1	100 MHz,500 mV	4	3200	0.48	220	J
BSCH0006030310N□00	10	100 MHz,500 mV	4	2900	0.51	220	H,J
BSCH0006030312N□00	12	100 MHz,500 mV	4	2700	0.68	190	H,J
BSCH0006030315N□00	15	100 MHz,500 mV	4	2300	0.71	180	H,J
BSCH0006030318N□00	18	100 MHz,500 mV	4	2100	0.81	170	H,J

NOTE: □-tolerance J=±5% / S=±0.3nH

1.Operating temperature range - 5 5℃ ~ 1 2 5℃(Including self - temperature rise)

2.Rate Current : Applied the current to coils, the temperature rise shall not be more than 30℃

3.Residual impedance of short chip : 0.19nH

chanhvinh.com

YAGEO GROUP PULSE

BSCH00060303 Series Specification

Part No.	Inductance (nH)	L,Q Test Freq.	Q Min.	SRF (MHz)Min.	RDC (Ω)Max.	Rated Current (mA)Max.	Tolerance
BSCH0006030322N□00	22	100 MHz,500 mV	4	1800	1	150	H,J
BSCH0006030327N□00	27	100 MHz,500 mV	4	1800	1.35	120	J
BSCH0006030333N□00	33	100 MHz,500 mV	4	1700	1.47	110	J
BSCH0006030339N□00	39	100 MHz,500 mV	4	1500	1.72	100	J
BSCH0006030347N□00	47	100 MHz,500 mV	4	1300	1.9	100	J
BSCH0006030356N□00	56	100 MHz,500 mV	4	1100	2.27	80	J
BSCH0006030368N□00	68	100 MHz,500 mV	4	1100	2.66	80	J
BSCH0006030382N□00	82	100 MHz,500 mV	4	1000	3.37	70	J
BSCH00060303R10□00	100	100 MHz,500 mV	4	900	3.74	60	J

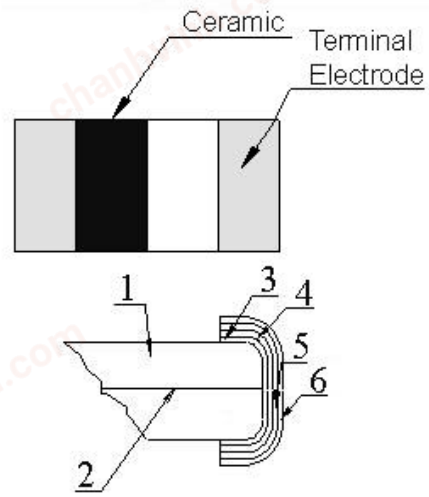
chanhvinh.com

YAGEO PULSE GROUP

BSCH00060303 Series Specification

8 BSCH00060303 Series

8.1 Construction:



8.2 Material List:

No	Part	Material
1	**Main Substance**	Al2O3-B2O3-SiO2
2	**Silver electrode**	**Ag**
3	**Silver electrode**	**Ag**
4	**Cu plating**	**Cu**
5	**Ni plating**	**Ni**
6	**Sn plating**	**Sn**

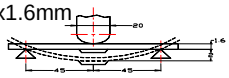
chanhvinh.com

YAGEO PULSE GROUP

BSCH00060303 Series Specification

9 Reliability Of Ceramic Multilayer Chip Inductor For High Freq.

1-1.Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the Ceramic.	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm 
1-1-2	Vibration		Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
1-1-3	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150℃, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260±5℃ Immersion Time: 10±1sec
1-1-4	Solder ability	The electrodes shall be at least 95% covered with new solder coating	Pre-heating: 150℃, 1min Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245±5℃(Pb-Free) Immersion Time: 4±1sec

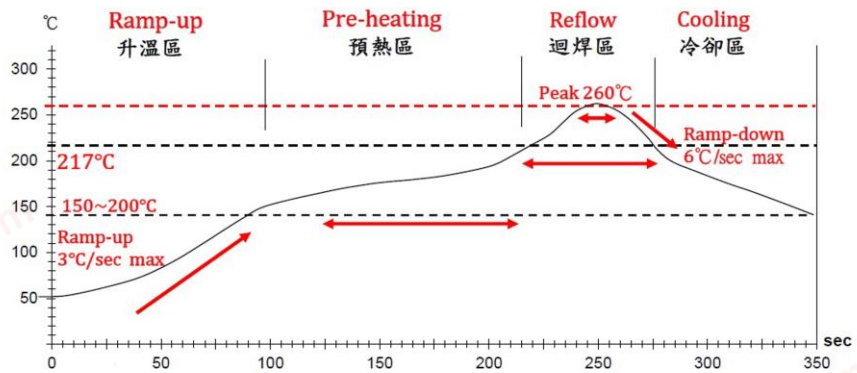
1-2.Environmental Performance

No	Item	Specification	Test Method
1-2-1	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 / -55±3 / 30 2 / 25±2 / 3 3 / 125±3 / 30 4 / 25±2 / 3 Total: 100cycles Measured after exposure in the room condition for 24hrs
1-2-2	Humidity Resistance		Temperature: 40±2℃ Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-3	High Temperature Resistance		Temperature: 125±3℃ Relative Humidity: 0% Applied Current: Rated Current / Time: 1000hrs Measured after exposure in the room condition for 24hrs
1-2-4	Low Temperature Resistance		Temperature: -55±3℃ Relative Humidity: 0% / Time: 1000hrs Measured after exposure in the room condition for 24hrs

chanhvinh.com

YAGEO PULSE GROUP

BSCH00060303 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 2 times
2. Nitrogen adopted is recommended while in re-flow
3. Products can only be soldered with reflow

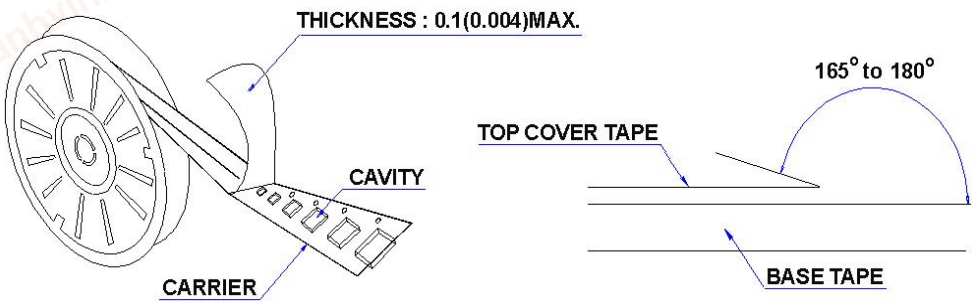
chanhvinh.com

BSCH00060303 Series Specification

11 Packaging:

11.1 Packaging -Cover Tape

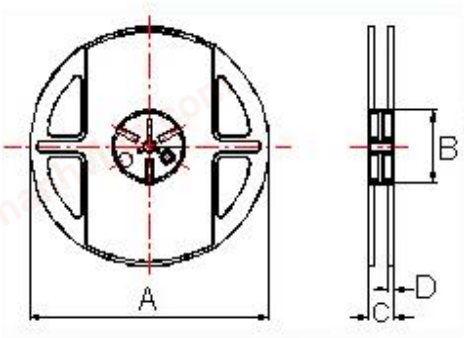
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	PCS/REEL
060303	15000

