

## 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: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

### Product Identification



### Shape and Dimensions



Dimensions in mm

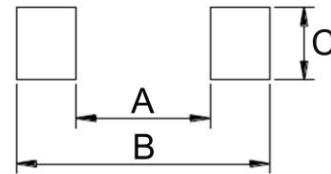
TYPE	A	B	C	D
①060303	0.6±0.03	0.30±0.03	0.3±0.03	0.15±0.05
②100505	1.0±0.10	0.50±0.10	0.5±0.10	0.25±0.10
③160805	1.6±0.15	0.80±0.15	0.5±0.15	0.3±0.2
④160808	1.6±0.15	0.80±0.15	0.8±0.15	0.3±0.2
⑤201209	2.0±0.20	1.25±0.20	0.9±0.20	0.5±0.3
⑥321611	3.2±0.20	1.60±0.20	1.1±0.20	0.5±0.3
⑦453215	4.5±0.25	3.20±0.20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

- ① : BBSY / BBSJ / BBNQ / BBPY
- ② : BBSY / BBSJ / BBNQ / BBPY / BBUP / BBFY / BBFJ
- ③ : BBUP ④ : BBBK / BBSJ / BBGK / BBPY / BBNQ / BBUP / BBHV
- ⑤ : BBBK / BBGK / BBPY / BBUP ⑥ : BBSY / BBBK / BBPY / BBUP
- ⑦ : BBPY / BBUP

### 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

### 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 ~ 1.4
⑥321611	2.0 ~ 2.4	4.2 ~ 5.2	1.3 ~ 1.9
⑦453215	3.0	5.5 ~ 6.5	2.4

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

# SMD Multilayer Ferrite Chip Beads – BBUP Series

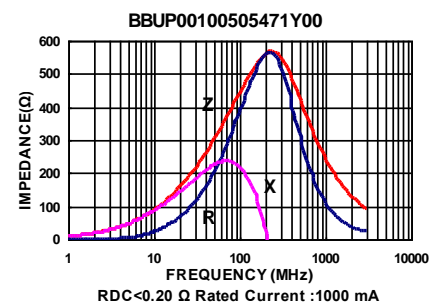
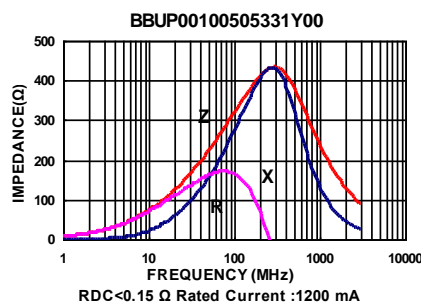
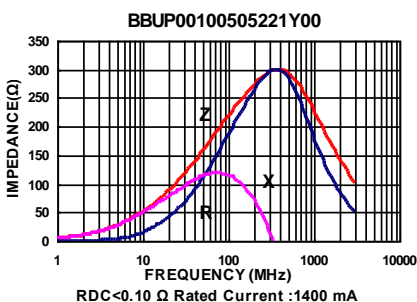
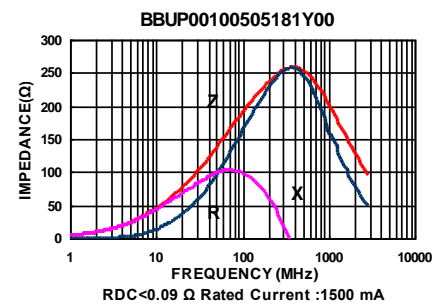
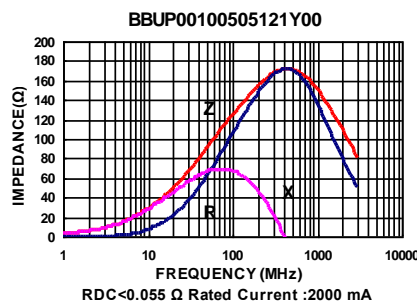
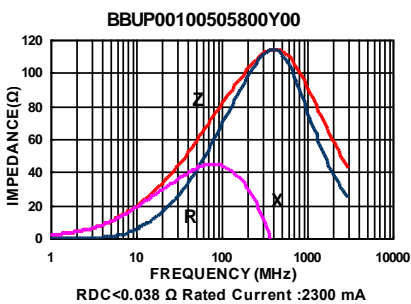
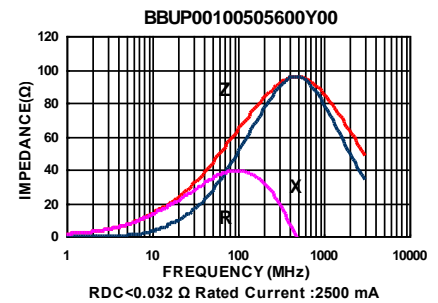
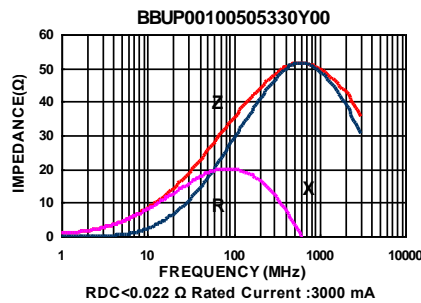
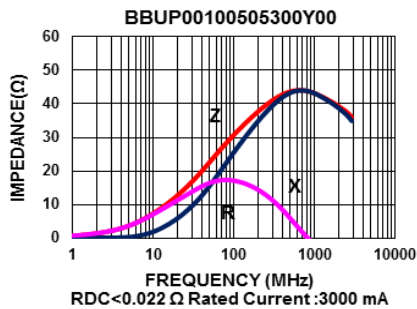
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00100505300Y00	30	100	0.022	3000
BBUP00100505330Y00	33	100	0.022	3000
BBUP00100505600Y00	60	100	0.032	2500
BBUP00100505800Y00	80	100	0.038	2300
BBUP00100505121Y00	120	100	0.055	2000
BBUP00100505181Y00	180	100	0.090	1500
BBUP00100505221Y00	220	100	0.100	1400
BBUP00100505331Y00	330	100	0.150	1200
BBUP00100505471Y00	470	100	0.200	1000

