EMI Common Mode Choke

BPPI 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

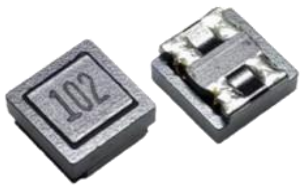
1. For Power line noise countermeasure
2. Miniature SMD type common mode filter for fully automated assembly
3. Excellent solderability

Applications

1. Networking
2. EMI solutions for charger

Product Information

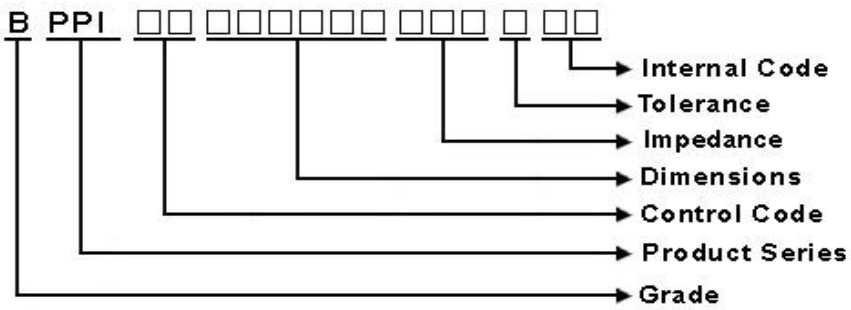
Series	Size Code (JIS/EIA)	Impedance(Ω)
BPPI	4850/1920	100 ~ 3000



BPPI00050545 Series Specification

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

2 Part Numbering:



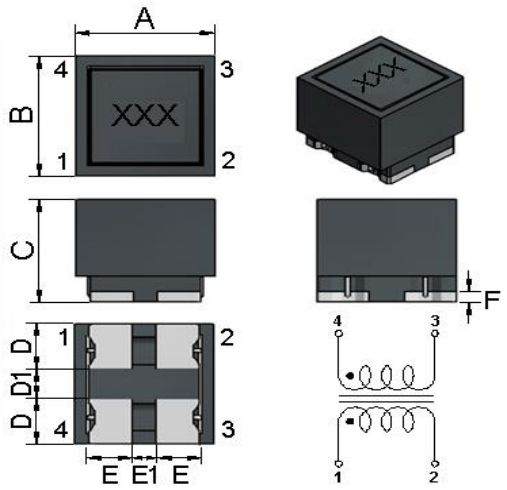
3 Rating:

Operating Temperature: －40℃～＋125℃ (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℃)	20 to 30℃
Humidity	Ordinary Humidity(25 to 85% RH)	50 to 80 %RH

5 Configuration and Dimensions and Unit Weight:



Ex Marking:102
Marking Color: Black

A:	**4.8±0.20**	**mm**
B:	**5.0±0.20**	**mm**
C:	**4.5 Max.**	**mm**
D:	**1.90 Typ.**	**mm**
D1:	**1.00 Typ.**	**mm**
E:	**1.35 Typ.**	**mm**
E1:	**0.80 Typ.**	**mm**
F:	**0.45 Typ.**	**mm**

Net Weight (grms)

SIZE CODE	Net Weight (grms)
050545	**0.213(typ.)**

BPPI00050545 Series Specification

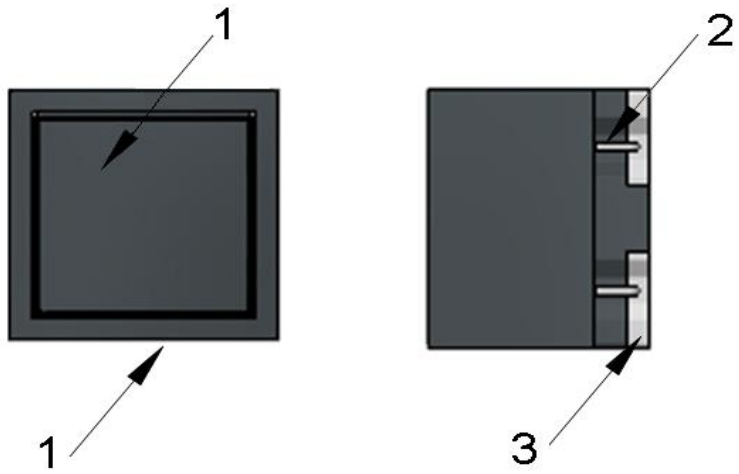
6 Electrical Characteristics:

Part No.	Impedance @100MHz/0.5V Z(Ω)Typ.	Inductance @100kHz/0.1V (uH)Typ.	Resistance RDC(Ω) Max.	Irms Max.(A)	Rated voltage (V)max.	Withstanding voltage (V)max.	Insulation Resistance (MΩ)Min.	Marking
BPPI00050545191X00	190	0.6	0.02	5.0	50	125	10	191
BPPI00050545351X00	350	1.1	0.04	2.0	50	125	10	351
BPPI00050545102X00	1000	2.7	0.06	1.5	50	125	10	102
BPPI00050545152X00	1500	3.6	0.10	1.0	50	125	10	152
BPPI00050545302X00	3000	6.0	0.20	0.5	50	125	10	302

NOTE:

1.Irms： Based on temperature rise (△T：40℃ Typ.)

7 7.1 Construction:



7.2 Material List:

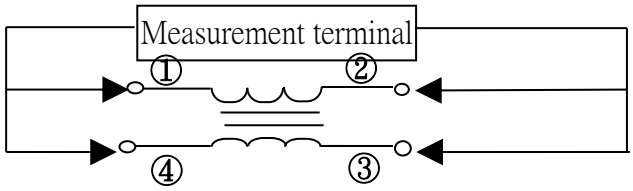
NO	Part	Material
1	Core	Ferrite
2	Wire	Magnet Wire
3	Terminal	Ag/Ni/Sn

BPPI00050545 Series Specification

TEST EQUIPMENT

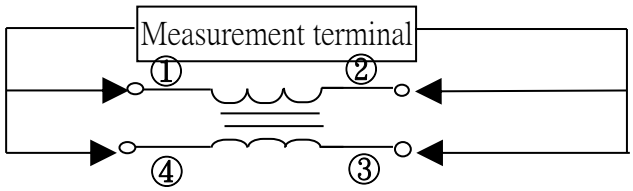
1. Impedance

Measured by using HP4291B RF Impedance Analyzer.



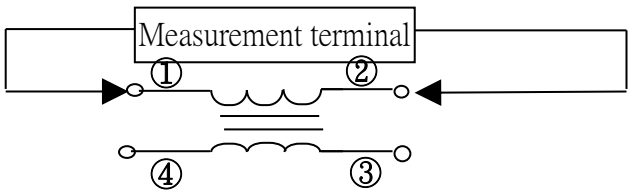
2. Inductance

Measured by using HP4284A PRECISION LCR METER.



3. DC Resistance

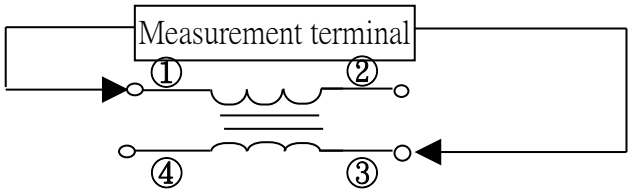
Measured by using Chroma 16502 milliohm meter.



