

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	70 ~ 3000
	7060/2824	
	9070/3628	
	1211/4844	
	1513/6052	
	4850/1920	

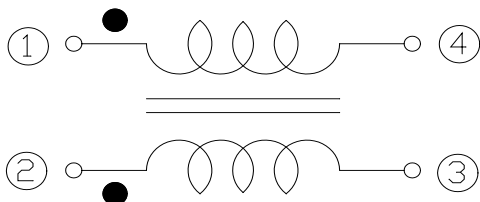


BPPM00070638 Series Specification

6 Electrical Characteristics:

PT/NO.	Impedance(Ω) at 100MHz		Resistance RDC(Ω) Max.(1 line)	Rated Current (A) Max.	Insulation Resistance (M Ω) Min.	Rated Voltage (V)Max.
	Min.	Typ.				
BPPM00070638400X00	40	70	5m	15	10	125
BPPM00070638101X00	100	140	10m	9.0	10	125
BPPM00070638301X00	225	300	10m	5.0	10	125
BPPM00070638501X00	275	350	10m	5.0	10	125
BPPM00070638701X00	500	700	15m	4.0	10	125
BPPM00070638102X00	800	1020	17m	3.0	10	125
BPPM00070638132X00	910	1300	21m	2.5	10	125
BPPM00070638272X00	2000	2700	63m	1.0	10	125
BPPM00070638302X00	2500	3000	75m	0.9	10	125

CIRCUIT DIAGRAM



NOTE:

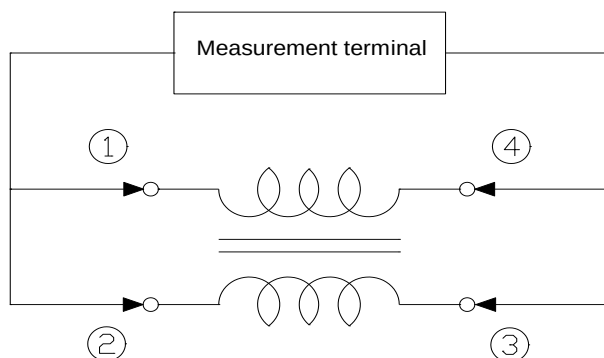
1.Rated DC Current : Based on temperature rise (ΔT : 40°C Typ.)

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6 Electrical Characteristics:

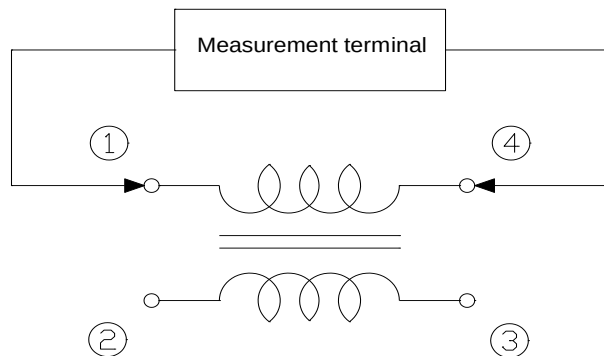
(6)-1 Impedance

Measured by HP4291B RF Impedance Analyzer.



(6)-2 DC Resistance

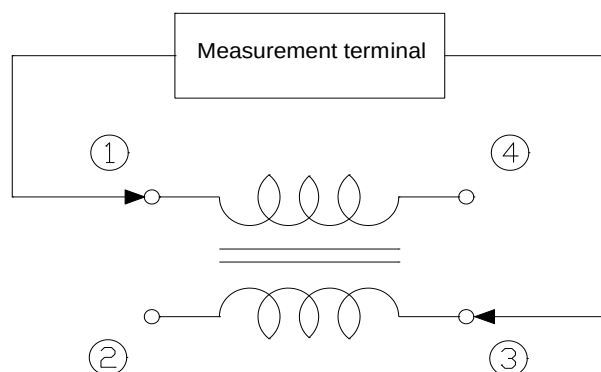
Measured by Chroma 16502 milliohm meter.



