EMI Common Mode Choke

BPPM Series

Overview

An EMI common mode choke (CMC) for power lines is a passive component specifically designed to suppress electromagnetic interference (EMI) in power supply circuits
A full series of common mode choke is designed for excellent noise attenuation with compact sizing for use in wide range of applications. Both standard series and custom designs are available.

Benefits

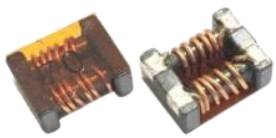
1. For DC Power Line Common Mode Filter
2. Miniature SMD type common mode filter for fully automated assembly
3. Wide impedance range (70Ω ~ 3000Ω) for EMI suppression
4. Operating temperature range－40°C～125°C
4. Excellent solderability

Applications

1. Networking
2. EMI solutions for charger
3. Media player, Dashboard

Product Information

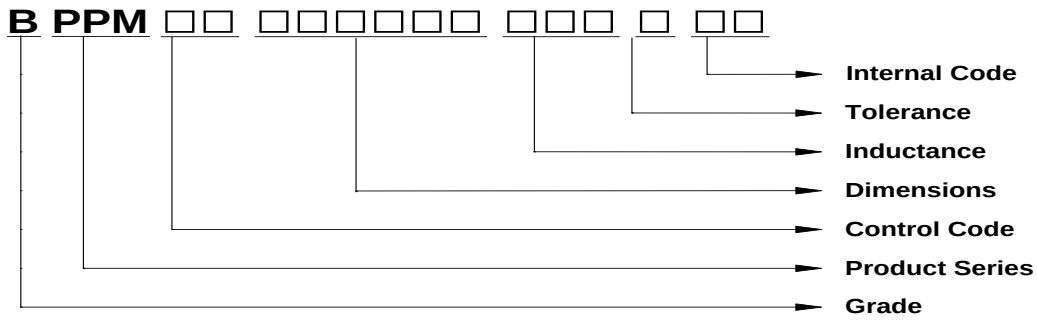
Series	Size Code (JIS/EIA)	Impedance(Ω)
BPPM	5050/2020 7060/2824 9070/3628 1211/4844 1513/6052 4850/1920	70 ~ 3000



BPPM00090748 Series Specification

1 Scope: This specification applies to the Pb Free DC Power Line Common Mode Filter

2 Part Numbering:



3 Rating:

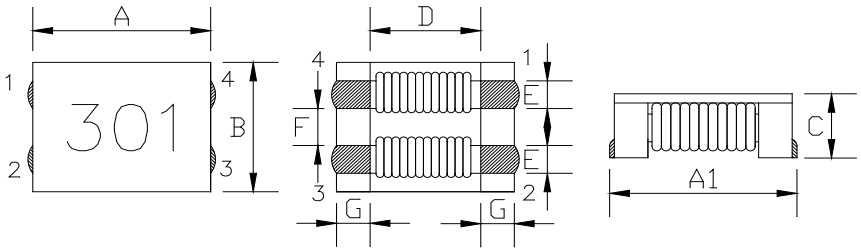
Operating Temperature: - 40℃ ~ 125℃(Including self - temperature rise)

Storage Temperature: (on tape & reel): -20°C to +40°C; 75% RH max.

4 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

5 Configuration and Dimensions and Unit Weight:



A:	9.0±0.5	mm
A1:	9.5±0.5	mm
B:	7.0±0.5	mm
C:	4.8 Max.	mm
D:	5.6 Typ.	mm
E:	1.5±0.2	mm
F:	2.0±0.2	mm
G:	1.7±0.2	mm

Marking XXX

Marking color:Black

Net Weight (grms)

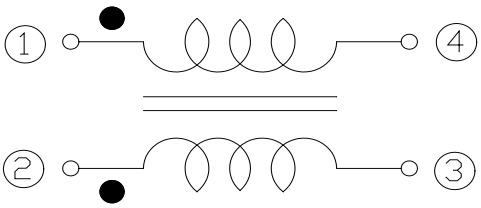
SIZE CODE	Net Weight (grms)
090748	0.82(Typ.)