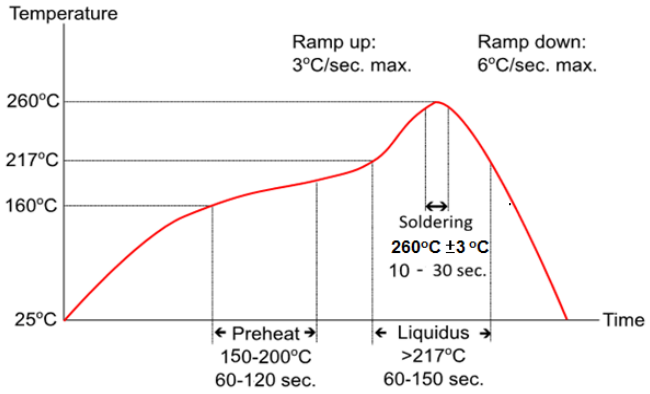
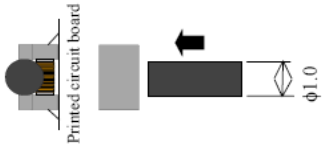
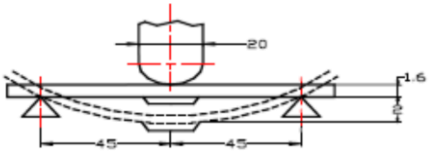
4. Insulation Resistance

Measured by using Chroma 19073

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

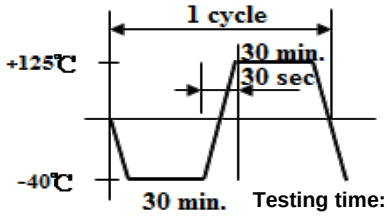


MECHANICAL

TEST ITEM	SPECIFICATIONS	TEST CONDITIONS
Solder ability	The product shall be connected to the te 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 mu 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 mu not 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±20% of the initial value. Insulation resistance and DC resistance the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite mu 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

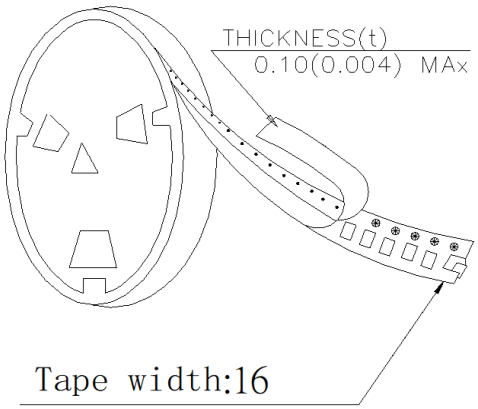
BPPI00050545 Series Specification

ENVIRONMENT CHARACTERISTICS

TEST ITEM	SPECIFICATIONS	TEST CONDITIONS
Humidity resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance or 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 : +85±2℃ , Humidity : 85 %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:1000 cycle
Low temperature storage	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance or 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 or 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	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 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±5℃. More than 90% 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

