

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

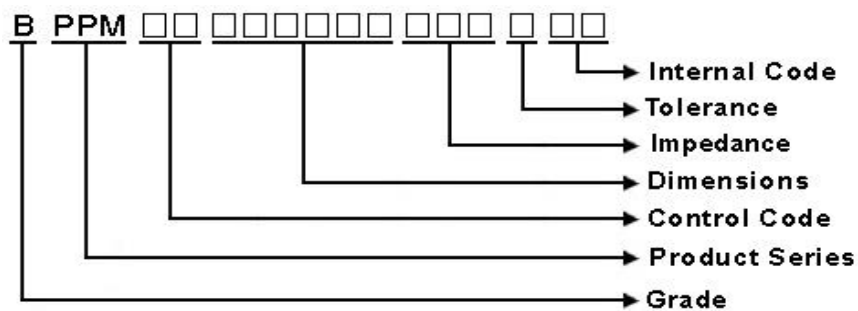
Series	Size Code (JIS/EIA)	Impedance(Ω)
BPPM	5050/2020	70 ~ 3000
	7060/2824	
	9070/3628	
	1211/4844	
	1513/6052	
	4850/1920	



BPPM00485023 Series Specification

1 Scope: This specification applies to the Pb Free Common mode filters

2 Part Numbering:



3 Rating:

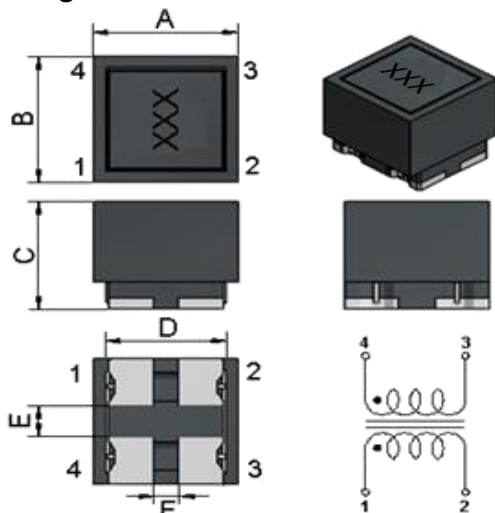
Operating Temperature: - 40°C ~ + 125°C (Including self temp. rise)

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°C)	20 to 30°C
Humidity	Ordinary Humidity(25 to 85% RH)	50 to 80 %RH

5 Configuration and Dimensions and Unit Weight:



Ex Marking:102

A: 4.8±0.30	mm
B: 5.0±0.30	mm
C: 2.3±0.20	mm
D: 3.5±0.20	mm
E: 2.2±0.20	mm
F: 1.1±0.20	mm

Net Weight (grms)

SIZE CODE	Net Weight (grms)
485023	0.216(typ.)

BPPM00485023 Series Specification

6 Electrical Characteristics:

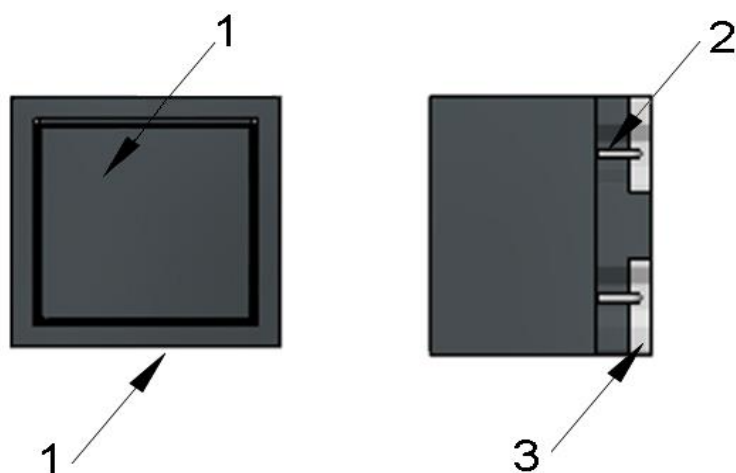
Part No.	Impedance(Ω) Typ. @10MHz	Impedance(Ω) Typ. @100MHz	RDC(m Ω) $\pm 40\%$	I _{rms} (A)Max.	Rated Voltage (V)Max.	Withstanding voltage (V)Max.	Insulation Resistance (M Ω)Min.	Marking
BPPM00485023101X00	—	100	10	6	50	125	10	101
BPPM00485023251X00	20	250	14	5	50	125	10	251
BPPM00485023501X00	30	500	19	4	50	125	10	501
BPPM00485023102X00	60	1000	24	3	50	125	10	102
BPPM00485023142X00	100	1400	40	2	50	125	10	142
BPPM00485023152X00	100	1500	40	2	50	125	10	152

NOTE:

1.I_{rms} : Based on temperature rise (ΔT : 40°C Typ.)