BPPM00090748 Series Specification

6 Electrical Characteristics:

PT/NO.	Impedance(Ω) at 100MHz		Resistance RDC(Ω) Max.(1 line)	Rated Current (A) Max.	Insulation Resistance (MΩ) Min.	Rated Voltage (V)Max.
	Min.	Typ.				
BPPM00090748301X00	225	300	6m	6	10	125
BPPM00090748501X00	450	600	8m	5.5	10	125
BPPM00090748701X00	500	700	10m	5.0	10	125
BPPM00090748102X00	750	1000	13m	4.0	10	125
BPPM00090748152X00	1100	1500	18m	3.5	10	125
BPPM00090748222X00	1700	2200	60m	2.5	10	125
BPPM00090748272X00	2000	2700	86m	2.0	10	125

CIRCUIT DIAGRAM



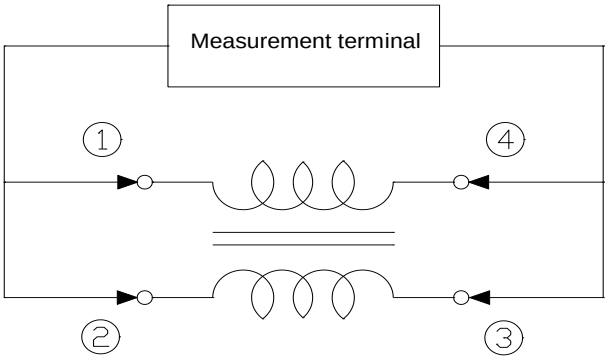
NOTE:

1.Rated DC Current： Based on temperature rise （△T：40℃ Typ.）

6 Electrical Characteristics:

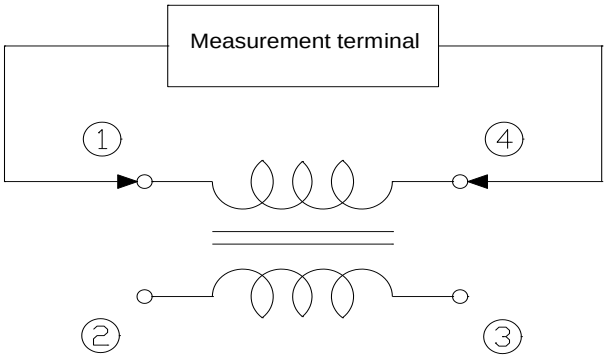
(6)-1 Impedance

Measured by HP4291B RF Impedance Analyzer.



(6)-2 DC Resistance

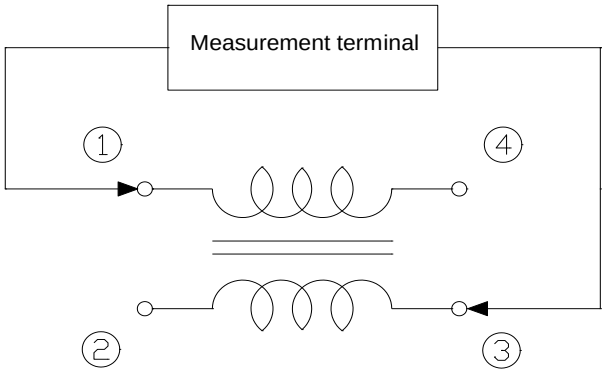
Measured by Chroma 16502 milliohm meter.



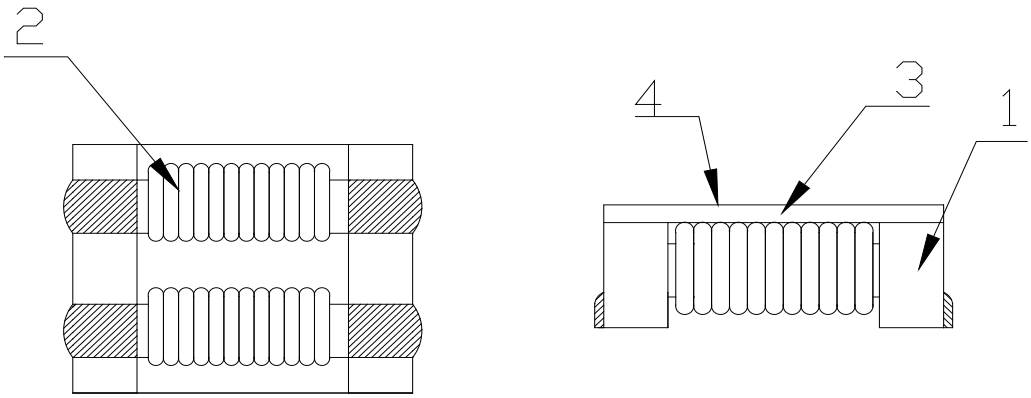
(6)-3 Insulation Resistance

Measured by Chroma 19073

Measurement voltage : 50V ,Measurement time : 3 sec.