11.3 Reel Dimensions



Dimensions in mm

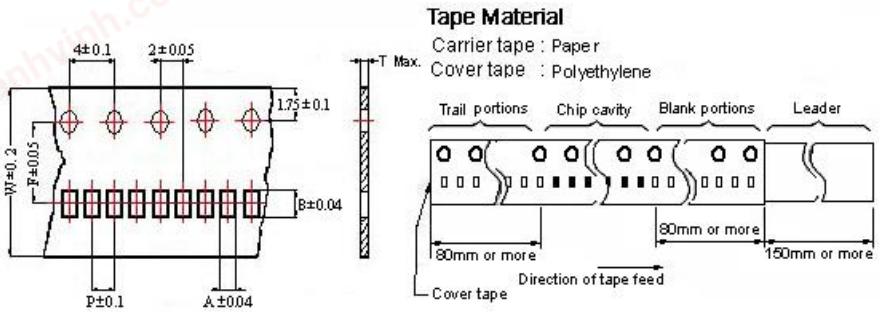
TYPE	A	B	C	D
060303	180	60	13	1.5

chanhvinh.com

BSCH00060303 Series Specification

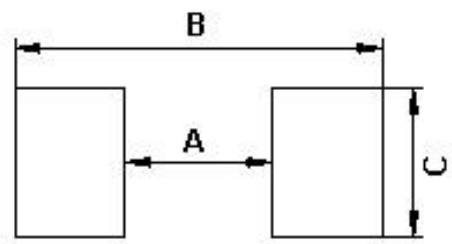
11 Packaging:

11.4 Tape Dimensions in mm



TYPE	A	B	T	W	P	F
060303	0.37	0.67	0.42	8	2	3.5

12 Recommended Land Pattern:



Dimensions in mm

TYPE	A	B	C
060303	0.3	0.75~1.05	0.3

13 Note:

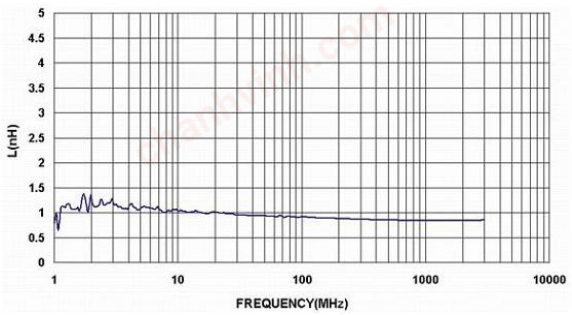
1. Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the 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. The moisture sensitivity level (MSL) of products is classified as level 1.