(6)-3 Insulation Resistance

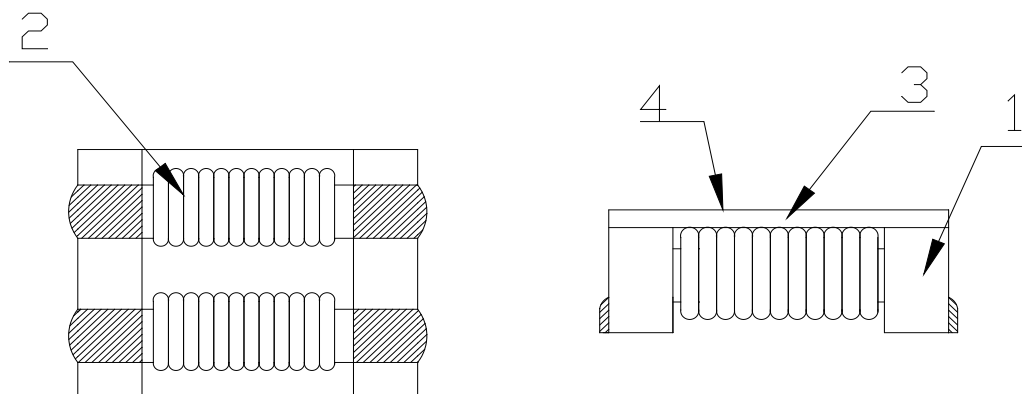
Measured by Chroma 19073

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



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6.1 Construction:

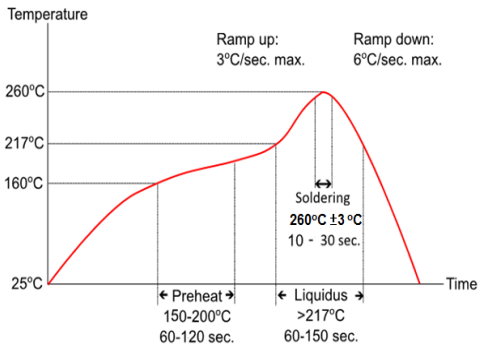
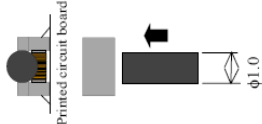
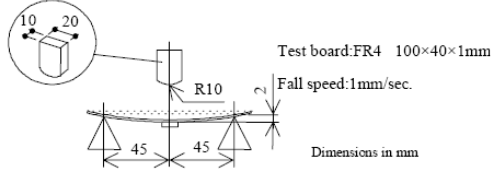


6.2 Material List:

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

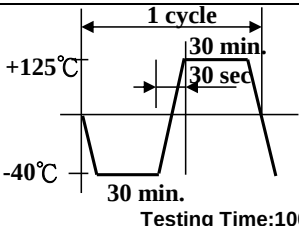
BPPM00070638 Series Specification

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 be 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 be damaged.	Solder a chip to test substrate and then apply a load. 
High temperature resistance	Impedance: Within $\pm 20\%$ 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 be 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 : $+125 \pm 2^\circ\text{C}$ Applied voltage : Rated voltage Applied current : Rated current Testing time : 500 ± 12 hours

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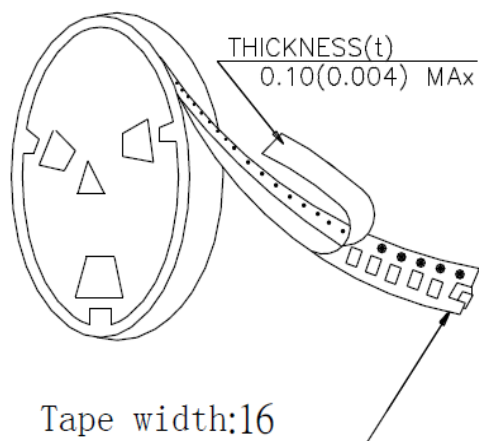
MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS
Humidity resistance	Impedance: Within $\pm 20\%$ 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 be 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 : $+60 \pm 2^\circ\text{C}$, Humidity : 90 to 95 %RH Applied voltage : Rated voltage Applied current : Rated current Testing time : 500 $\pm$ 12 hours
Thermal shock	Impedance: Within $\pm 20\%$ 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 be damaged.	 Testing Time: 100 cycle
Low temperature storage	Impedance: Within $\pm 20\%$ 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 be 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 : $-40 \pm 2^\circ\text{C}$ Testing time : 500 $\pm$ 12 hours
Vibration	Impedance: Within $\pm 20\%$ 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 be 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 $130 \sim 150^\circ\text{C}$ 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 $245 \pm 2^\circ\text{C}$. More than 75% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath.

