

## Cautions and Warnings

Please be noted that this spec is only for reference if you have projects designed with the product number listed in. If you are looking for new project design-in, please find BBPY Series specification/datasheet on Chilisin website. Or you may find our sales contact for more information on old part number at your convenience. Appreciated your attention and understanding.

**Note:** Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without prior notice. This product may not be designed/used in medical or high risk applications without Chilisin approval. Please contact our sales department before ordering.

## Multilayer Ferrite Chip Beads



Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: SB, GB, PB, UPB, NB, HF, and VPB series.

### Product Identification



- Product symbol: SB, GB, PB, UPB, NB, HF, VPB
- Packaging: T : Tape and Reel ; B : Bulk
- Tolerance: Y = ± 25%; M = ± 20%; T:±30%
- Note: RoHS Compliant

### Shape and Dimensions

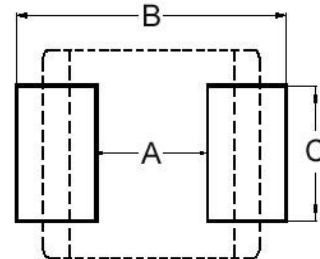


Dimensions in mm

TYPE	A	B	C	D
①060303	0.6±0.03	0.30±0.03	0.3±0.03	0.15±0.05
②100505	1.0±0.10	0.50±0.10	0.5±0.10	0.25±0.10
③160805	1.6±0.15	0.80±0.15	0.5±0.15	0.3±0.2
④160808	1.6±0.15	0.80±0.15	0.8±0.15	0.3±0.2
⑤201209	2.0±0.20	1.25±0.20	0.9±0.20	0.5±0.3
⑥321611	3.2±0.20	1.60±0.20	1.1±0.20	0.5±0.3
⑦453215	4.5±0.25	3.20±0.20	1.5±0.20	0.5±0.3

- ① : SBY / SBJ / NB / PB    ② : SBY / SBJ / NB / PB / UPB / HF  
 ③ : UPB    ④ : SBK / SBJ / GB / PB / NB / UPB / VPB  
 ⑤ : SBK / GB / PB / UPB    ⑥ : SBY / SBK / PB / UPB  
 ⑦ : PB / UPB

### Recommended Pattern



Dimensions in mm

TYPE	A	B	C
①060303	0.2 ~ 0.3	0.75 ~ 1.05	0.3
②100505	0.4	1.2 ~ 1.4	0.5
③160805	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
⑤201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
⑥321611	2.0	4.2 ~ 5.2	1.2
⑦453215	3.0	5.5 ~ 6.5	2.4

- \* Don't apply narrower pattern than listed above to PB and UPB. Narrow pattern might cause excessive heat or open circuit.

### Dimension Conversion

Code	Dimension in mm (AxBxC)	EIA
060303	0.6X0.3X0.3	0201
100505	1.0X0.5X0.5	0402
160805	1.6x0.8x0.5	0603
160808	1.6x0.8x0.8	0603
201209	2.0x1.2x0.9	0805
321611	3.2x1.6x1.1	1206
453215	4.5x3.2x1.5	1812

# SMD Multilayer Ferrite Chip Beads – PBY Series

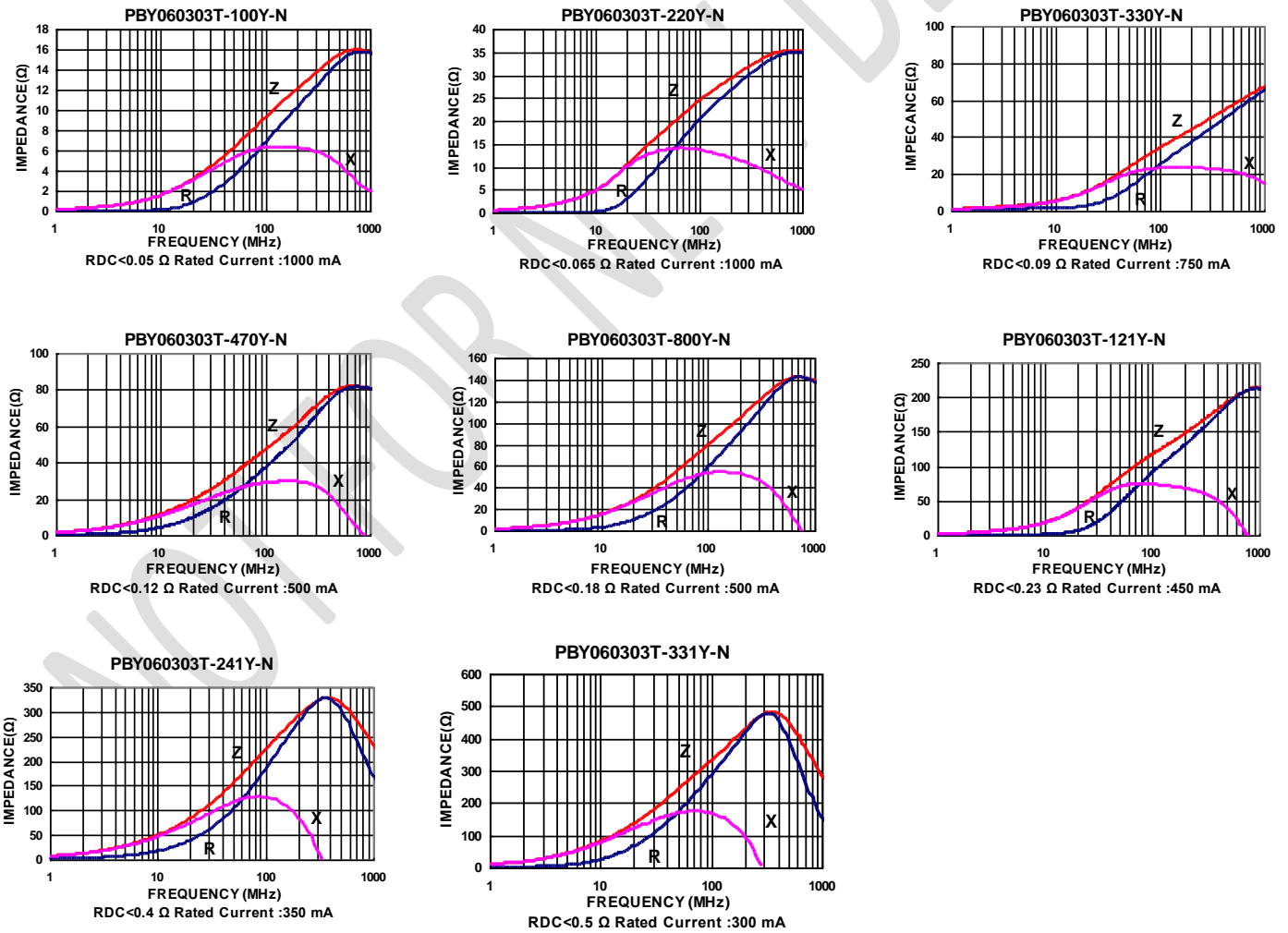
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
PBY060303T-100Y-N	10	100	0.050	1000
PBY060303T-220Y-N	22	100	0.065	1000
PBY060303T-330Y-N	33	100	0.090	750
PBY060303T-470Y-N	47	100	0.120	500
PBY060303T-800Y-N	80	100	0.180	500
PBY060303T-121Y-N	120	100	0.230	450
PBY060303T-241Y-N	240	100	0.400	350
PBY060303T-331Y-N	330	100	0.500	300

