

EMI Ferrite Bead



BPPB Series



Overview

EMI ferrite beads are made of ferrite material, which can block high-frequency noise while allowing required signals to pass through, providing high impedance and noise attenuation to improve signal integrity/efficiency and reduce power loss.

Benefits

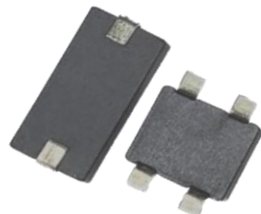
1. For Power Line
2. Special designs for surface mounting
3. Available in various sizes for wide range of application and usage power loss and improved system efficiency
4. Highly resistant against heat and humidity

Applications

1. Stereo
2. Car radio
3. Mobile telephone
4. VCRs
5. Computer disk drive and PC board

Product Information

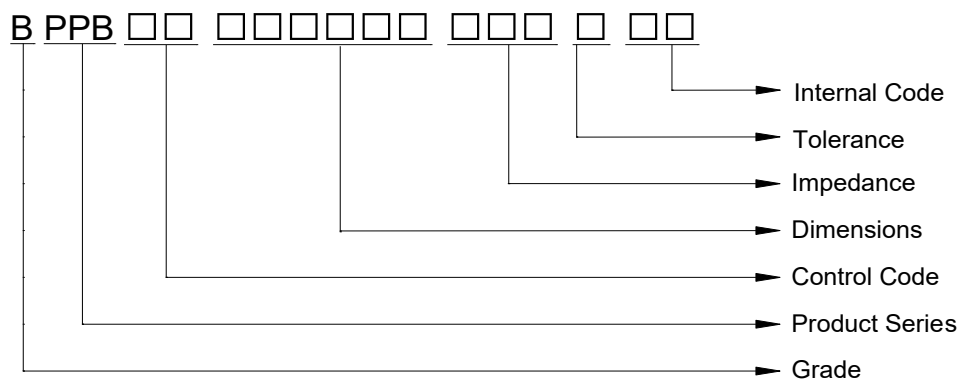
Series	Size Code (JIS/EIA)	Impedance (Ω)
BPPB	4030/1612	33 ~ 115
	8530/3312	
	8546/3318	
	5746/2218	



BPPB00403025 Series Specification

1 Scope: This specification applies to the Pb Free Ferrite Chip Beads

2 Part Numbering:



3 Rating:

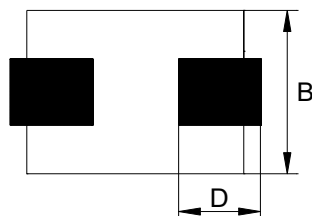
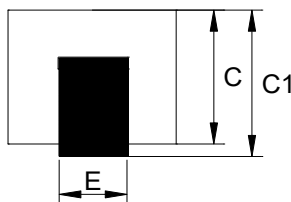
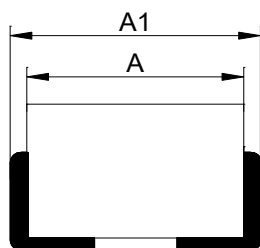
Operating Temperature: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including self temp. rise)

Storage Temperature: (on tape & reel): -20°C to $+40^{\circ}\text{C}$; 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:



A:	4.06 ± 0.1	mm
A1:	5.08 Max.	mm
B:	3.05 ± 0.15	mm
C:	2.54 ± 0.15	mm
C1:	3.05 Max.	mm
D:	1.52 ± 0.50	mm
E:	1.27 Typ.	mm

SIZE CODE	Net Weight (grams)
403025	0.165(typ.)

BPPB00403025 Series Specification

6 Electrical Characteristics:

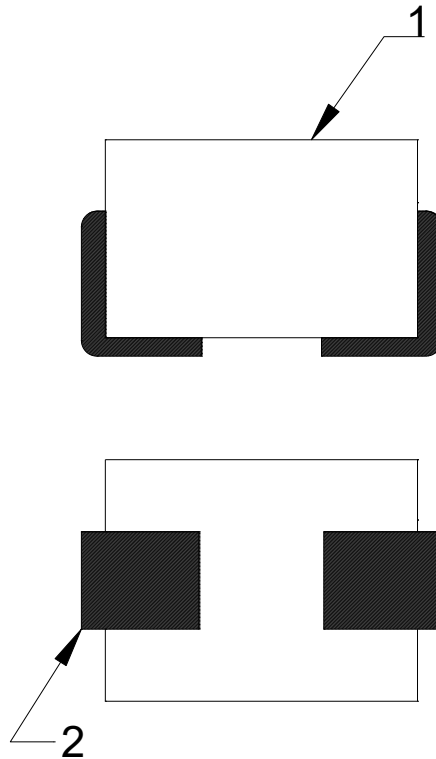
Part No.	Impedance(Ω)		Resistance RDC(m Ω) Max.	Rated DC Current (A)
	1MHz,0.5V	10MHz,0.5V		
BPPB00403025420XAE	14Min	34Min(42Typ)	0.75	10

NOTE:

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

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7.1 Construction:



7.2 Material List:

NO.	ITEM	DESCRIPTION & TYPE
1	CORE	FERRITE
2	COPPER FOIL	PB FREE

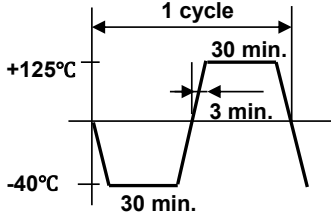
BPPB00403025 Series Specification

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 Ramp up: 3°C/sec. max. Ramp down: 6°C/sec. max. 260°C, 217°C, 160°C, 25°C Time Preheat: 150-200°C, 60-120 sec. Liquidus: >217°C, 60-150 sec. Soldering: 260°C ± 3 °C, 10 - 30 sec. Ramp up rate: 3°C per second (max.) Ramp down rate: 6°C per second (max.) Preheat temperature: 150-200°C, 60-120 seconds Liquidus temperature: above 217°C, 60-150 seconds Peak temperature: 260°C ± 3 °C, 10-30 seconds 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. No terminal damage.	Apply a 9.8N force to the side of a device bending tested. The force shall be applied for 5 seconds.
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 ±20% of the initial value. Insulation resistance and DC resistance must meet the specification (refer to clause 2-1). 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±2°C Testing time : 500±12 hours

BPPB00403025 Series Specification

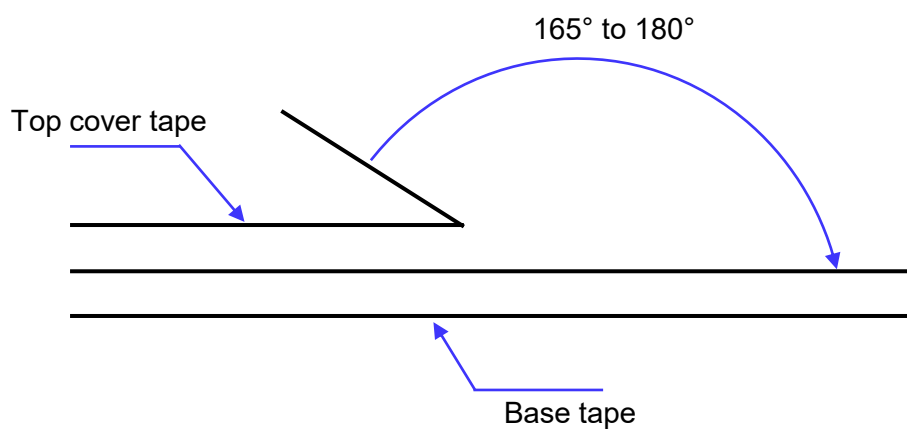
MECHANICAL

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 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: 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 ± 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 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 $245 \pm 2^\circ\text{C}$. 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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8 Packaging:

8.1 Packaging -Cover Tape

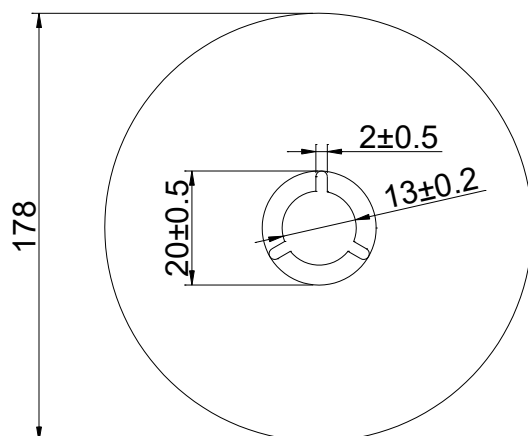


8.2 Packaging Quantity

TYPE	PCS/REEL
403025	500

8.3 Reel Dimensions

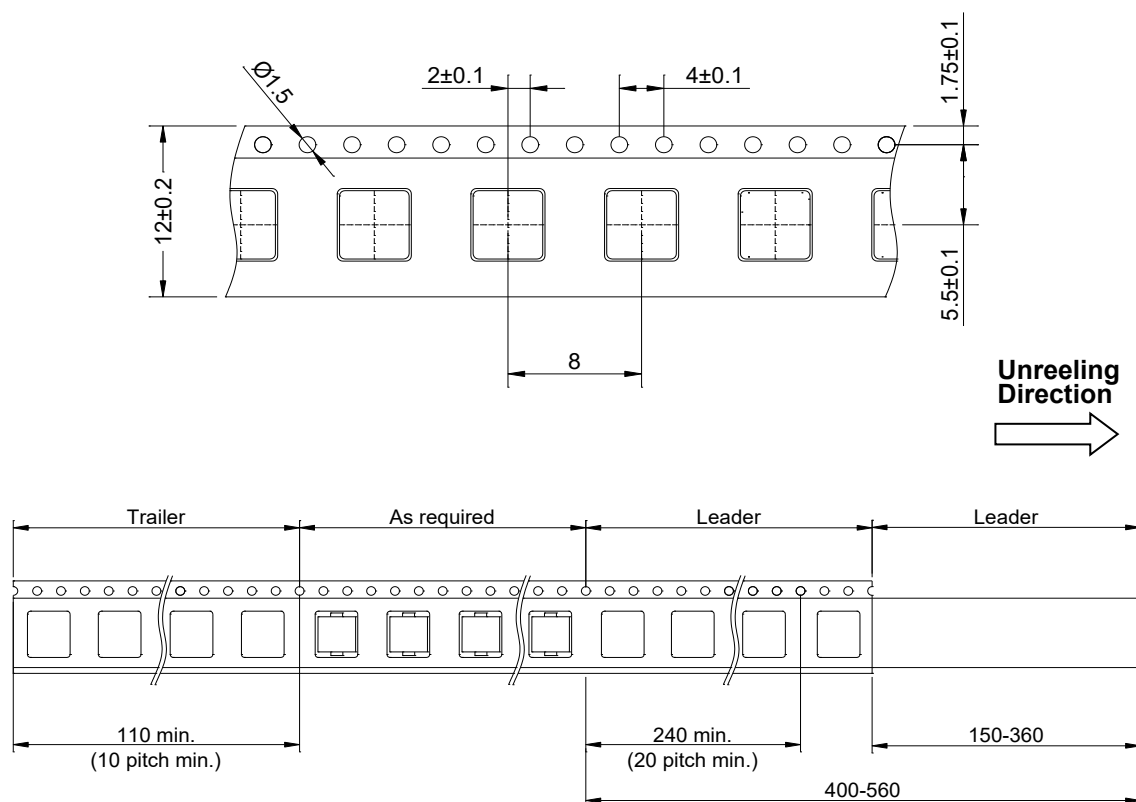
Unit : mm



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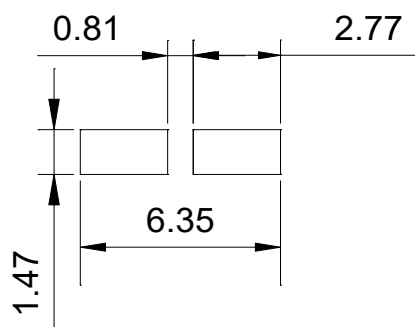
8 Packaging:

8.4 Tape Dimensions in mm



9 Recommended Land Pattern:

(STANDARD PATTERN) Unit : mm



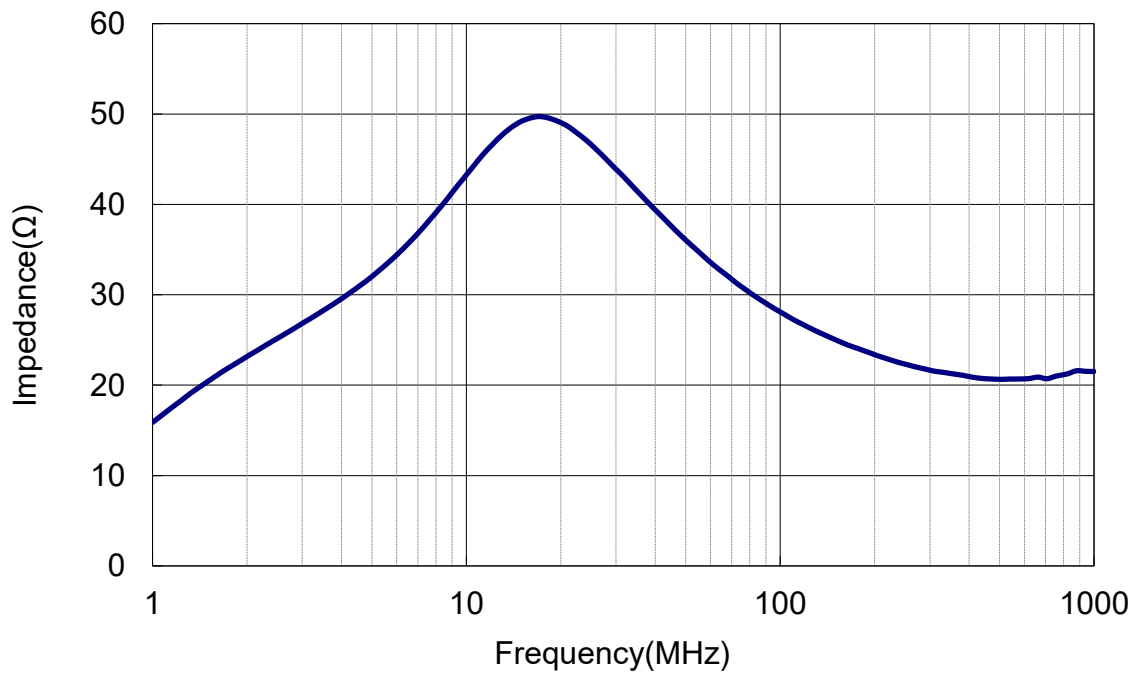
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10 Note:

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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TYPICAL ELECTRICAL CHARACTERISTICS



Temperature Rise vs. DC Current