**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



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# SMD Multilayer Ferrite Chip Beads – BBUP Series

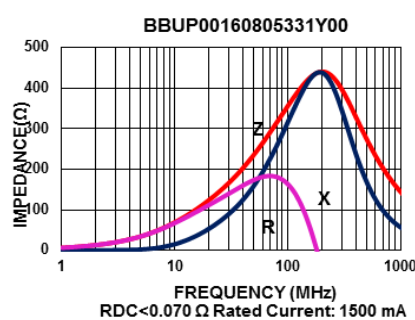
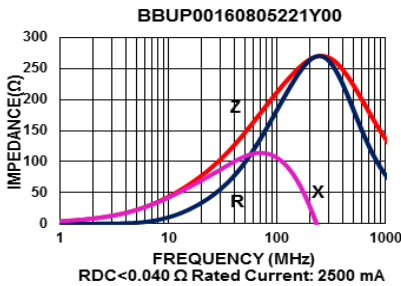
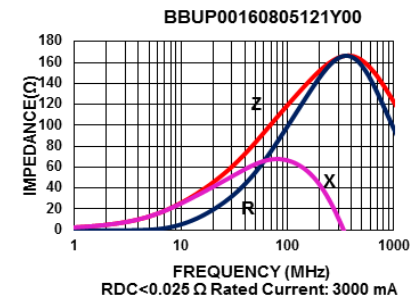
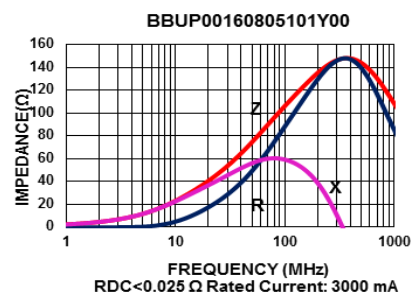
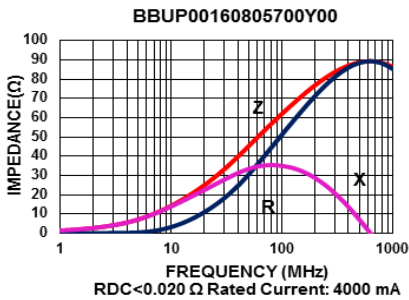
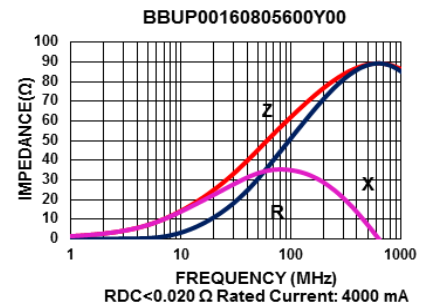
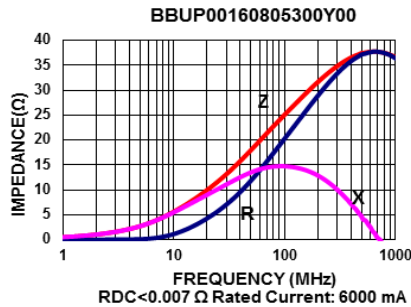
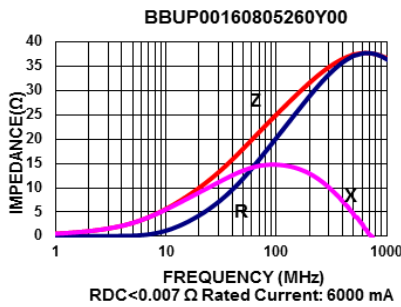
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00160805260Y00	26	100	0.007	6000
BBUP00160805300Y00	30	100	0.007	6000
BBUP00160805600Y00	60	100	0.020	4000
BBUP00160805700Y00	70	100	0.020	4000
BBUP00160805101Y00	100	100	0.025	3000
BBUP00160805121Y00	120	100	0.025	3000
BBUP00160805221Y00	220	100	0.040	2500
BBUP00160805331Y00	330	100	0.070	1500