**Note:** When ordering, please specify tolerance code. Tolerance : Y= $\pm 25\%$

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

## Test Instruments : Agilent E4991A Impedance / Material Analyzer



# SMD Multilayer Ferrite Chip Beads – PBX Series

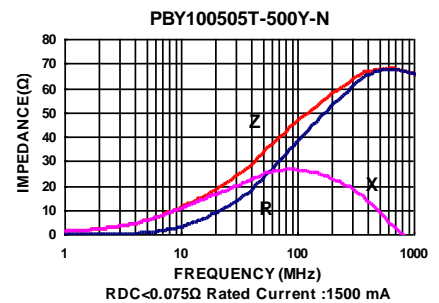
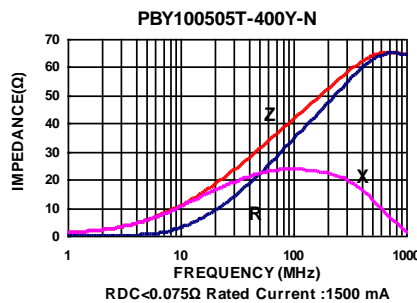
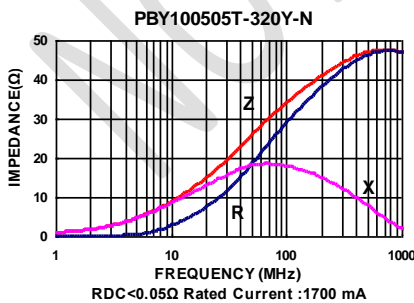
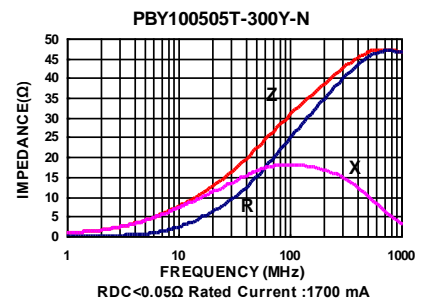
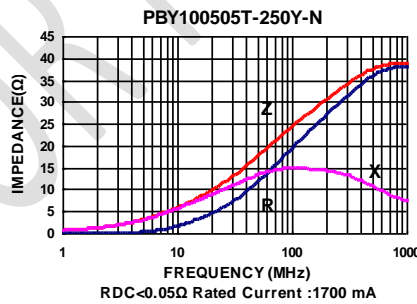
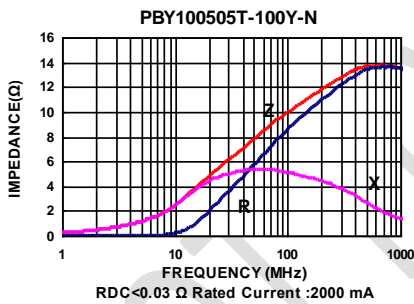
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
PBY100505T-100Y-N	10	100	0.03	2000
PBY100505T-250Y-N	25	100	0.05	1700
PBY100505T-300Y-N	30	100	0.05	1700
PBY100505T-320Y-N	32	100	0.05	1700
PBY100505T-400Y-N	40	100	0.075	1500
PBY100505T-500Y-N	50	100	0.075	1500
PBY100505T-600Y-N	60	100	0.075	1500
PBY100505T-680Y-N	68	100	0.09	1200
PBY100505T-700Y-N	70	100	0.09	1200
PBY100505T-800Y-N	80	100	0.09	1200
PBY100505T-101Y-N	100	100	0.09	1200
PBY100505T-121Y-N	120	100	0.09	1400
PBY100505T-151Y-N	150	100	0.14	1400
PBY100505T-181Y-N	180	100	0.14	900
PBY100505T-221Y-N	220	100	0.18	1100
PBY100505T-601Y-N	600	100	0.34	700
PBY100505T-102Y-N	1000	100	0.49	500