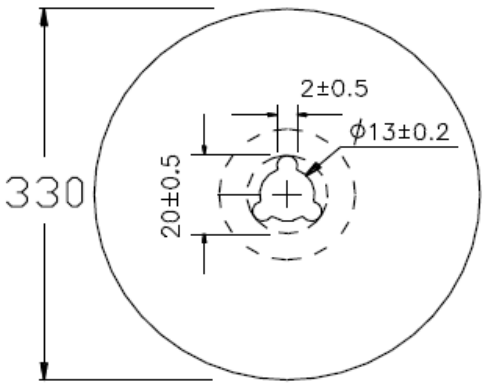


7.2 Packaging Quantity

TYPE	PCS/REEL
050545	1000

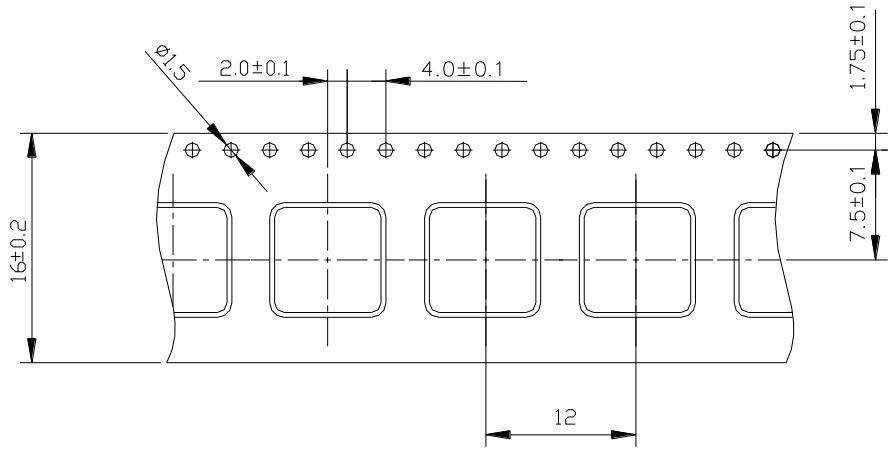
7.3 Reel Dimensions

Unit : mm

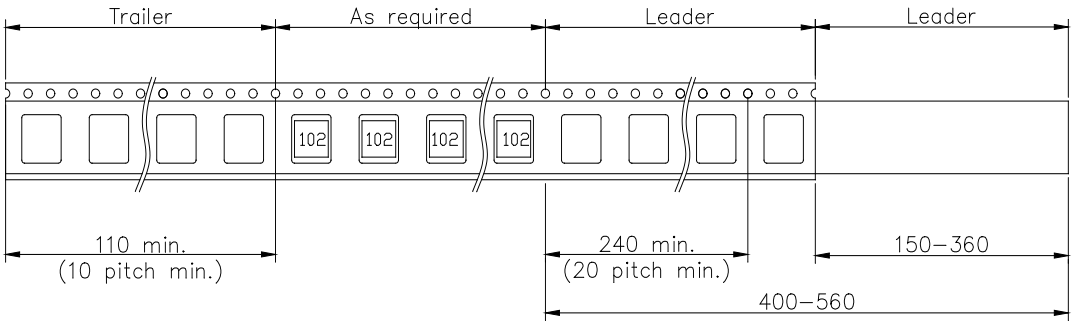


7 Packaging:

7.4 Tape Dimensions in mm

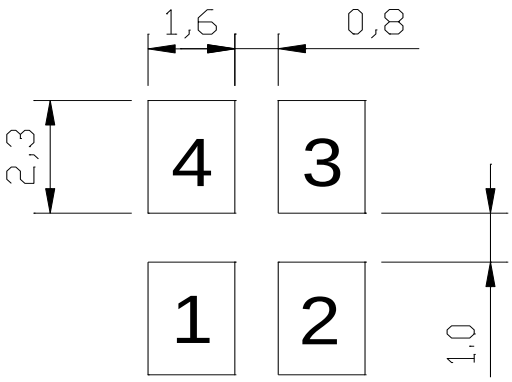


Unreeling Direction



8 Recommended Land Pattern:

(STANDARD PATTERN) **Unit : mm**



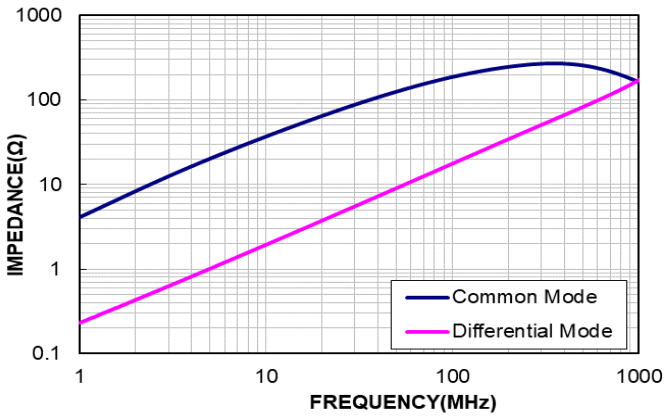
9 Note:

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.