6 6.1 Construction:

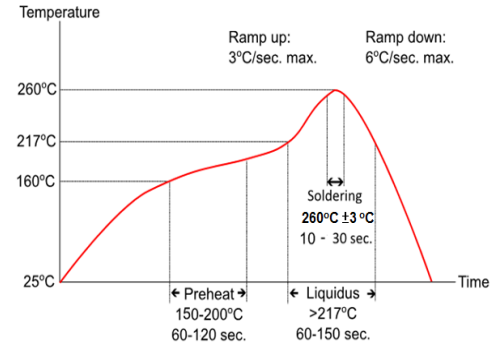
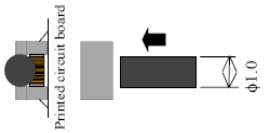
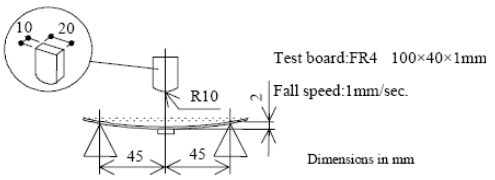


6.2 Material List:

NO.	ITEM	DESCRIPTION & TYPE
1	CORE	FERRITE
2	Wire	Magnet Wire
3	Cover	Mayler
4	Marking	INK

BPPM00090748 Series Specification

MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS
Solder ability	The product shall be connected to the test circuit board by the fillet (the height is 0.2mm).	Apply cream solder to the printed circuit board . Refer to clause 8 for Reflow profile.
Resistance to Soldering heat (reflow soldering)	There shall be no damage or problems.	Temperature profile of reflow soldering  Note: 1. Re-Flow Possible times:within 2 times 2. Nitrogen adopted is recommended while in re-flow
Terminal strength	The terminal electrode and the ferrite must not damaged.	Solder a chip to test substrate , and then laterally apply a load 9.8N in the arrow direction. 
Strength on PC board bending	The terminal electrode and the ferrite must not damaged.	Solder a chip to test substrate and then apply a load. 
High temperature resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : +125±2℃ Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours

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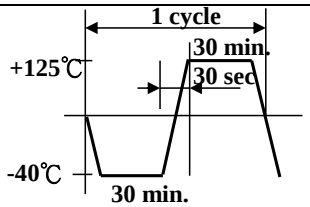
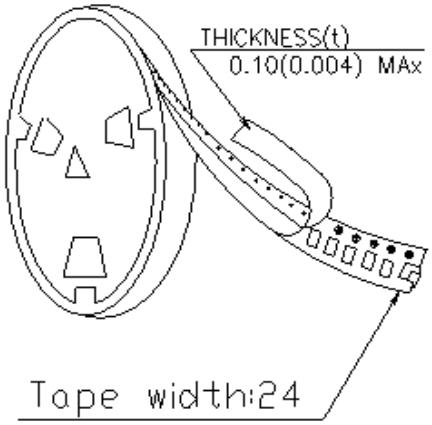
MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS
Humidity resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : +60±2℃ , Humidity : 90 to 95 %RH Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours
Thermal shock	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	 Testing Time:100 cycle
Low temperature storage	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : -40±2℃ Testing time : 500±12 hours
Vibration	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Frequency : 10 to 55 Hz Amplitude : 1.52 mm Dimension and times : X ,Y and Z directions for 2 hours each.
Solderability	New solder More than 75%	Flux (rosin, isopropyl alcohol{JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130～150℃ and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2℃. More than 75% of the electrode sections shall be couered with new solder smoothly when the sample is taken out of the solder bath.