chanhvinh.com

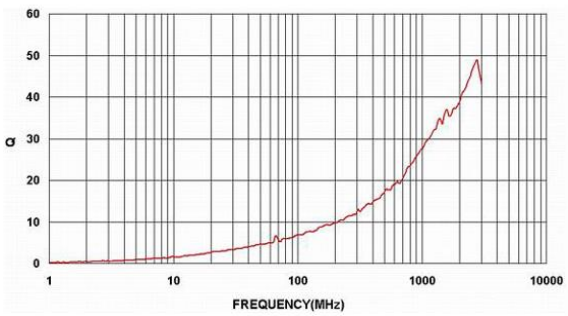
BSCH00060303 Series Specification

14 Graph:

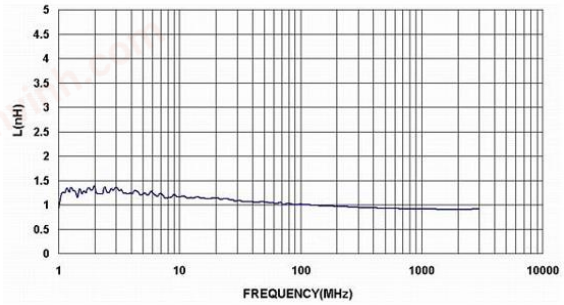
BSCH000603031N0S00



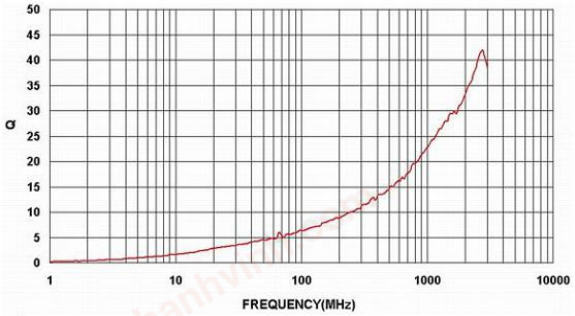
BSCH000603031N0S00



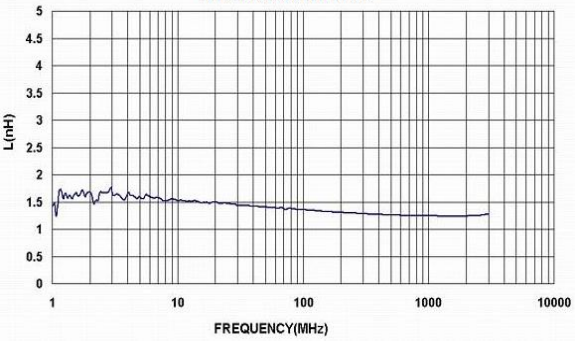
BSCH000603031N2S00



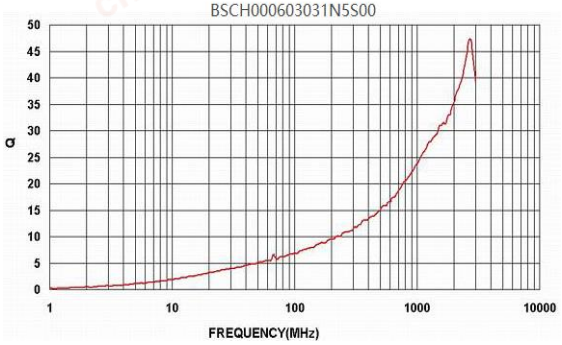
BSCH000603031N2S00



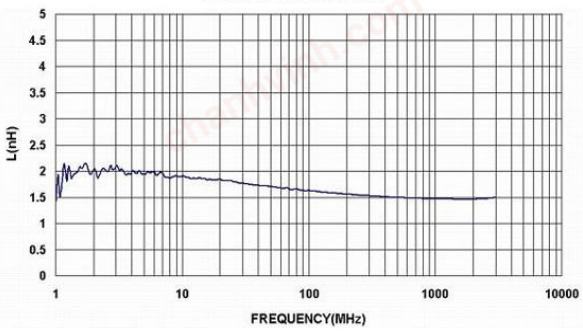
BSCH000603031N5S00



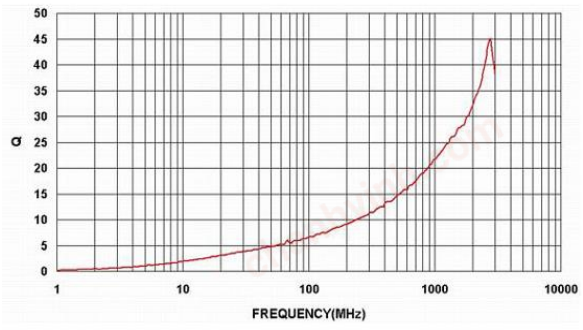
BSCH000603031N5S00



BSCH000603031N8S00



BSCH000603031N8S00

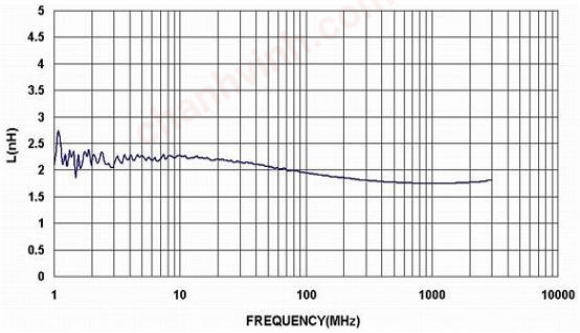


chanhvinh.com

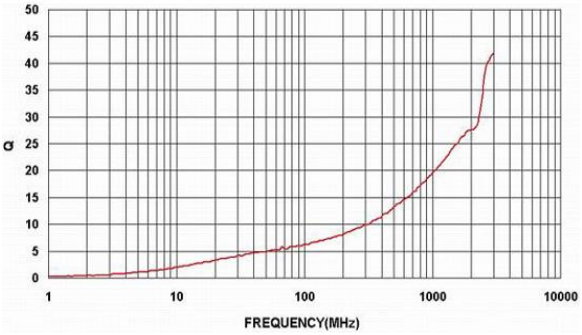
BSCH00060303 Series Specification

14 Graph:

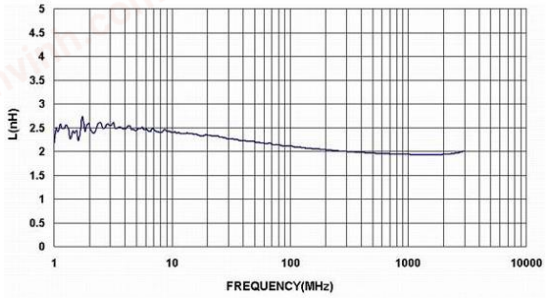
BSCH000603032N0S00



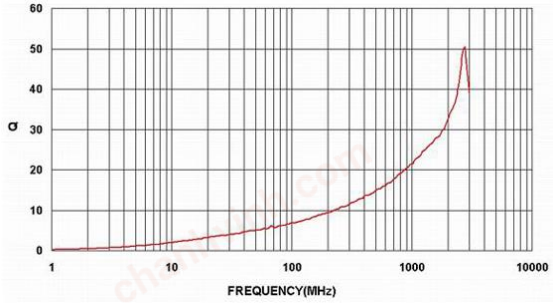
BSCH000603032N0S00