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

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
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- Measure Equipment :  
Z : HP4291A  
RDC : HP4338B or CHEN HWA 502

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# SMD Multilayer Ferrite Chip Beads – BBUP Series

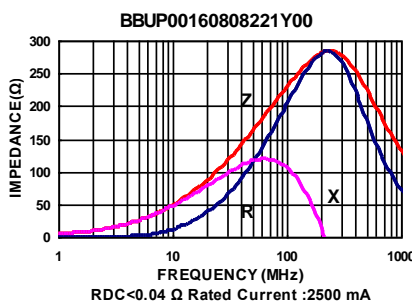
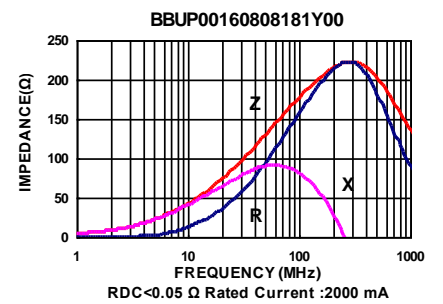
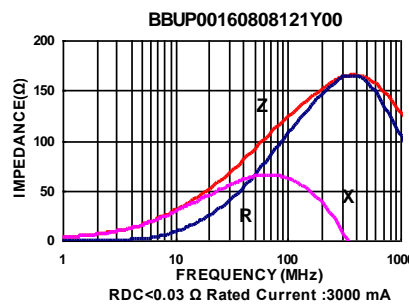
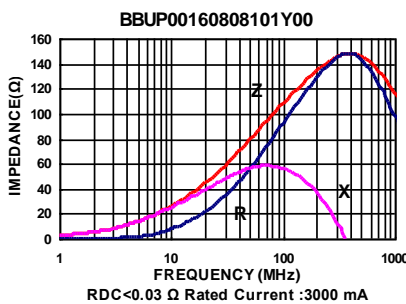
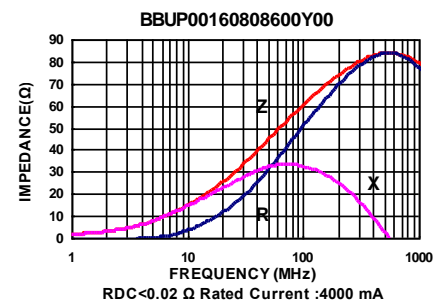
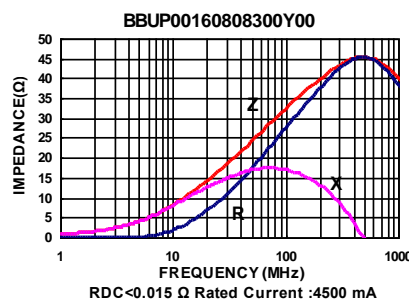
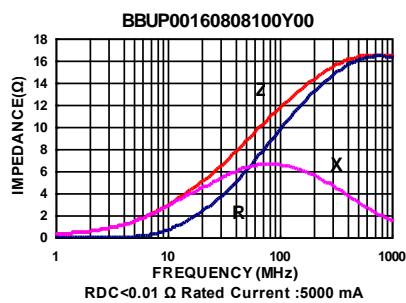
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00160808100Y00	10	100	0.010	5000
BBUP00160808300Y00	30	100	0.015	4500
BBUP00160808600Y00	60	100	0.020	4000
BBUP00160808700Y00	70	100	0.020	4000
BBUP00160808101Y00	100	100	0.030	3000
BBUP00160808121Y00	120	100	0.030	3000
BBUP00160808181Y00	180	100	0.050	2000
BBUP00160808221Y00	220	100	0.040	2500