**Note:** When ordering, please specify tolerance code. Tolerance : Y= $\pm 25\%$

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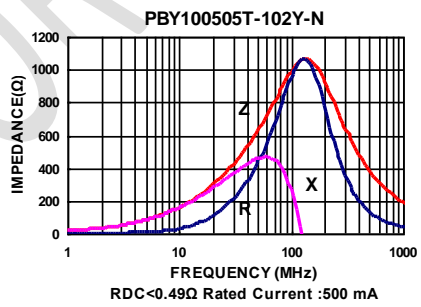
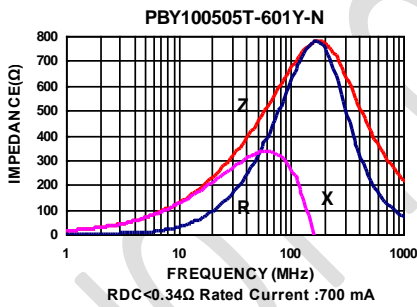
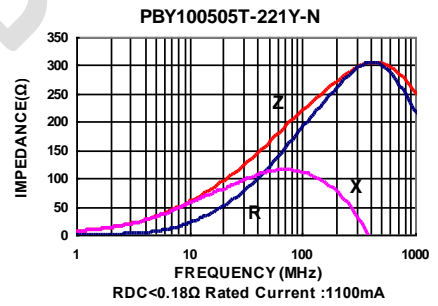
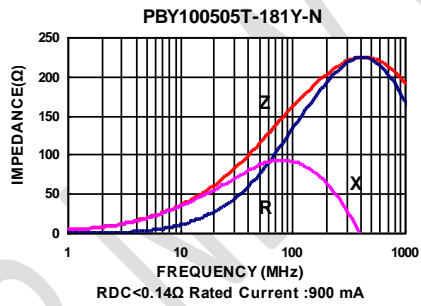
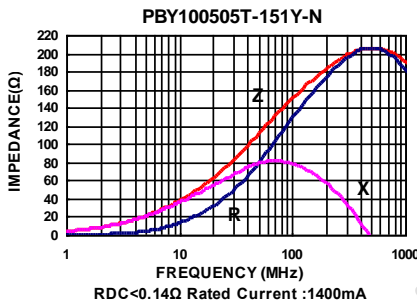
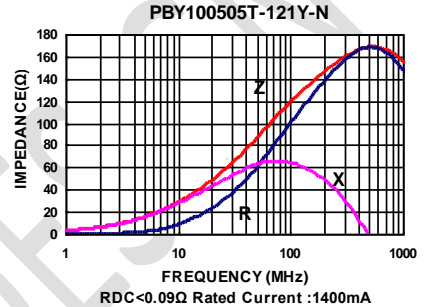
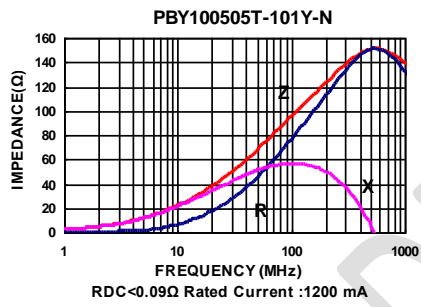
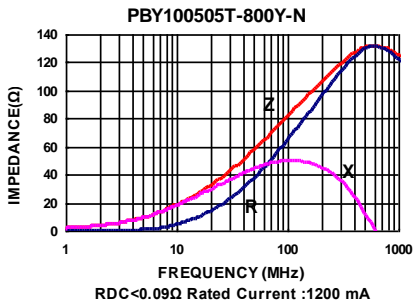
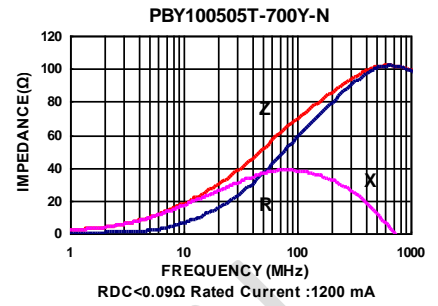
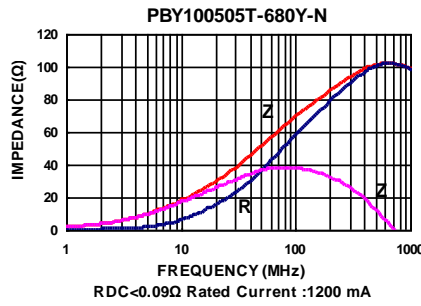
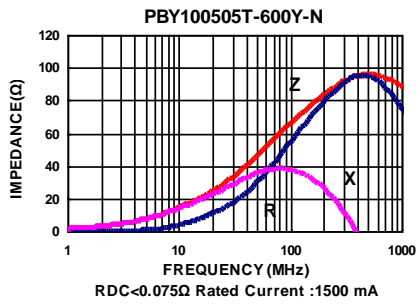
## Test Instruments : Agilent E4991A Impedance / Material Analyzer



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# SMD Multilayer Ferrite Chip Beads – PBX Series