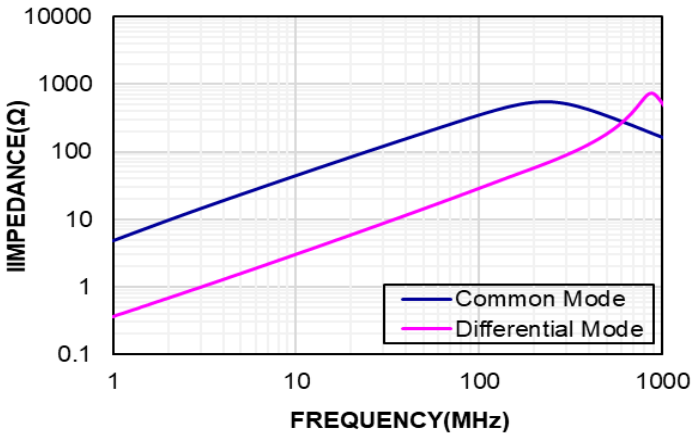
BPPI00050545 Series Specification

Graph:

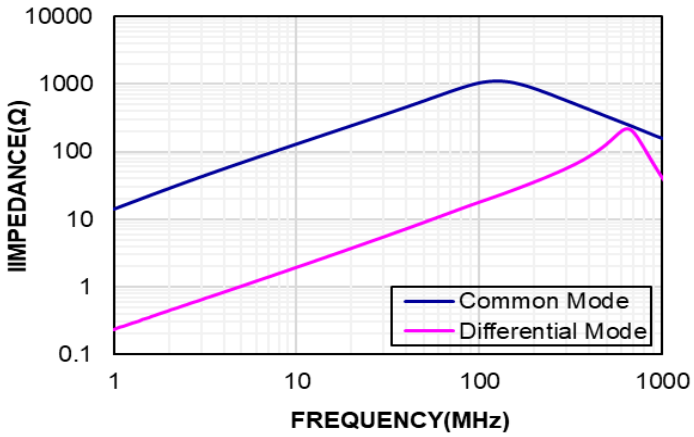
BPPI00050545191X00



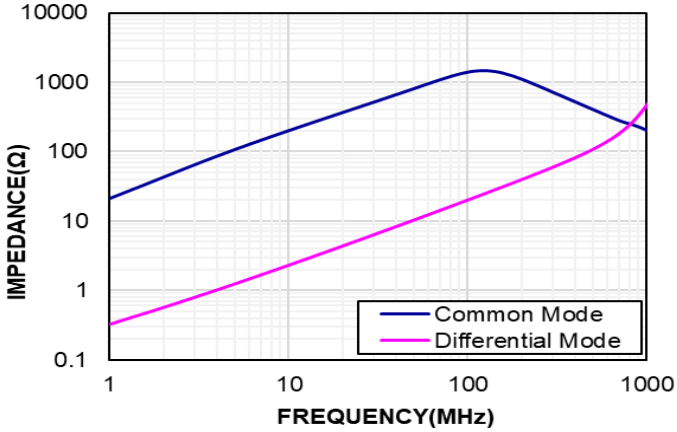
BPPI00050545351X00



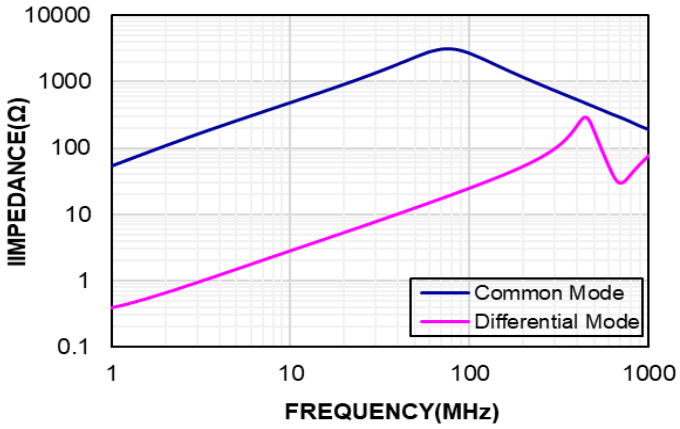
BPPI00050545102X00



BPPI00050545152X00



BPPI00050545302X00



ATTACHMENT-1