**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



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# SMD Multilayer Ferrite Chip Beads – BBUP Series

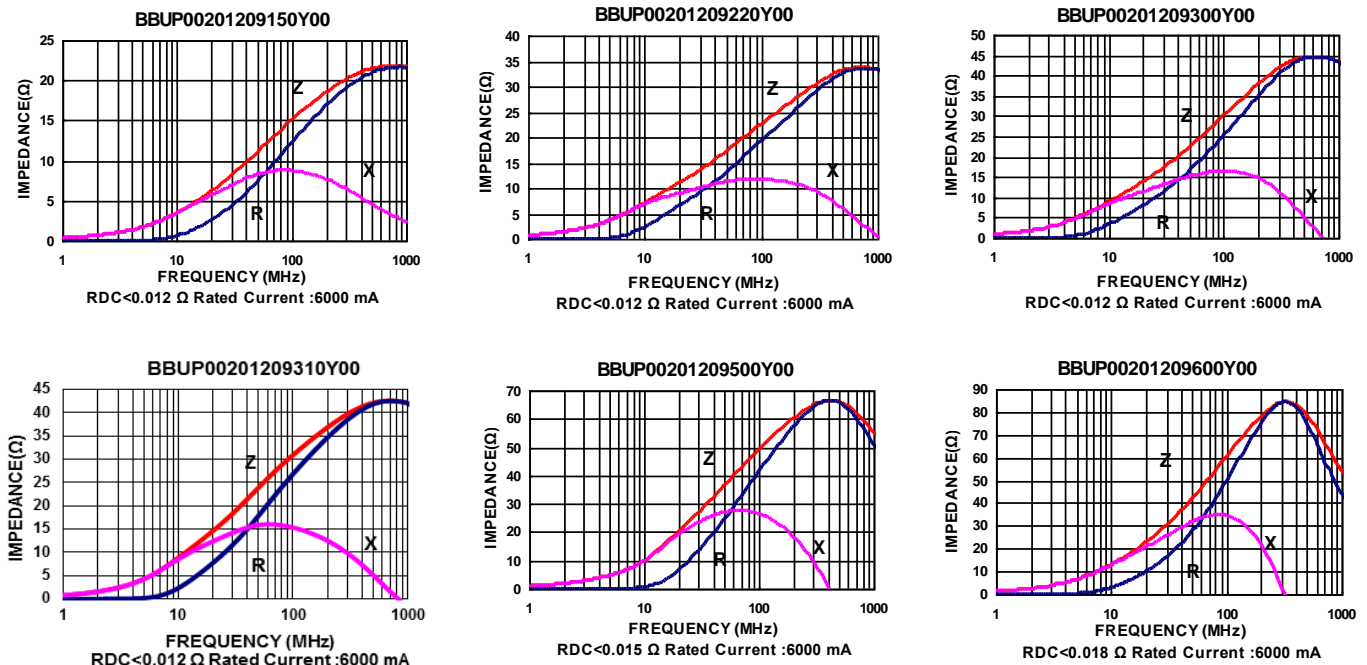
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00201209150Y00	15	100	0.012	6000
BBUP00201209220Y00	22	100	0.012	6000
BBUP00201209300Y00	30	100	0.012	6000
BBUP00201209310Y00	31	100	0.012	6000
BBUP00201209500Y00	50	100	0.015	6000
BBUP00201209600Y00	60	100	0.018	6000
BBUP00201209800Y00	80	100	0.02	6000
BBUP00201209101Y00	100	100	0.02	5000
BBUP00201209121Y00	120	100	0.02	5000
BBUP00201209201Y00	200	100	0.04	3000
BBUP00201209221Y00	220	100	0.04	3000
BBUP00201209301Y00	300	100	0.05	3000
BBUP00201209331Y00	330	100	0.05	3000