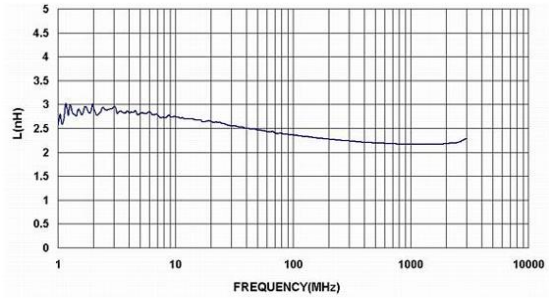
BSCH000603032N2S00



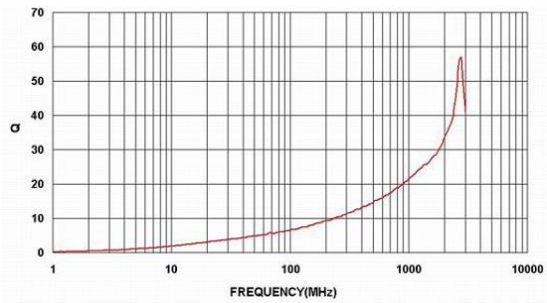
BSCH000603032N2S00



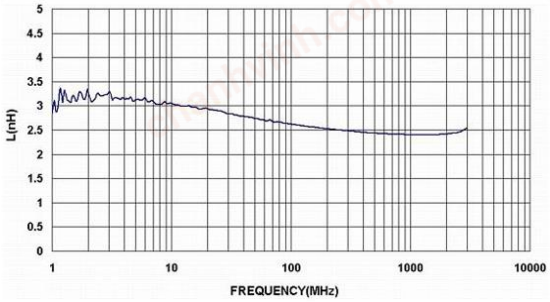
BSCH000603032N4S00



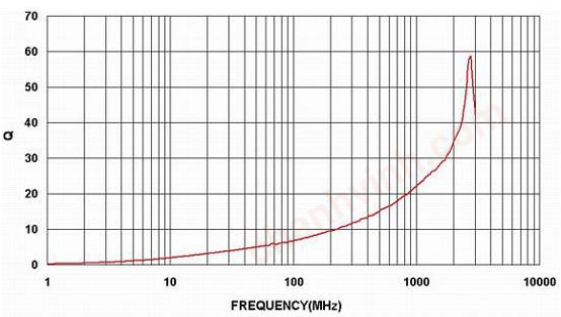
BSCH000603032N4S00



BSCH000603032N7S00



BSCH000603032N7S00

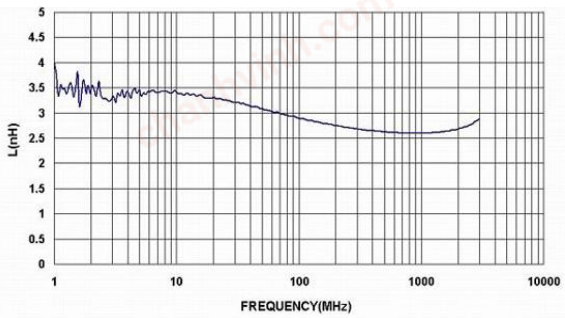


chanhvinh.com

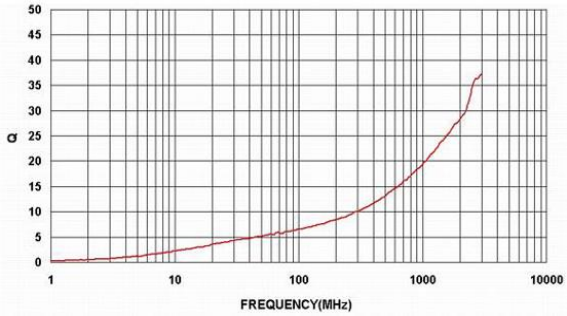
BSCH00060303 Series Specification

14 Graph:

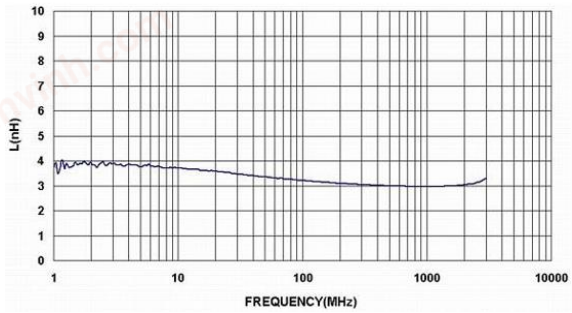
BSCH000603033N0S00



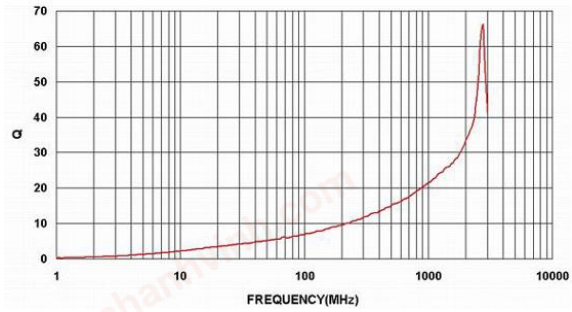
BSCH000603033N0S00



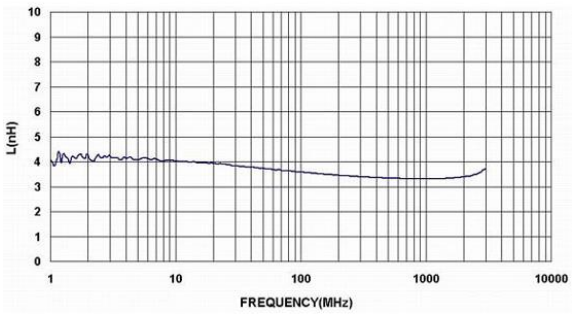
BSCH000603033N3S00



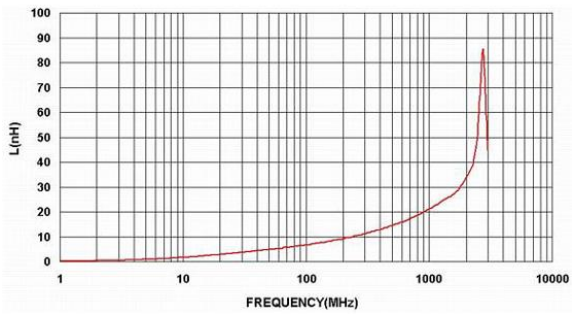
BSCH000603033N3S00



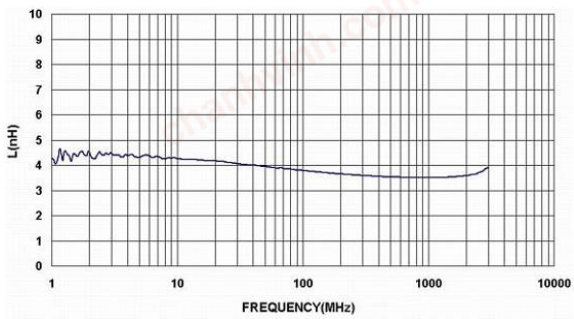
BSCH000603033N6S00



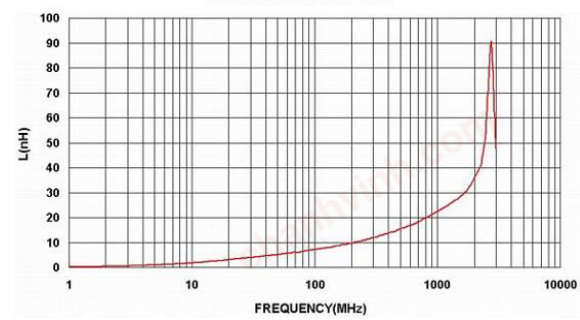