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7 Packaging:

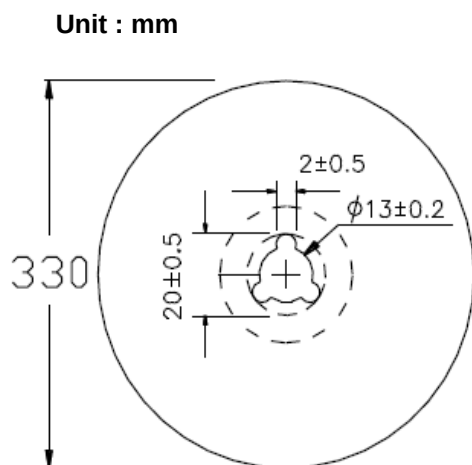
7.1 Packaging -Cover Tape



7.2 Packaging Quantity

TYPE	PCS/REEL
BPPM00070638	1500

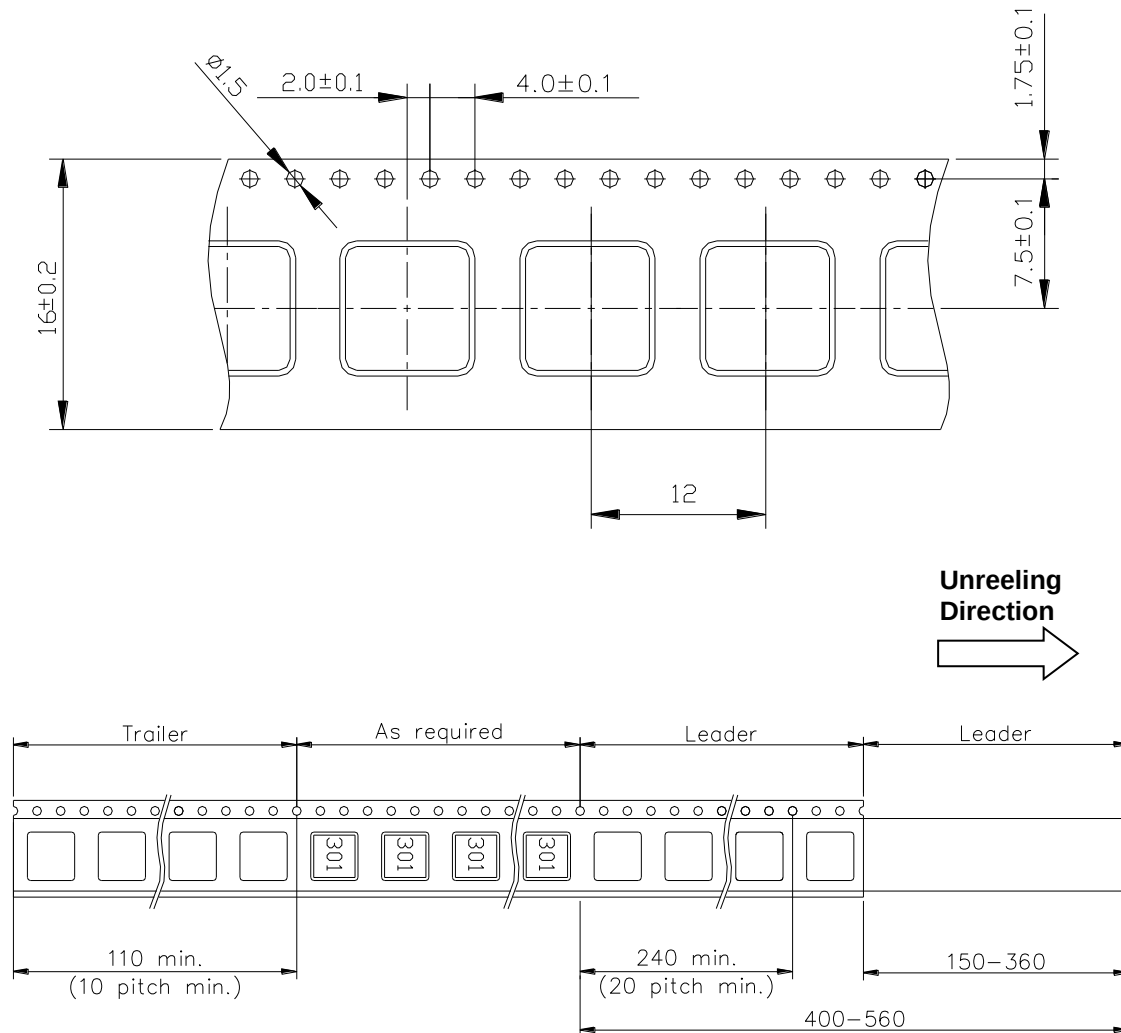