Test Instruments : Agilent E4991A Impedance / Material Analyzer



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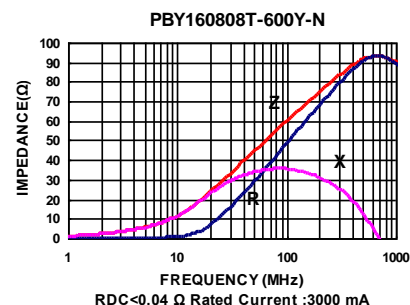
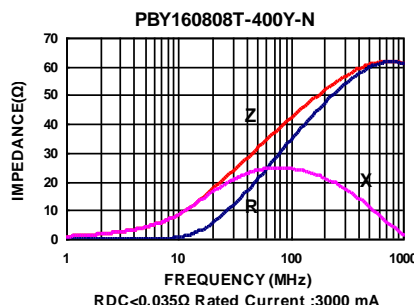
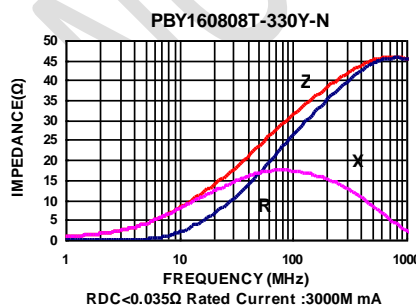
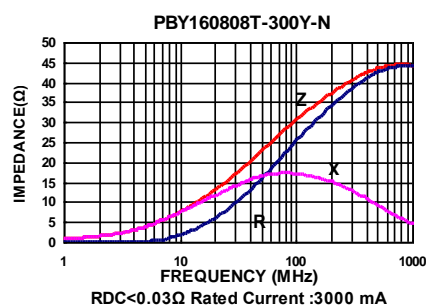
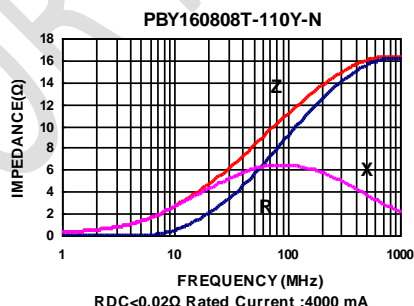
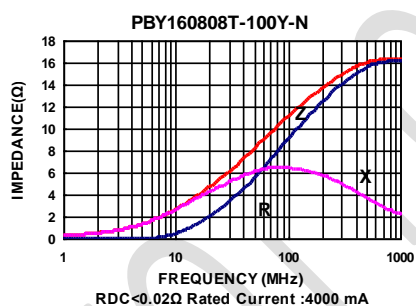
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
PBY160808T-100Y-N	10	100	0.020	4000
PBY160808T-110Y-N	11	100	0.020	4000
PBY160808T-300Y-N	30	100	0.030	3000
PBY160808T-330Y-N	33	100	0.035	3000
PBY160808T-400Y-N	40	100	0.035	3000
PBY160808T-600Y-N	60	100	0.040	3000
PBY160808T-800Y-N	80	100	0.050	2500
PBY160808T-101Y-N	100	100	0.050	2500
PBY160808T-121Y-N	120	100	0.080	2500
PBY160808T-151Y-N	150	100	0.085	2000
PBY160808T-181Y-N	180	100	0.090	2000
PBY160808T-221Y-N	220	100	0.100	2000
PBY160808T-301Y-N	300	100	0.120	1500
PBY160808T-331Y-N	330	100	0.120	1500
PBY160808T-471Y-N	470	100	0.150	1500
PBY160808T-601Y-N	600	100	0.200	1000
PBY160808T-102Y-N	1000	100	0.250	800
PBY160808T-122Y-N	1200	100	0.250	800
PBY160808T-152Y-N	1500	100	0.400	500

**Note:** When ordering, please specify tolerance code. Tolerance : Y $\pm$ 25%

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- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