BSCH000603033N6S00



BSCH000603033N9S00



BSCH000603033N9S00

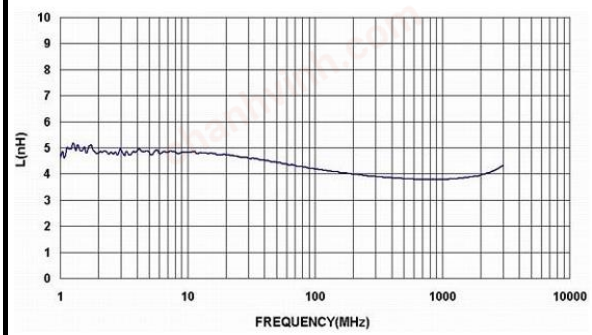


chanhvinh.com

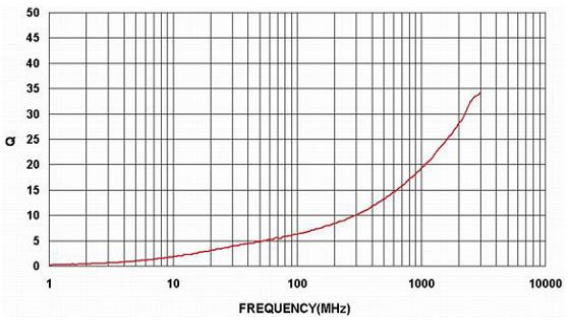
BSCH00060303 Series Specification

14 Graph:

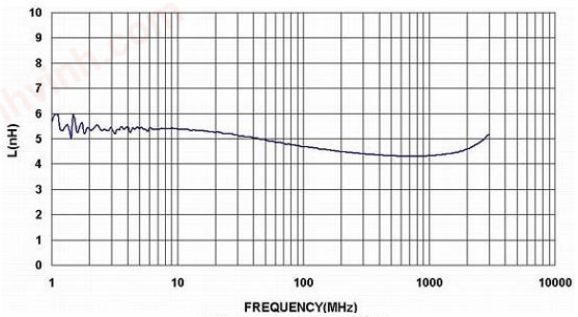
BSCH000603034N3S00



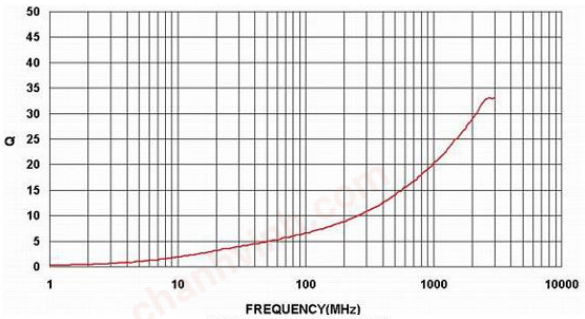
BSCH000603034N3S00



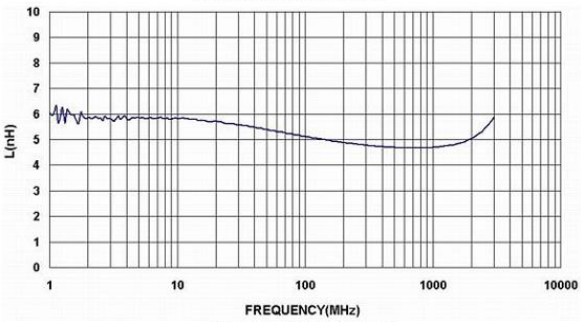
BSCH000603034N7S00



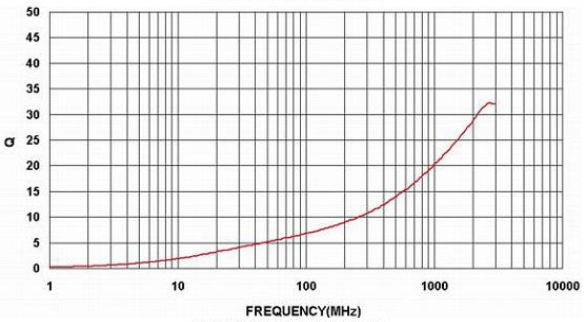
BSCH000603034N7S00



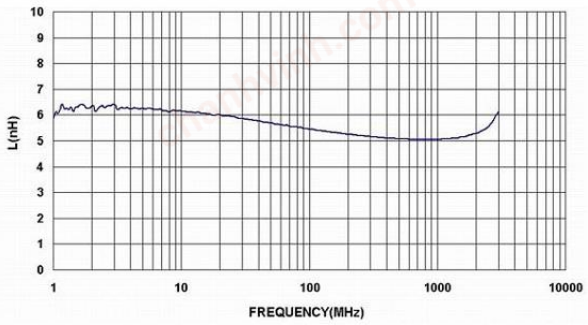
BSCH000603035N1S00



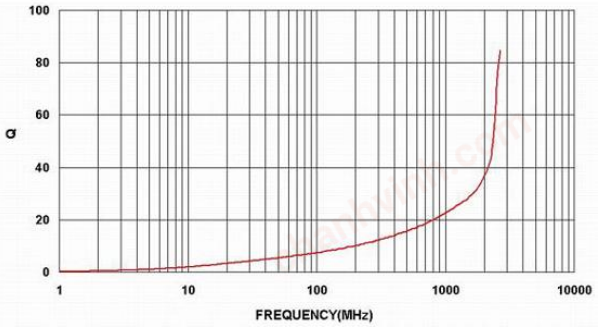
BSCH000603035N1S00



BSCH000603035N6S00



BSCH000603035N6S00

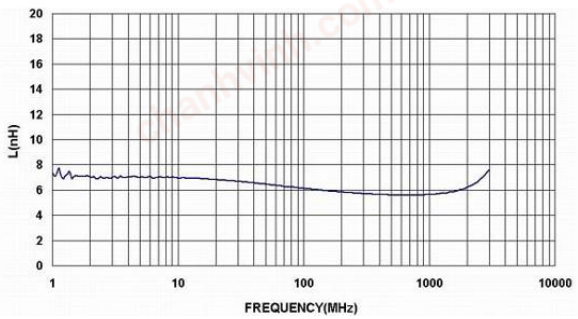


chanhvinh.com

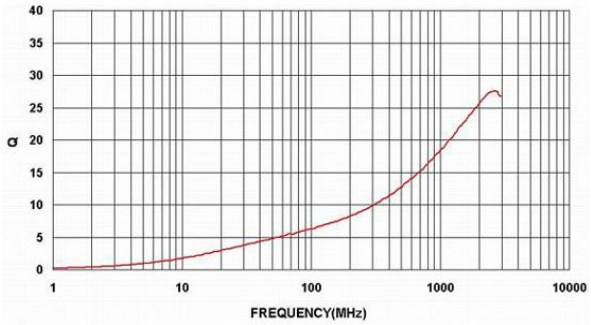
BSCH00060303 Series Specification

14 Graph:

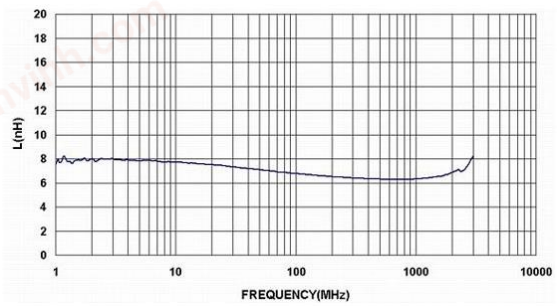
BSCH000603036N2S00



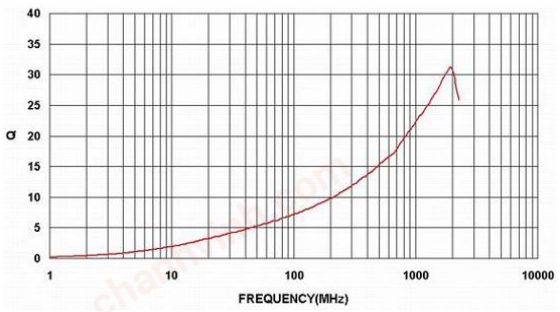
BSCH000603036N2S00



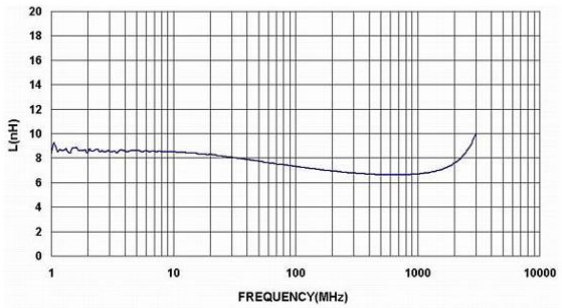
BSCH000603036N8J00



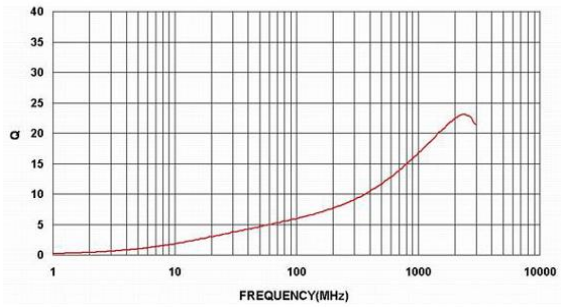
BSCH000603036N8J00



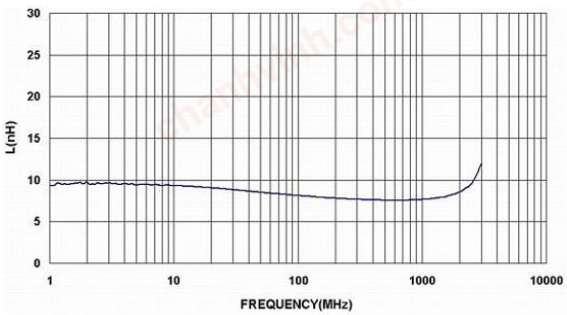
BSCH000603037N5J00



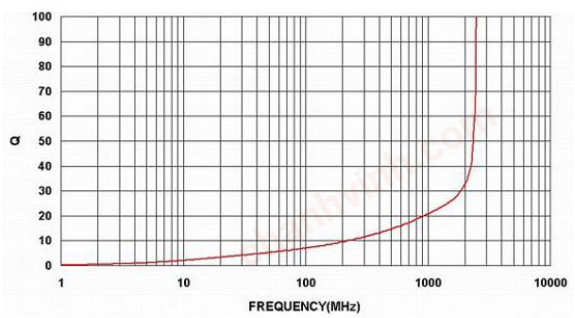
BSCH000603037N5J00



BSCH000603038N2J00



BSCH000603038N2J00

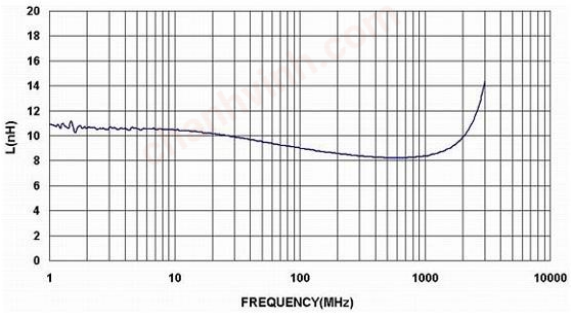


chanhvinh.com

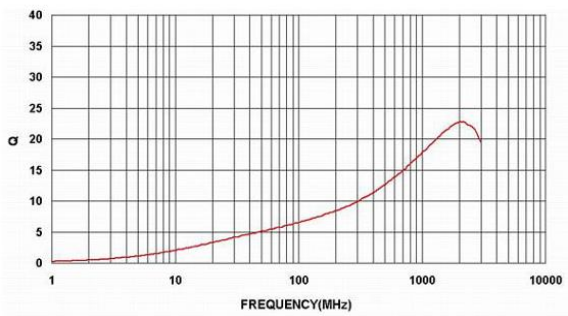
BSCH00060303 Series Specification

14 Graph:

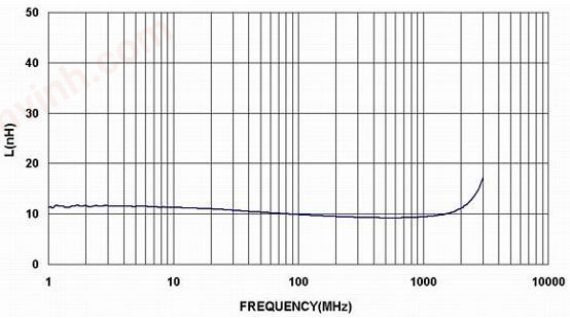
BSCH000603039N1J00



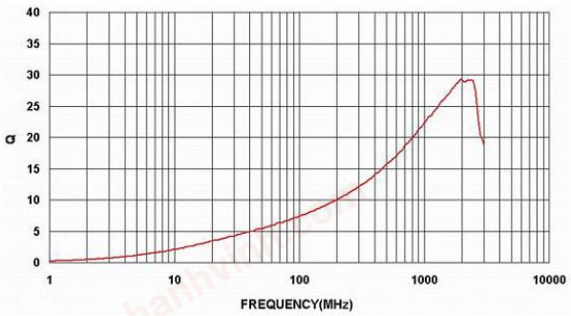
BSCH000603039N1J00



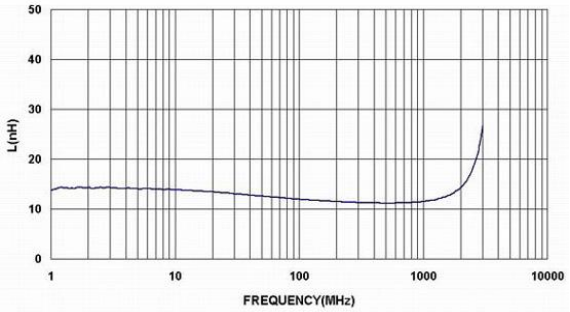
BSCH0006030310NJ00



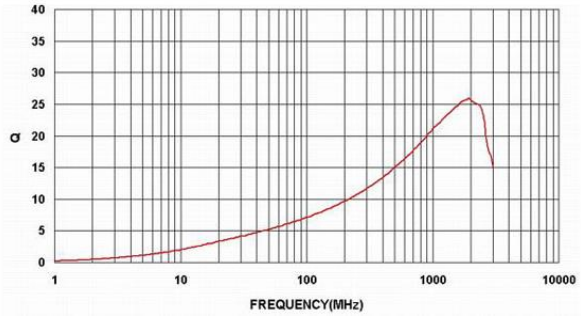