7 Packaging:

7.1 Packaging -Cover Tape

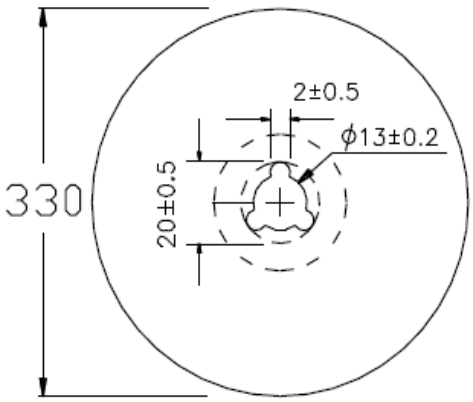


7.2 Packaging Quantity

TYPE	PCS/REEL
BPPM00090748	700

7.3 Reel Dimensions

Unit : mm



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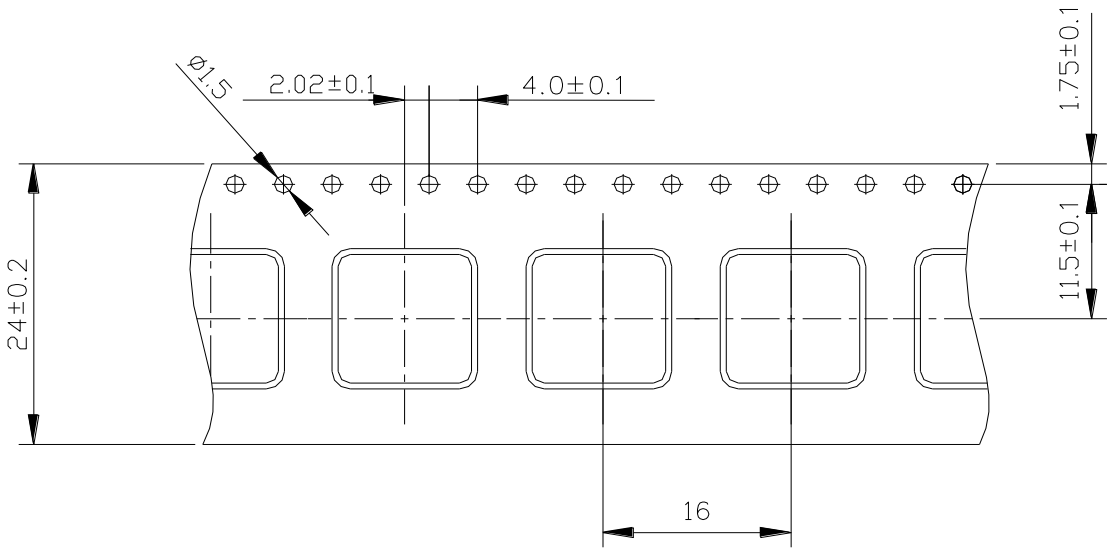
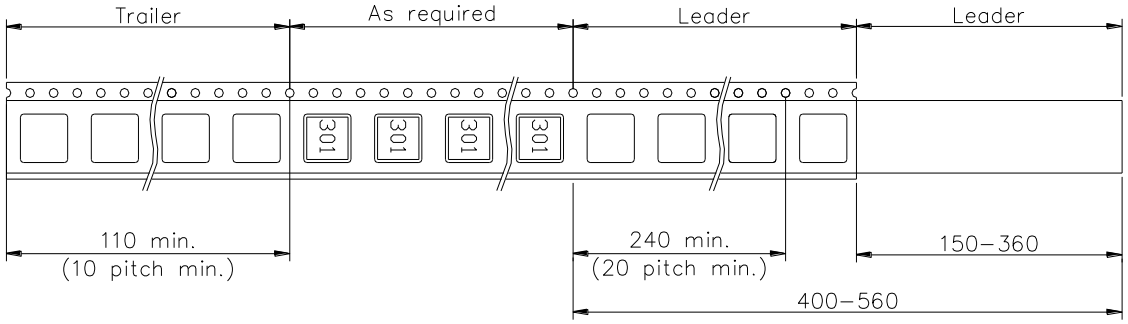
7 Packaging:

7.4 Tape Dimensions in mm

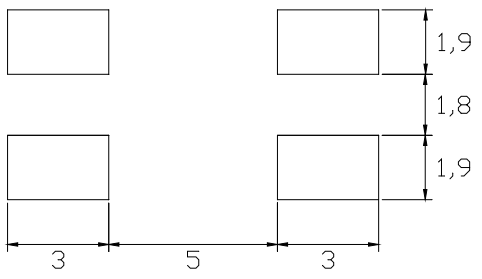


Unreeling Direction



8 Recommended Land Pattern:

(STANDARD PATTERN) **Unit : mm**



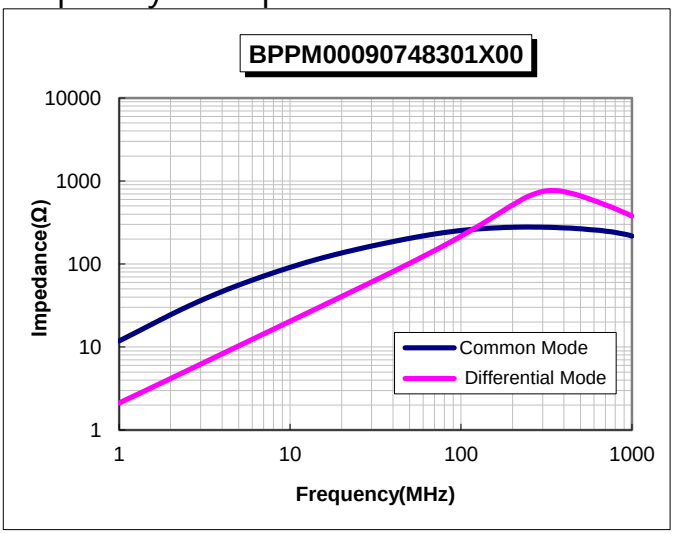
9 Note:

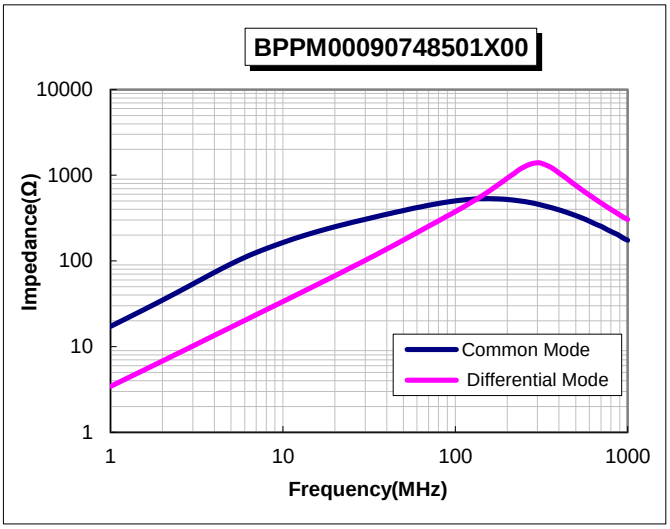
1. Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock or drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose,under 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.