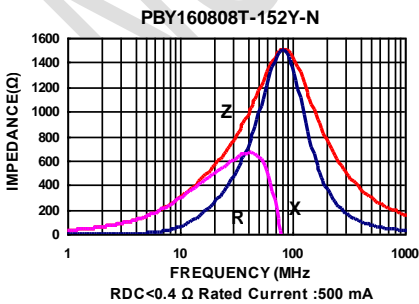
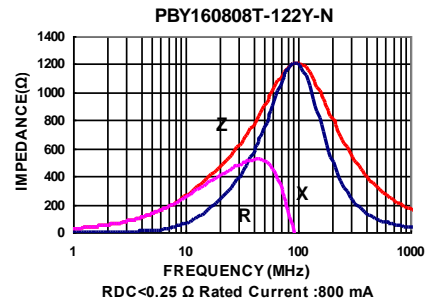
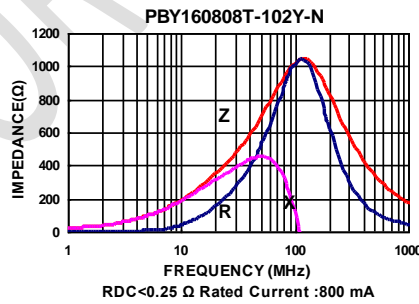
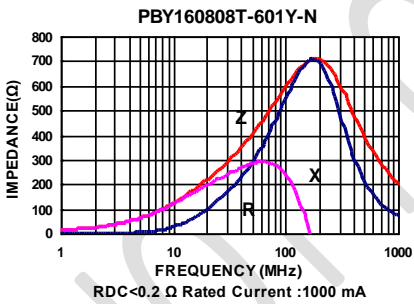
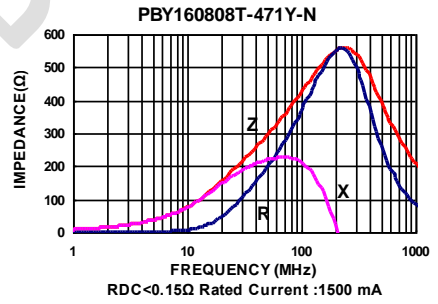
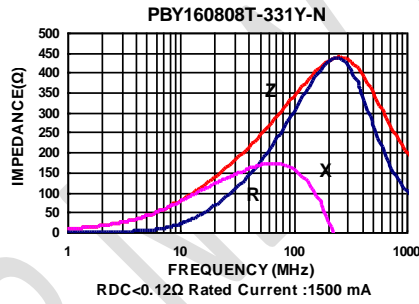
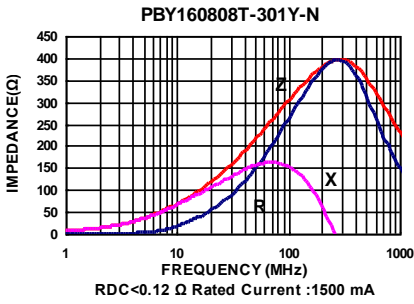
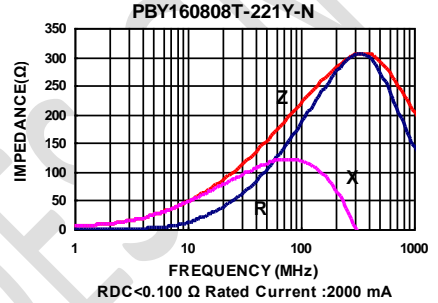
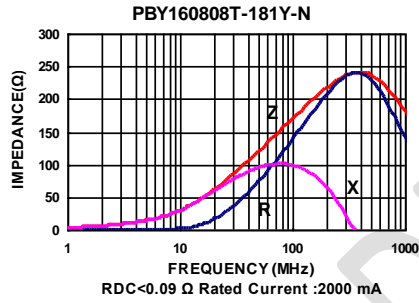
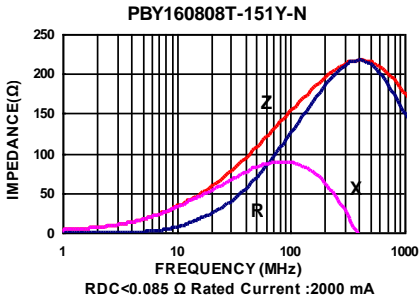
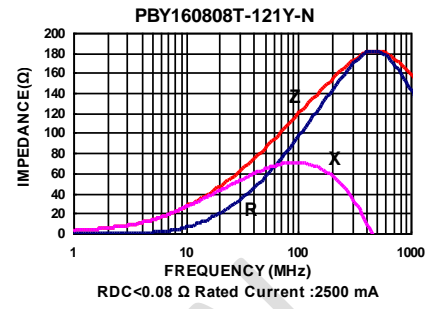
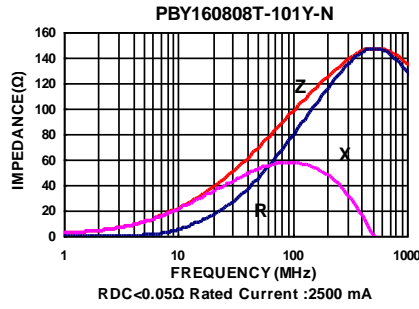
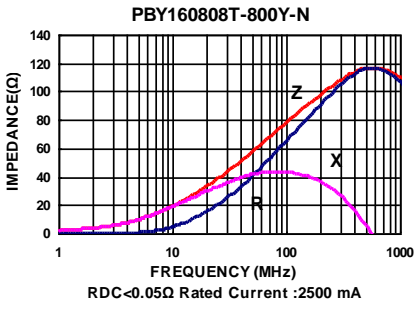
## Test Instruments : Agilent E4991A Impedance / Material Analyzer



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# SMD Multilayer Ferrite Chip Beads – PBY Series

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# SMD Multilayer Ferrite Chip Beads – PBX Series

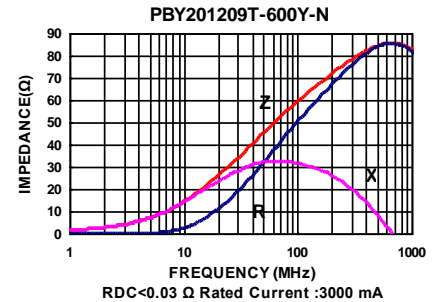
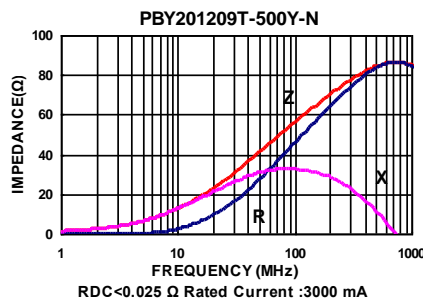
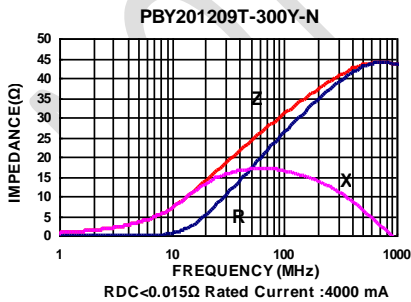
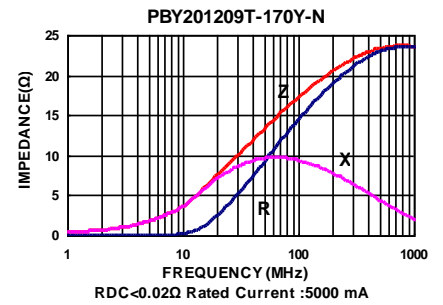
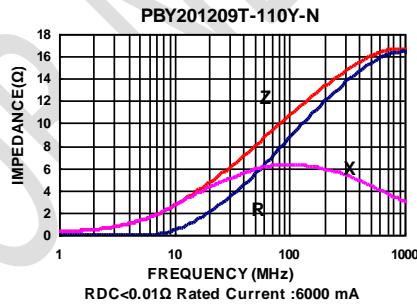
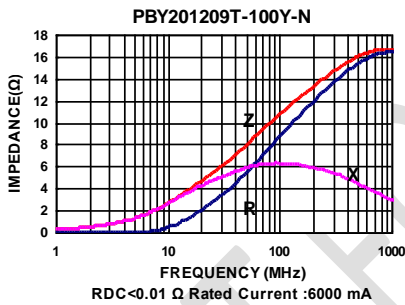
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
PBY201209T-100Y-N	10	100	0.01	6000
PBY201209T-110Y-N	11	100	0.01	6000
PBY201209T-170Y-N	17	100	0.02	5000
PBY201209T-300Y-N	30	100	0.015	4000
PBY201209T-500Y-N	50	100	0.025	3000
PBY201209T-600Y-N	60	100	0.03	3000
PBY201209T-800Y-N	80	100	0.04	3000
PBY201209T-101Y-N	100	100	0.04	3000
PBY201209T-121Y-N	120	100	0.04	3000
PBY201209T-221Y-N	220	100	0.08	2000
PBY201209T-301Y-N	300	100	0.08	2000
PBY201209T-331Y-N	330	100	0.08	2000
PBY201209T-471Y-N	470	100	0.10	2000
PBY201209T-601Y-N	600	100	0.10	2000
PBY201209T-102Y-N	1000	100	0.12	1500
PBY201209T-152Y-N	1500	100	0.30	1000