BSCH0006030310NJ00



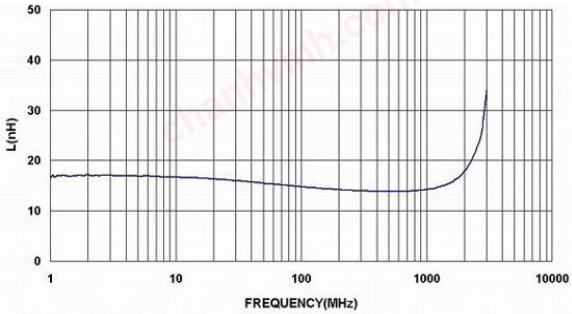
BSCH0006030312NJ00



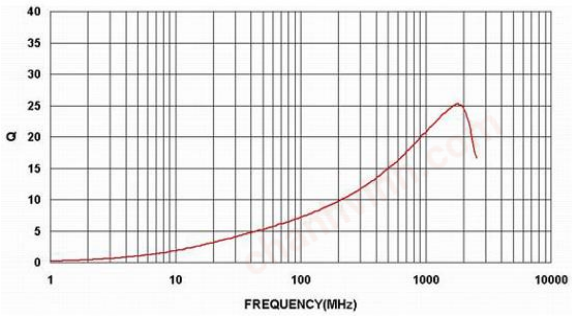
BSCH0006030312NJ00



BSCH0006030315NJ00



BSCH0006030315NJ00

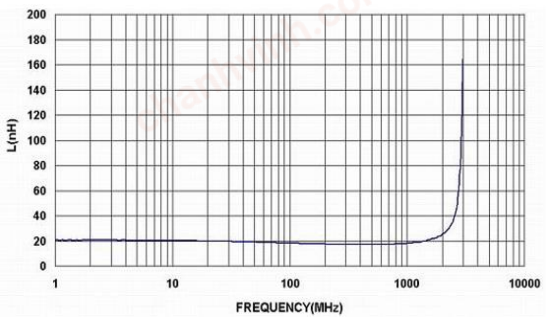


chanhvinh.com

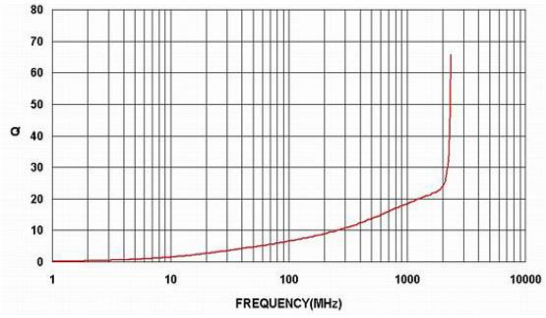
BSCH00060303 Series Specification

14 Graph:

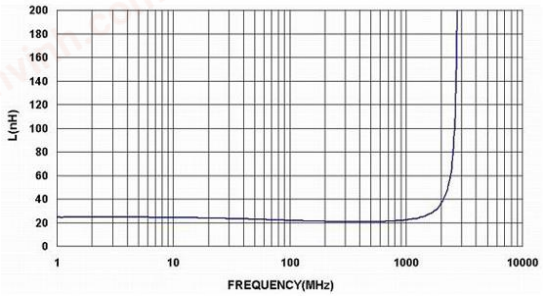
BSCH0006030318NJ00



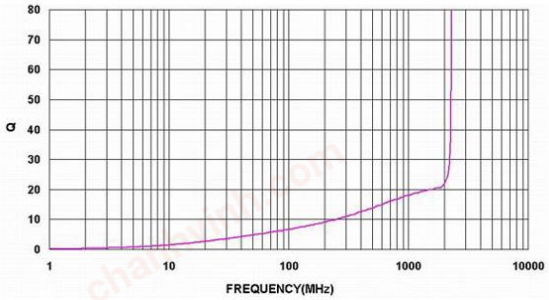
BSCH0006030318NJ00



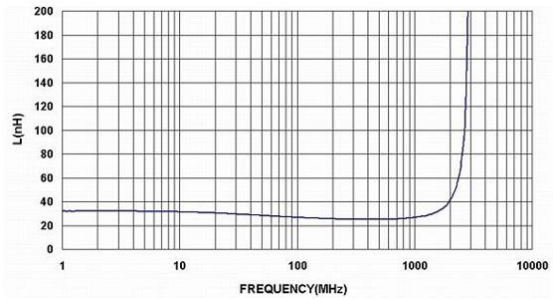
BSCH0006030322NJ00



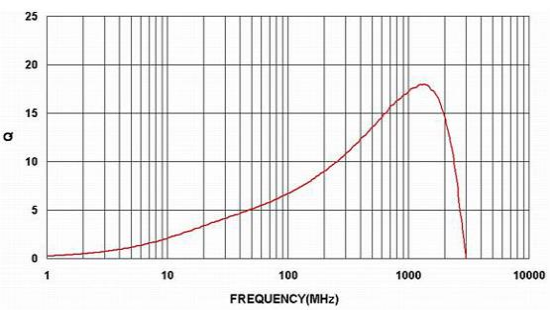
BSCH0006030322NJ00



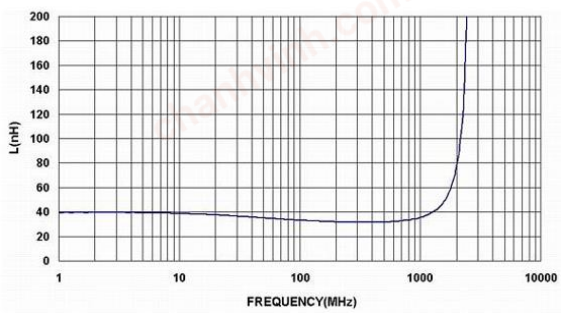
BSCH0006030327NJ00



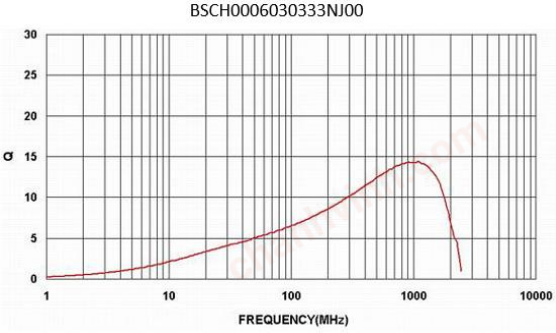
BSCH0006030327NJ00



BSCH0006030333NJ00



BSCH0006030333NJ00

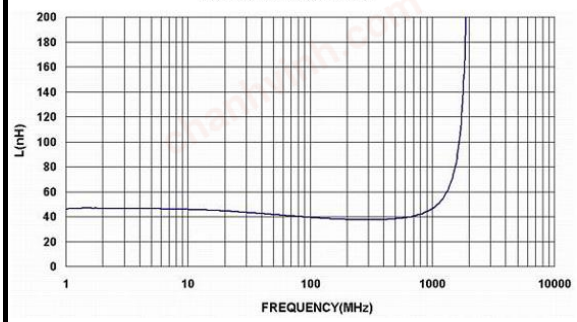