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

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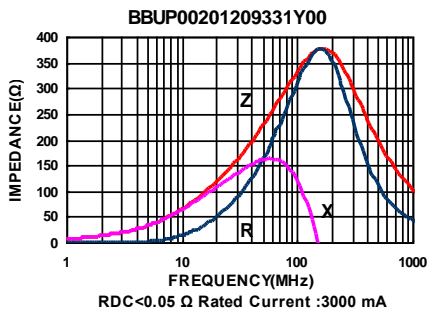
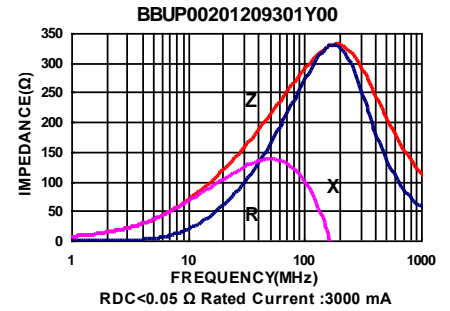
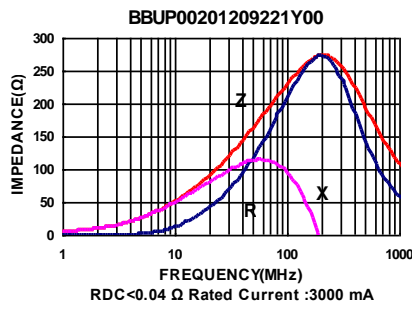
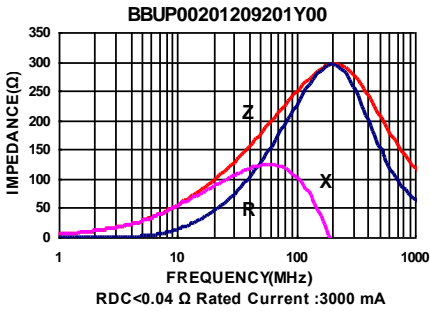
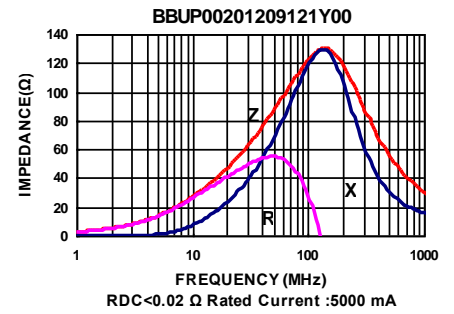
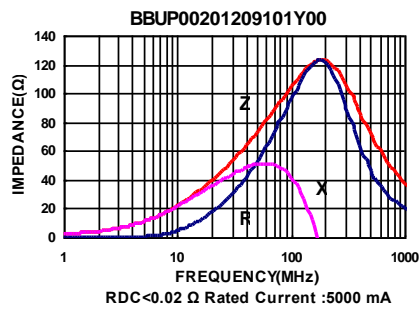
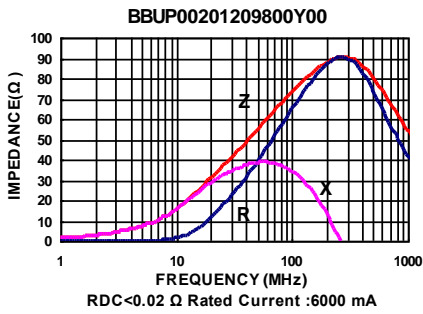
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# SMD Multilayer Ferrite Chip Beads – BBUP Series