**Note:** When ordering, please specify tolerance code. Tolerance : Y= $\pm 25\%$

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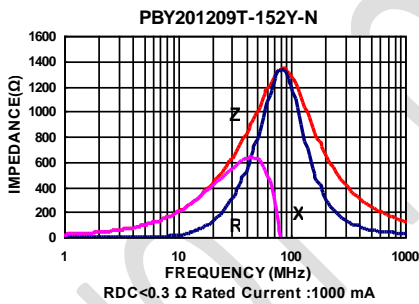
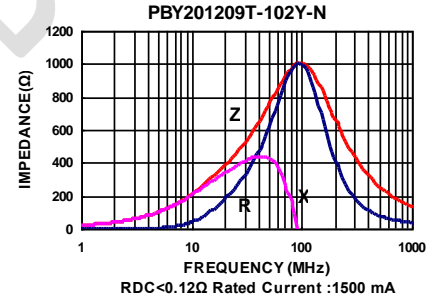
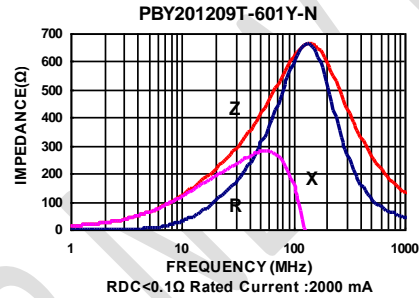
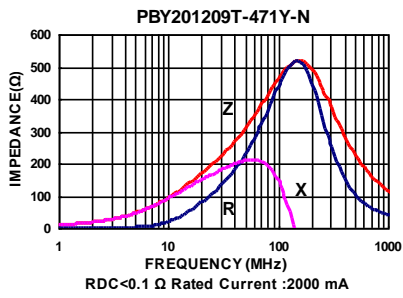
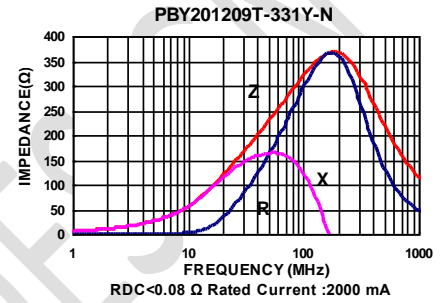
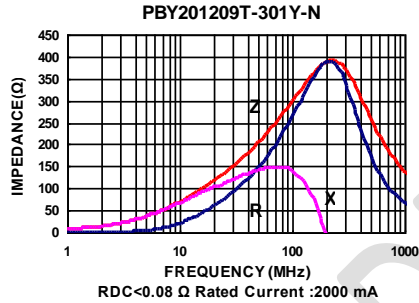
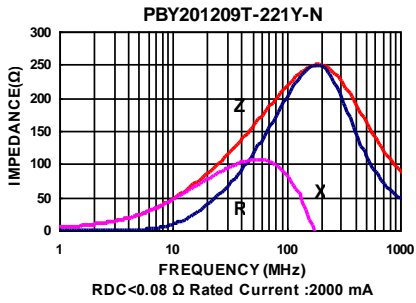
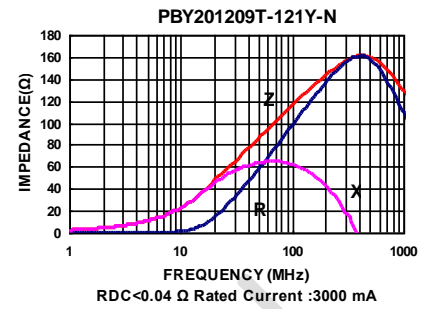
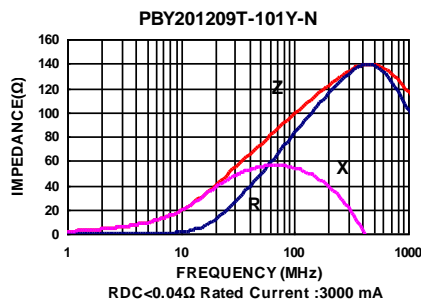
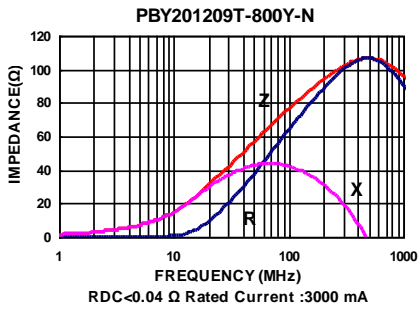
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Test Instruments : Agilent E4991A Impedance / Material Analyzer