chanhvinh.com

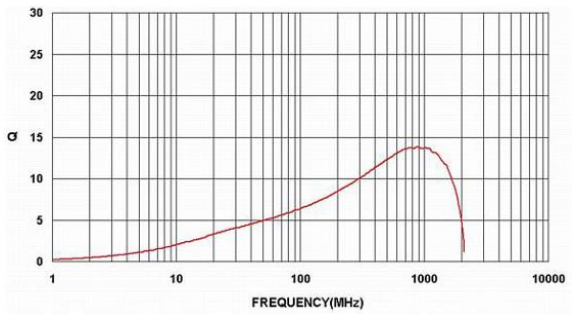
BSCH00060303 Series Specification

14 Graph:

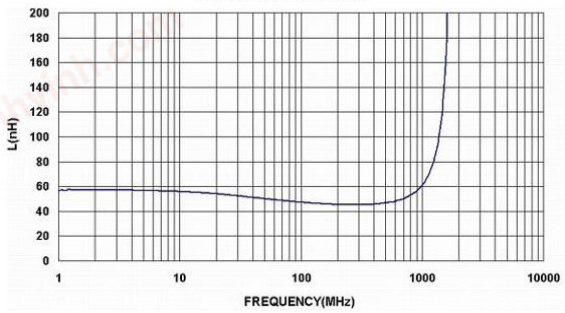
BSCH0006030339NJ00



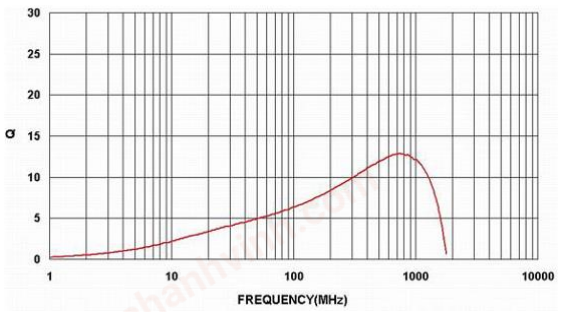
BSCH0006030339NJ00



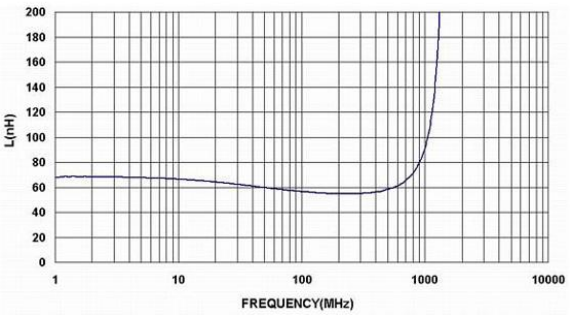
BSCH0006030347NJ00



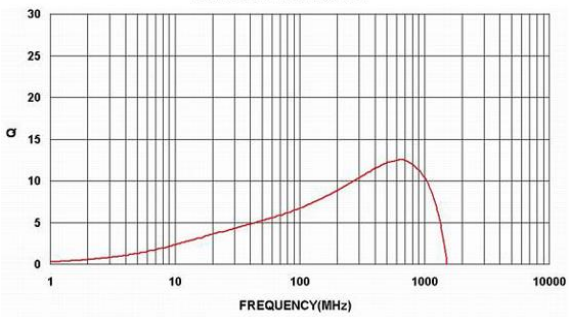
BSCH0006030347NJ00



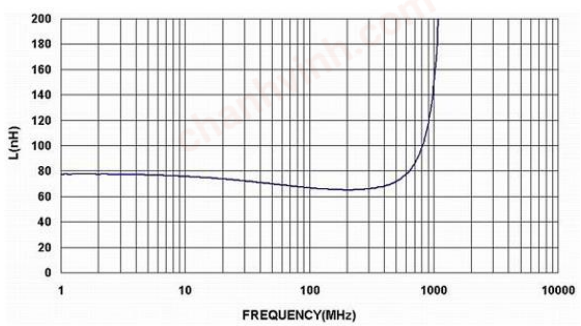
BSCH0006030356NJ00



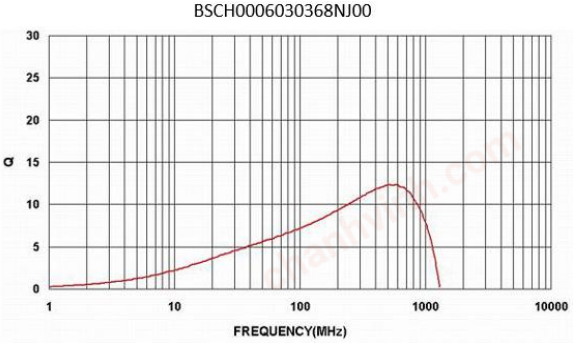
BSCH0006030356NJ00



BSCH0006030368NJ00



BSCH0006030368NJ00

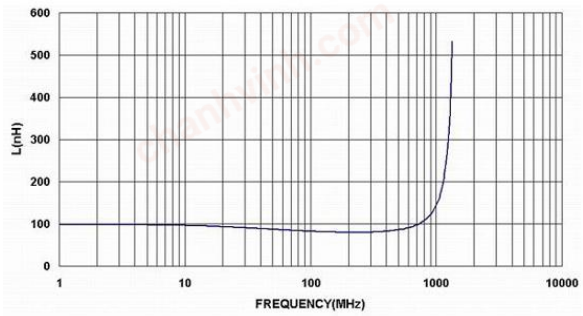


chanhvinh.com

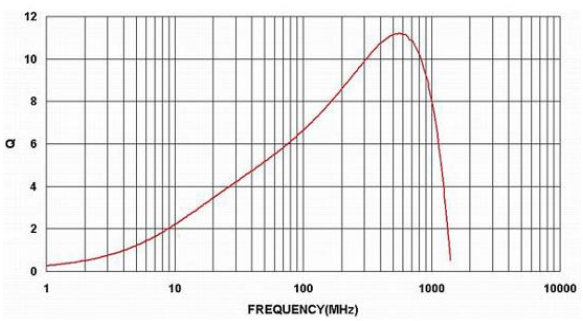
BSCH00060303 Series Specification

14 Graph:

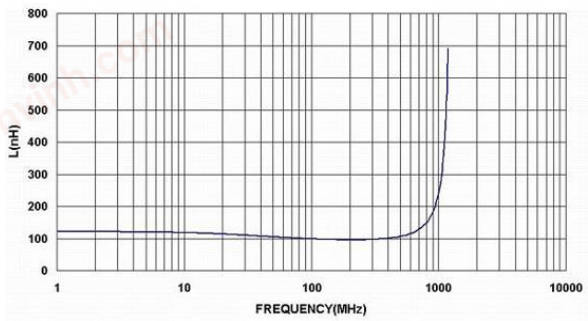
BSCH0006030382NJ00



BSCH0006030382NJ00



BSCH00060303R10J00



BSCH00060303R10J00