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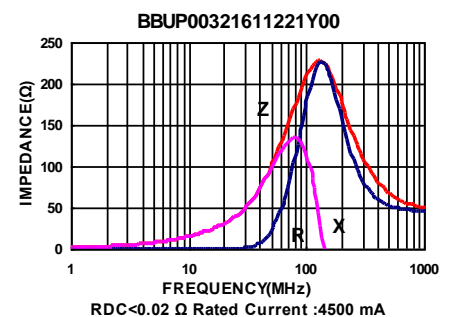
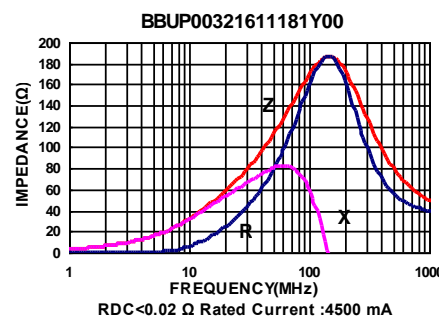
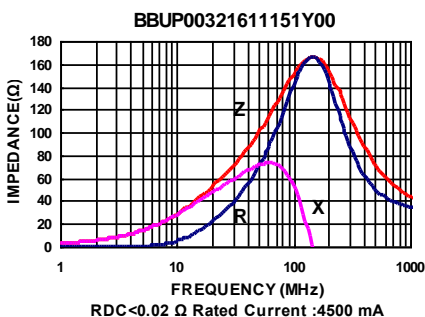
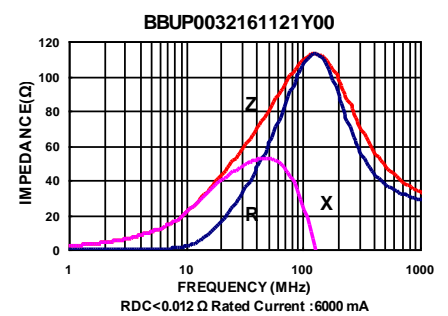
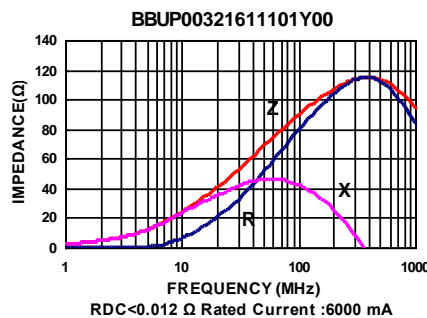
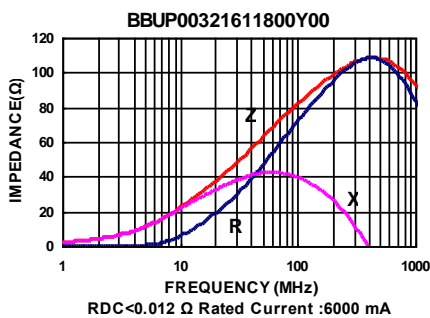
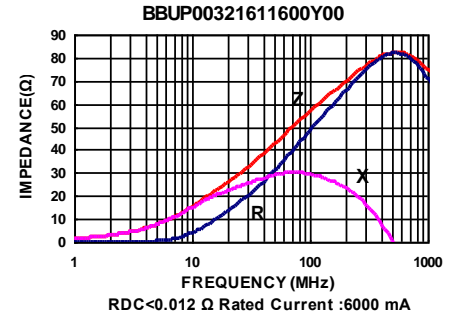
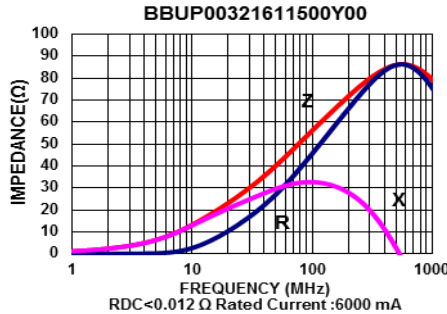
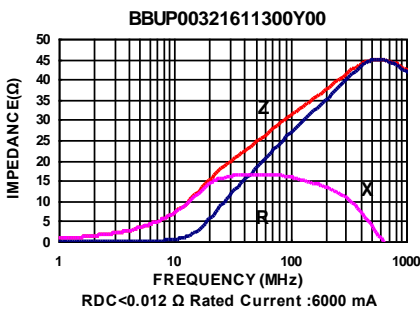
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00321611300Y00	30	100	0.012	6000
BBUP00321611500Y00	50	100	0.012	6000
BBUP00321611600Y00	60	100	0.012	6000
BBUP00321611800Y00	80	100	0.012	6000
BBUP00321611101Y00	100	100	0.012	6000
BBUP00321611121Y00	120	100	0.012	6000
BBUP00321611151Y00	150	100	0.020	4500
BBUP00321611181Y00	180	100	0.020	4500
BBUP00321611221Y00	220	100	0.020	4500