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# SMD Multilayer Ferrite Chip Beads – PBY Series

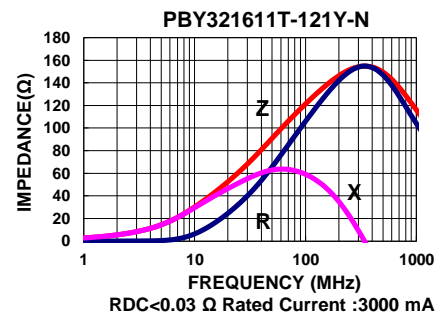
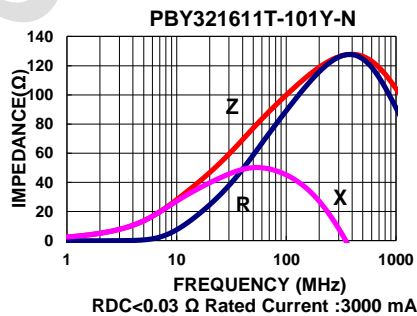
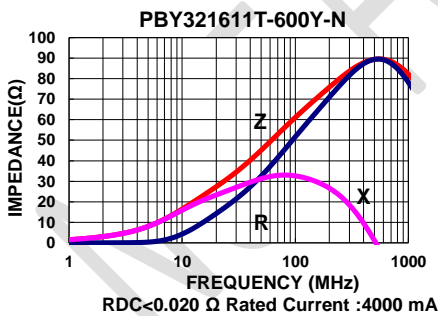
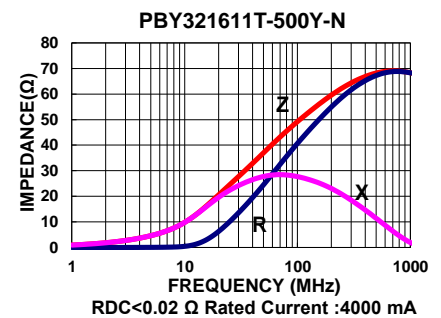
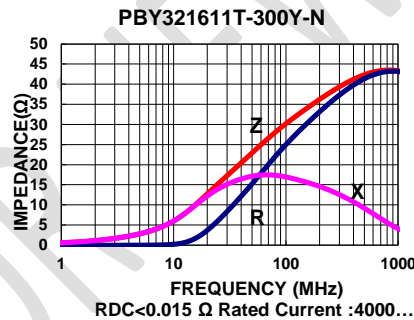
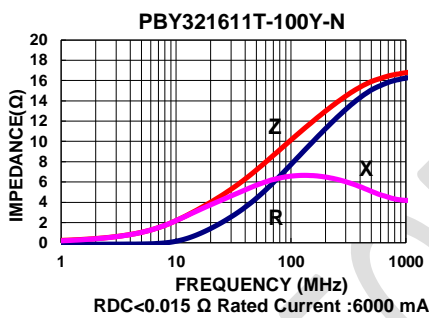
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
PBY321611T-100Y-N	10	100	0.015	6000
PBY321611T-300Y-N	30	100	0.015	4000
PBY321611T-500Y-N	50	100	0.020	4000
PBY321611T-600Y-N	60	100	0.020	4000
PBY321611T-101Y-N	100	100	0.030	3000
PBY321611T-121Y-N	120	100	0.030	3000
PBY321611T-221Y-N	220	100	0.050	2000
PBY321611T-301Y-N	300	100	0.060	2000
PBY321611T-601Y-N	600	100	0.100	2000
PBY321611T-102Y-N	1000	50	0.150	1200
PBY321611T-122Y-N	1200	50	0.180	1000
PBY321611T-152Y-N	1500	50	0.200	800