BPPM00485023 Series Specification

7.1 Construction:



7.2 Material List:

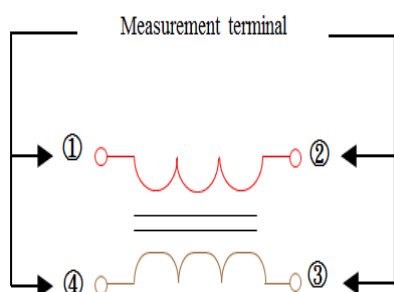
NO	Part	Material
1	Core	Ferrite
2	Wire	Magnet Wire
3	Terminal	Ag/Ni/Sn

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TEST EQUIPMENT

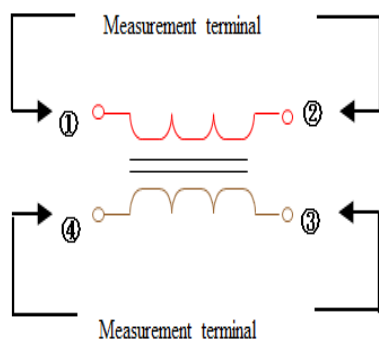
1. Impedance

Measured by HP 4291B RF Impedance Analyzer.



2. DC Resistance

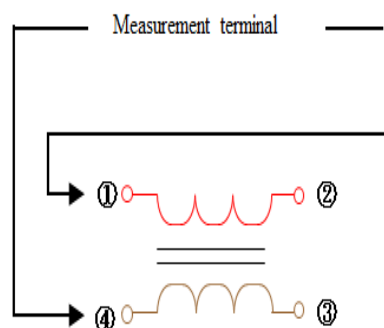
Measured by Chroma 16502 mill ohm meter



3. Insulation Resistance

Measured by Chroma 19073

Measurement voltage: 50v, Measurement time: 3.0 sec.



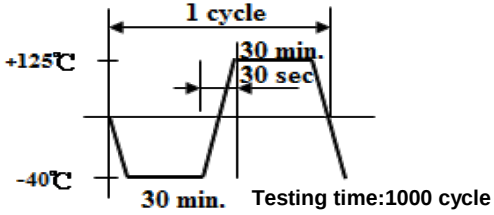
BPPM00485023 Series Specification

MECHANICAL

TEST ITEM	SPECIFICATIONS	TEST CONDITIONS
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.	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 60 sec
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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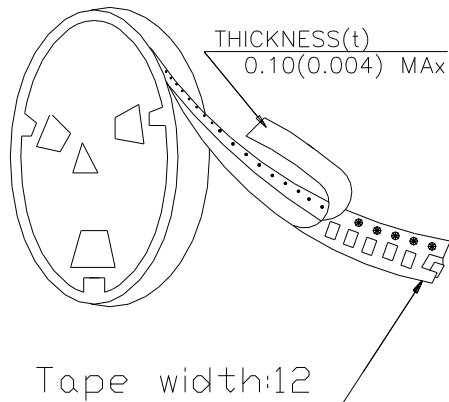
ENVIRONMENT CHARACTERISTICS

TEST ITEM	SPECIFICATIONS	TEST CONDITIONS
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 : $+85 \pm 2^\circ\text{C}$, Humidity : 85 %RH Applied voltage : Rated voltage Applied current : Rated current Testing time : 500 ± 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: 1000 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 ± 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	The electrodes shall be at least 90% covered with new solder coating.	Flux (rosin, isopropyl alcohol {JIS-K-1522}) shall be coated over the whole of the sample before hand, 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 $245 \pm 5^\circ\text{C}$. More than 90% 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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8 Packaging:

8.1 Packaging -Cover Tape

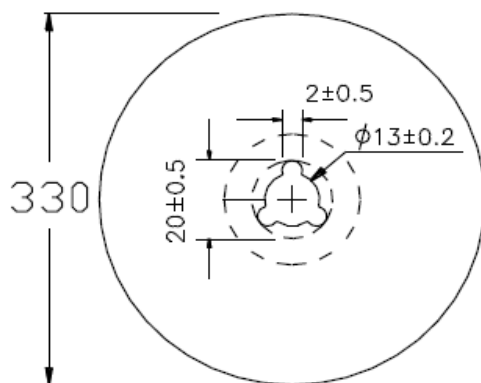


8.2 Packaging Quantity

TYPE	PCS/REEL
485023	2500

8.3 Reel Dimensions

Unit : mm



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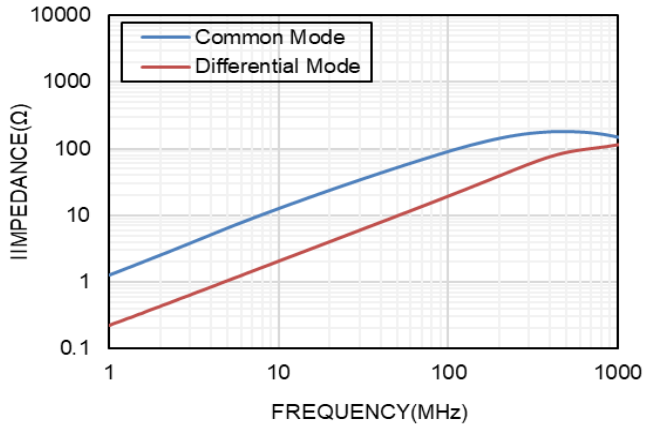
10 Note:

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.

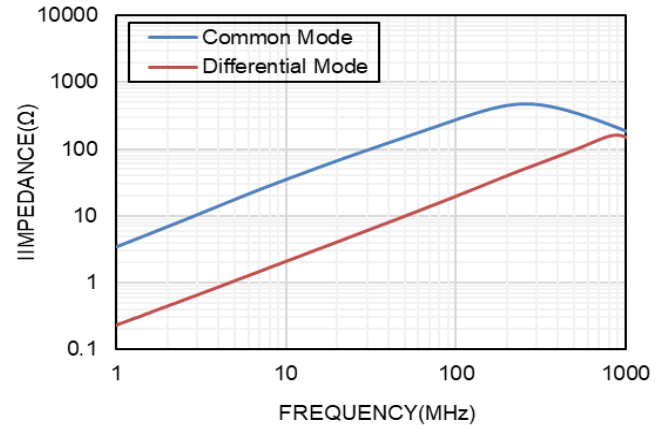
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Graph:

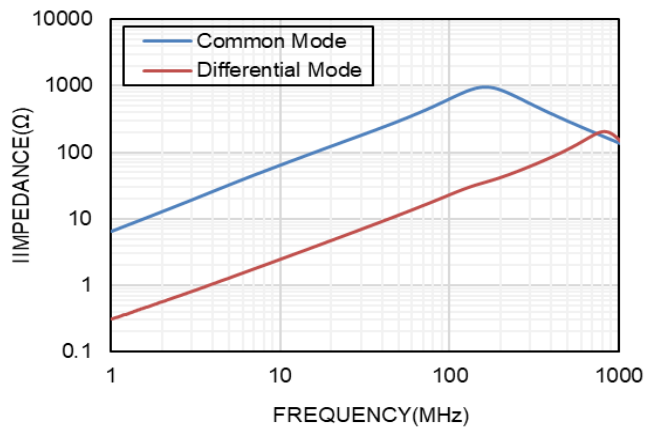
BPPM00485023101X00



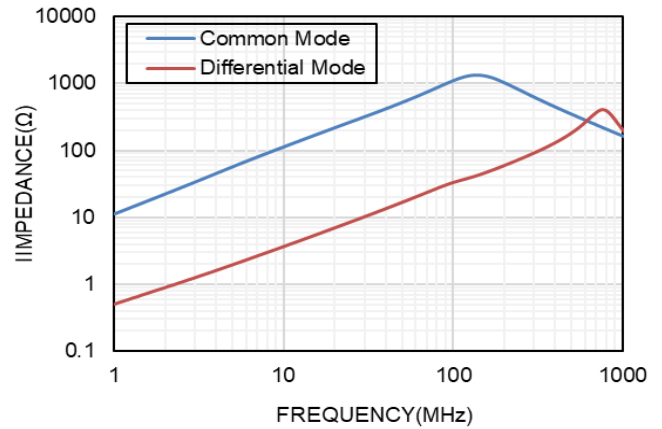
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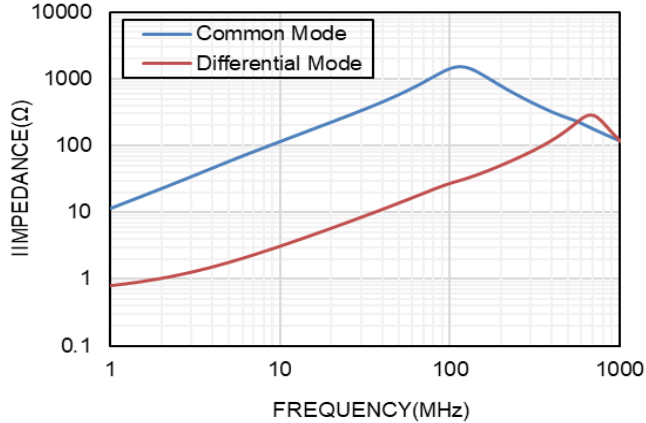
BPPM00485023501X00



BPPM00485023102X00



BPPM00485023142X00



BPPM00485023152X00