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

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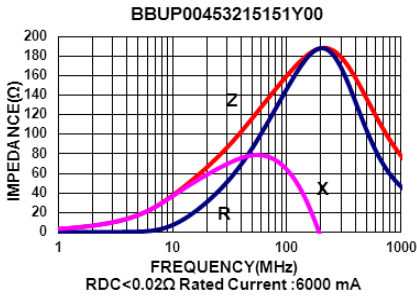
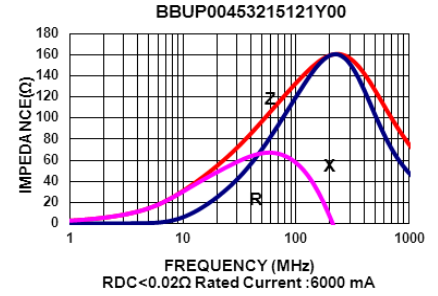
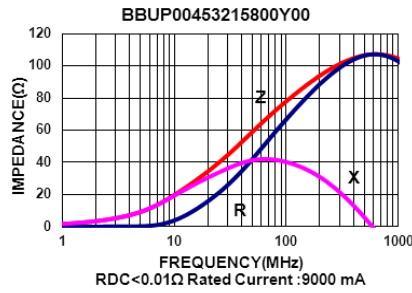
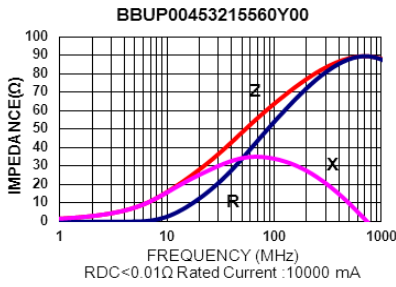


# SMD Multilayer Ferrite Chip Beads – BBUP Series

## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	DC Resistance ( $\Omega$ ) Max	Rated current (mA) Max
BBUP00453215560Y00	56	100	0.010	9000
BBUP00453215800Y00	80	100	0.010	9000
BBUP00453215121Y00	120	100	0.020	6000
BBUP00453215151Y00	150	100	0.020	6000

Test Instruments : Agilent E4991A Impedance / Material Analyzer



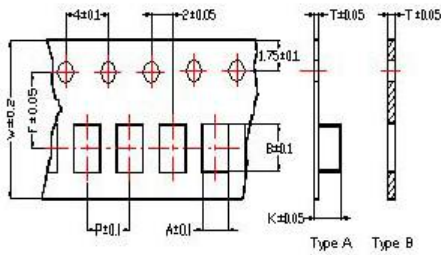
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# SMD Multilayer Ferrite Chip Beads

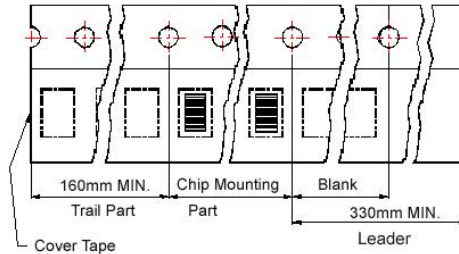
## Packaging Specifications

### Tape Dimensions

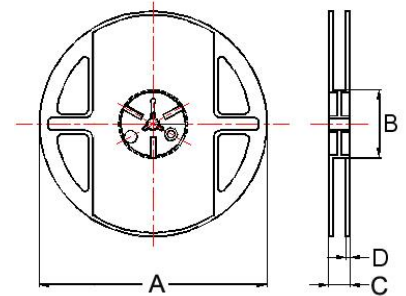


### Tape Material

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



### Reel Dimensions



- ① : BBSY/BBSJ/BBNQ/BBPY    ③ : BBUP
- ② : BBSY/BBSJ/BBNQ/BBPY/BBUP/BBFY/BBFJ
- ④ : BBBK/BBSJ/BBGK/BBPY/BBNQ/BBUP/BBHV
- ⑤ : BBBK/BBGK/BBPY/BBUP
- ⑥ : BBSY/BBBK/BBPY/BBUP
- ⑦ : BBPY/BBUP

### 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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