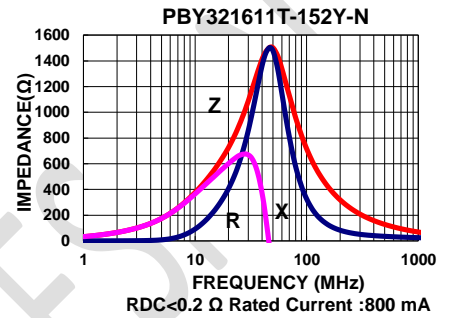
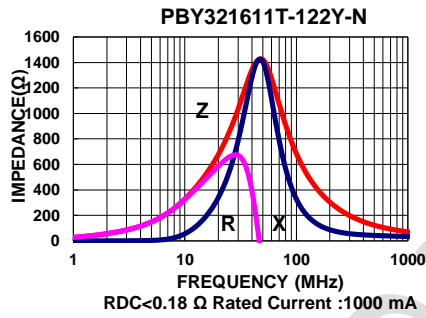
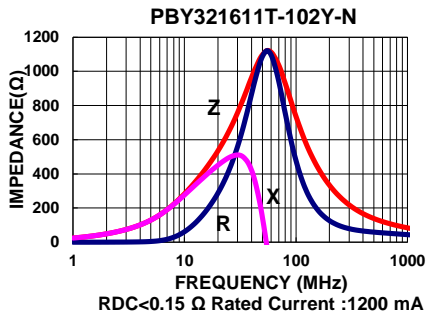
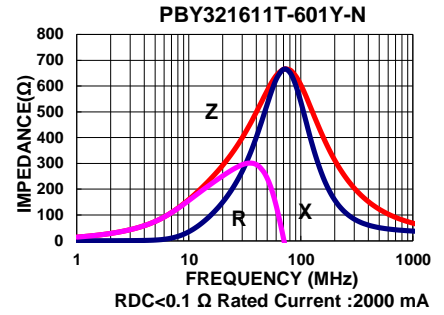
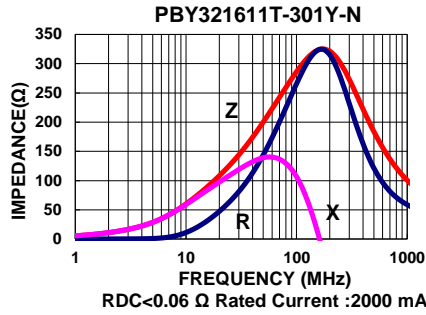
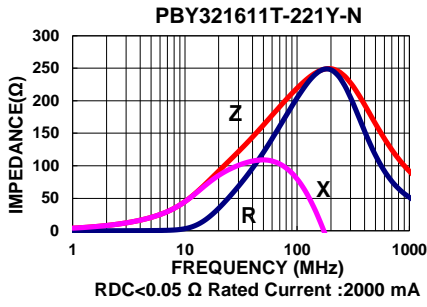
**Note:** When ordering, please specify tolerance code. Tolerance : Y= $\pm 25\%$

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

**Test Instruments :** Agilent E4991A Impedance / Material Analyzer



# SMD Multilayer Ferrite Chip Beads – PBX Series



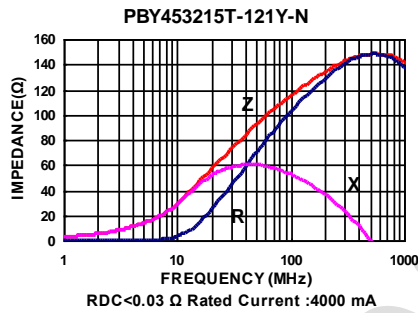
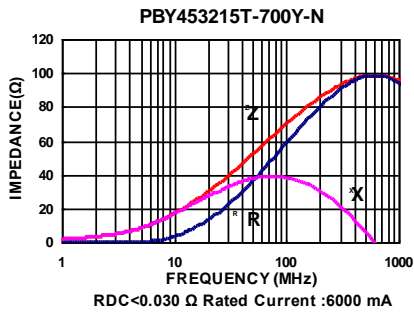
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# SMD Multilayer Ferrite Chip Beads – PBY Series

## Electrical Characteristics

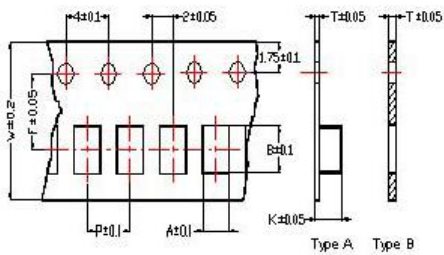
Part Number	Test Frequency (MHz)	Impedance ( $\Omega \pm 25\%$ )	DC Resistance ( $\Omega$ ) Max	Rated current (mA) Max
PBY453215T-700Y-N	100	70	0.030	6000
PBY453215T-121Y-N	100	120	0.030	4000

## Test Instruments : Agilent E4991A Impedance / Material Analyzer



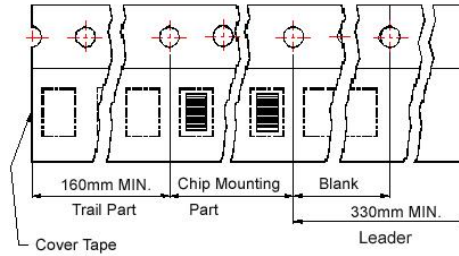
## Packaging Specifications

### Tape Dimensions

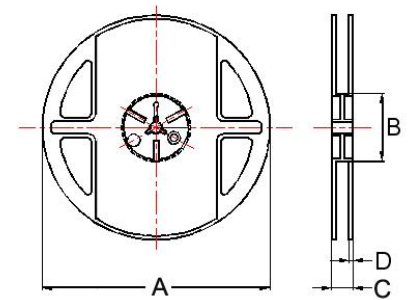


### Tape Material

Carrier Tape: Polycarbonate (Tape A)  
Carrier Tape: Paper (Tape B)  
Cover Tape: Polystyrene



### Reel Dimensions



- ① : SBY / SBJ / NB / PB
- ② : SBY / SBJ / NB / PB / UPB / HF    ③ : UPB
- ④ : SBK / SBJ / GB / PB / NB / UPB / VPB
- ⑤ : SBK / GB / PB / UPB    ⑥ : SBY / SBK / PBY / UPB
- ⑦ : PB / UPB

## Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity PCS / REEL
	A	B	T	W	P	F	K	Tape	A	B	C	D	
①060303	0.37	0.67	0.42	8.0	2.0	3.5	-	B	178	60	10	2	15000
②100505	0.62	1.12	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
③160805	1.05	1.85	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
④160808	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑤201209	1.50	2.30	0.97	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑥321611	1.88	3.50	0.22	8.0	4.0	3.5	1.27	A	178	60	12	2	3000
⑦453215	3.66	4.95	0.24	12	8.0	5.5	1.85	A	178	60	14	2	1000

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