7.3 Reel Dimensions



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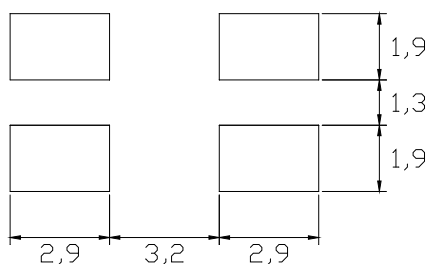
7 Packaging:

7.4 Tape Dimensions in mm



8 Recommended Land Pattern:

(STANDARD PATTERN) Unit : mm



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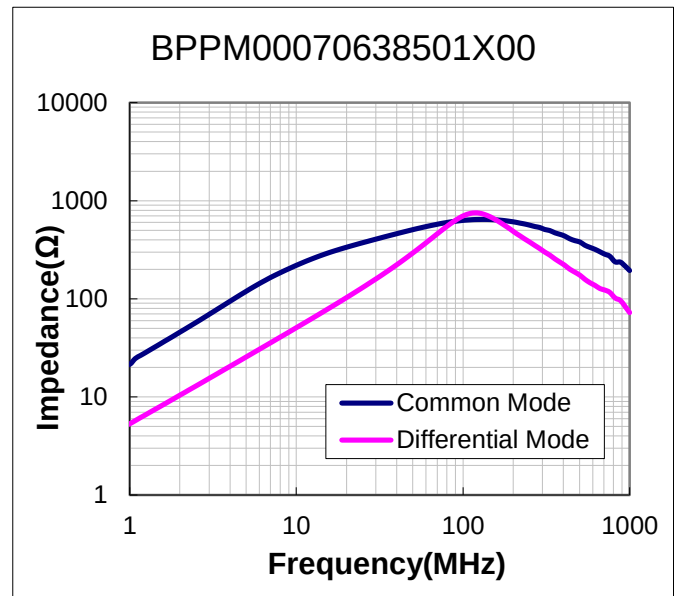
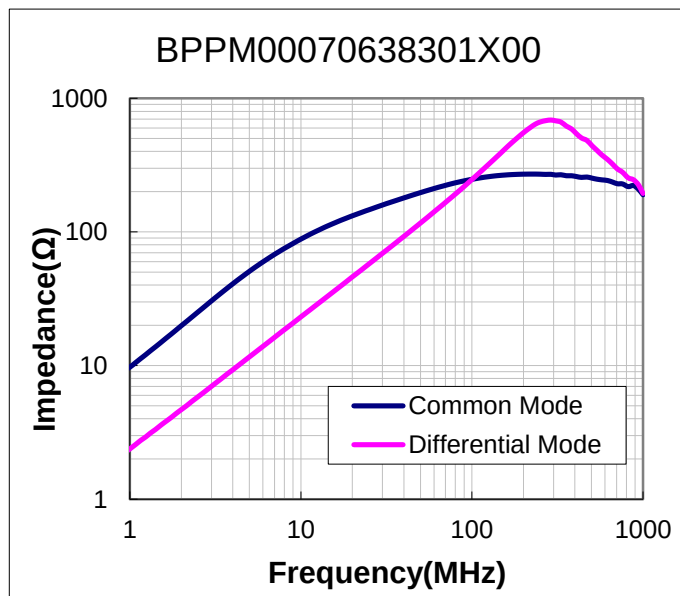
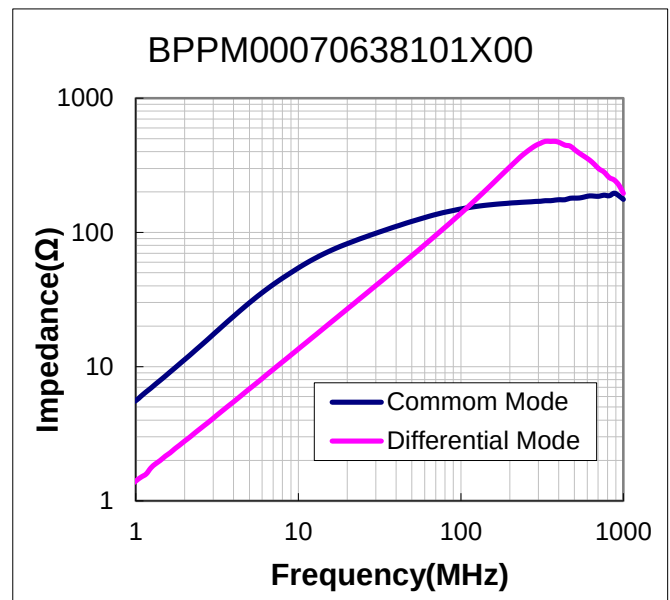
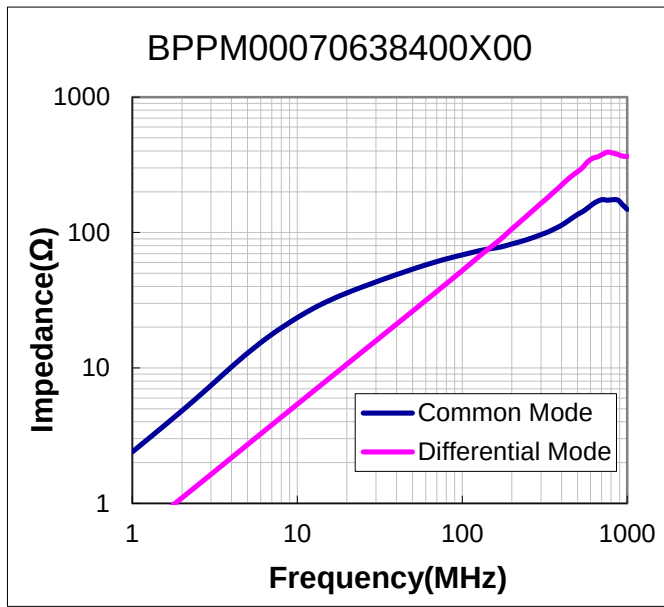
9 Note:

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.
6. Suggestion
On customer side this product series need to be fixed by the glue after IR reflow.
Please refer to below example photo:

BPPM00070638 Series Specification

TYPICAL ELECTRICAL CHARACTERISTICS

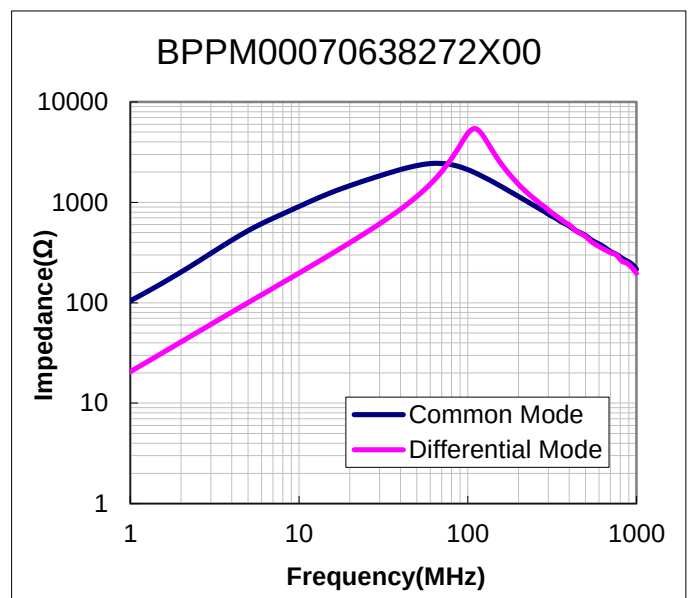
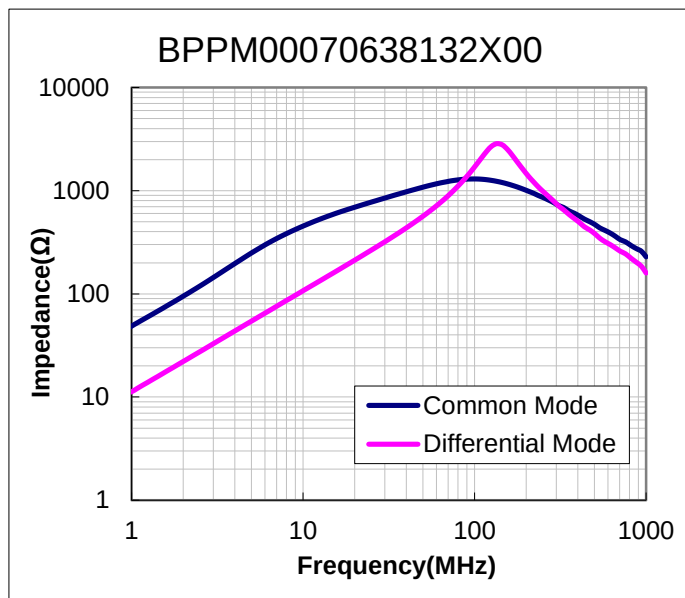
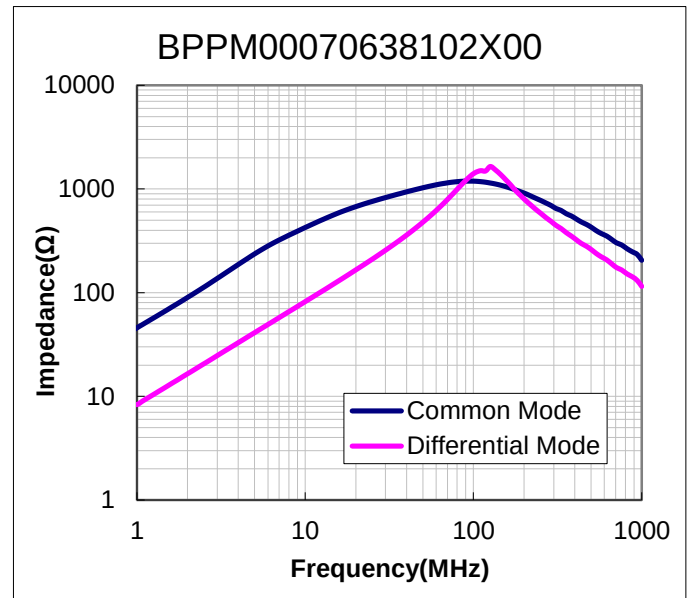
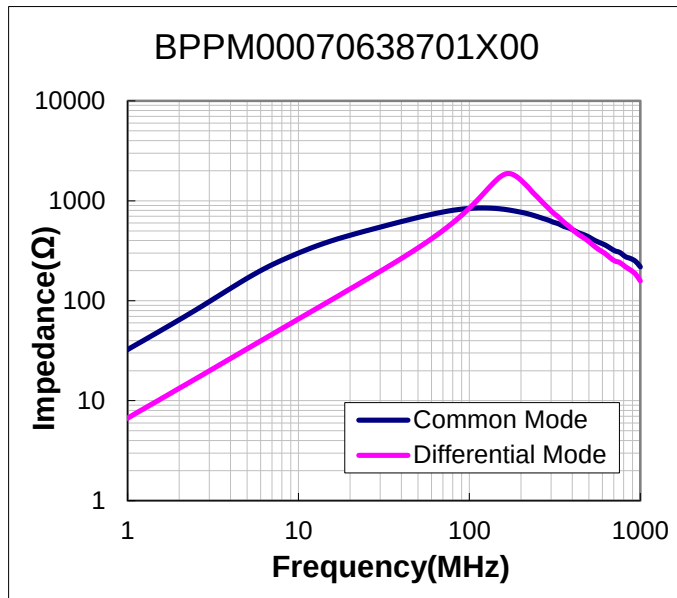
Frequency vs impedance



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TYPICAL ELECTRICAL CHARACTERISTICS

Frequency vs impedance



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TYPICAL ELECTRICAL CHARACTERISTICS

Frequency vs impedance