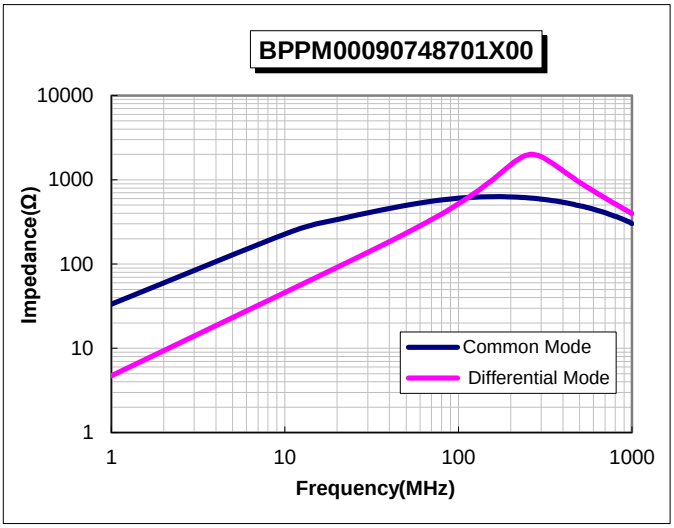
BPPM00090748 Series Specification

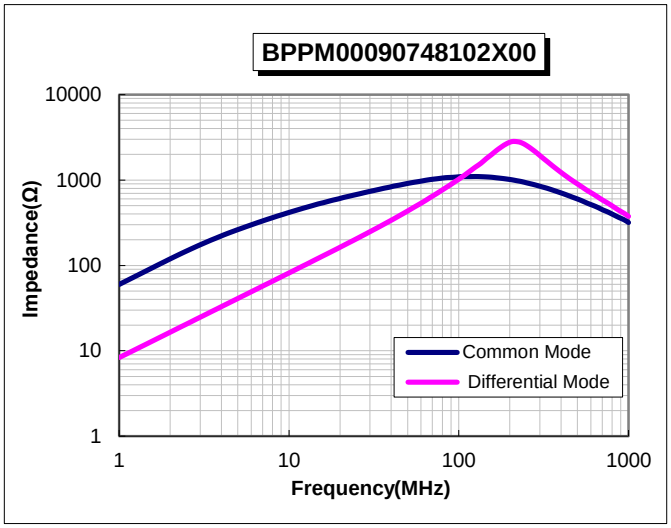
TYPICAL ELECTRICAL CHARACTERISTICS

Frequency vs impedance







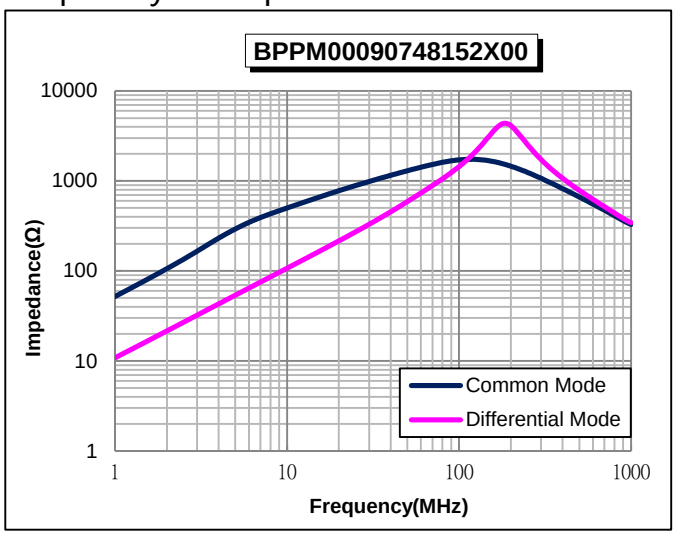


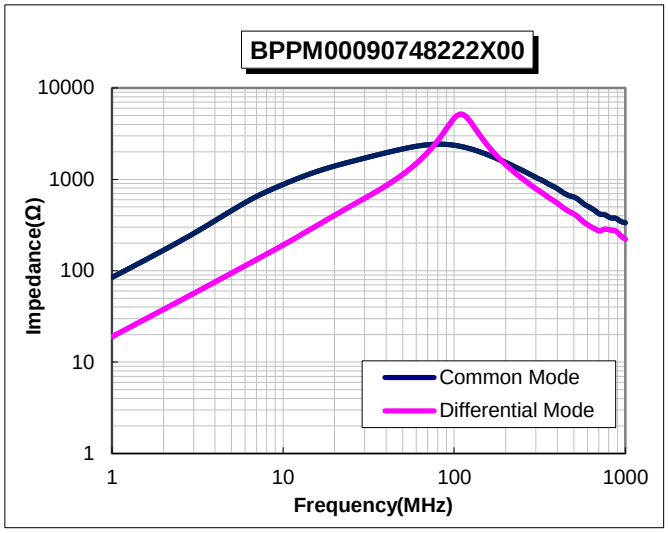
ATTACHMENT

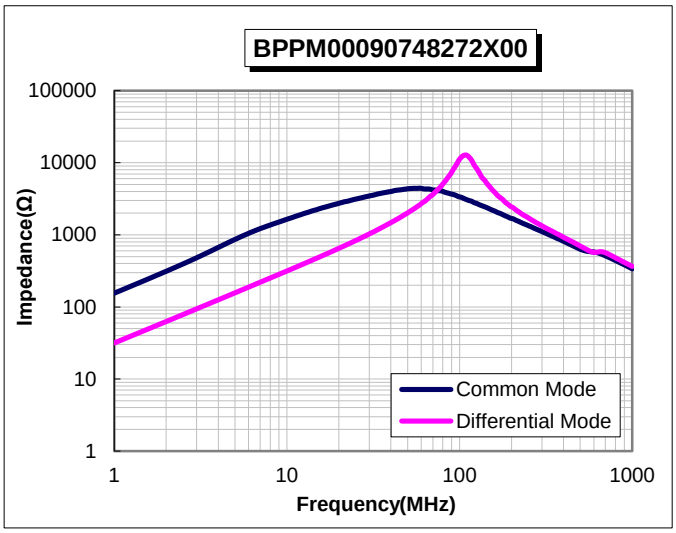
BPPM00090748 Series Specification

TYPICAL ELECTRICAL CHARACTERISTICS

Frequency vs impedance







ATTACHMENT