

## 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 BBUP 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

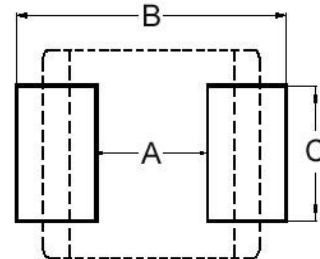


Dimensions in mm

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 – UPB Series

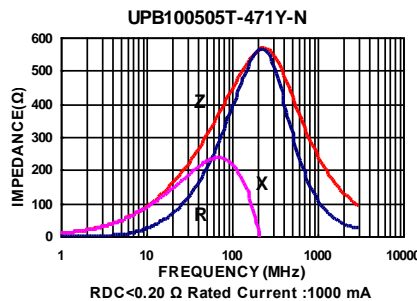
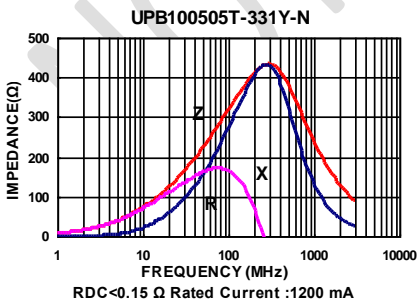
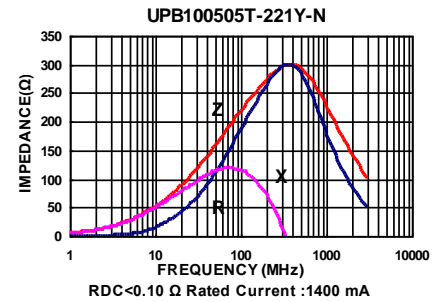
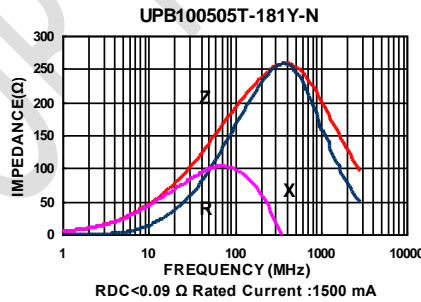
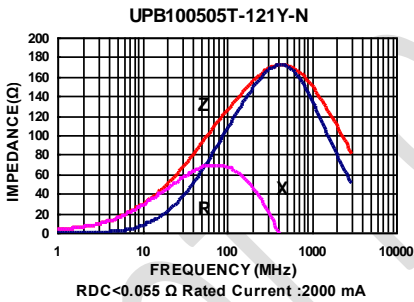
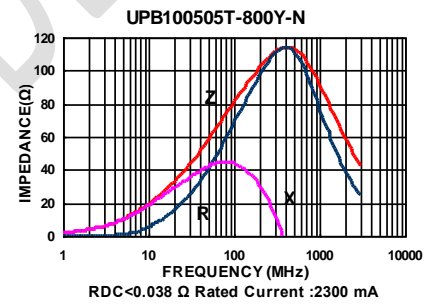
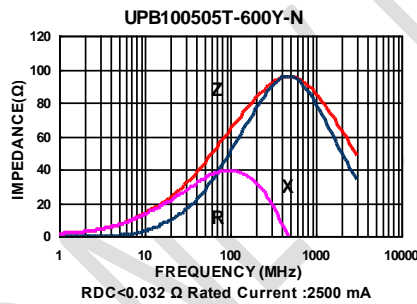
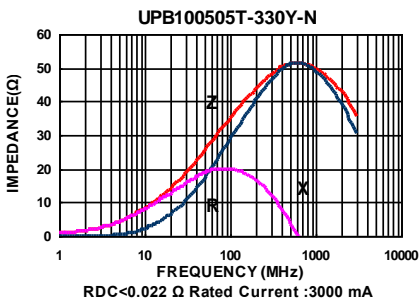
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
UPB100505T-330Y-N	33	100	0.022	3000
UPB100505T-600Y-N	60	100	0.032	2500
UPB100505T-800Y-N	80	100	0.038	2300
UPB100505T-121Y-N	120	100	0.055	2000
UPB100505T-181Y-N	180	100	0.090	1500
UPB100505T-221Y-N	220	100	0.100	1400
UPB100505T-331Y-N	330	100	0.150	1200
UPB100505T-471Y-N	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



# SMD Multilayer Ferrite Chip Beads – UPB Series

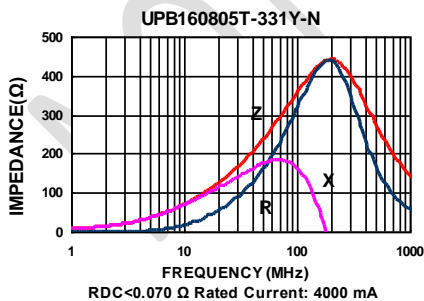
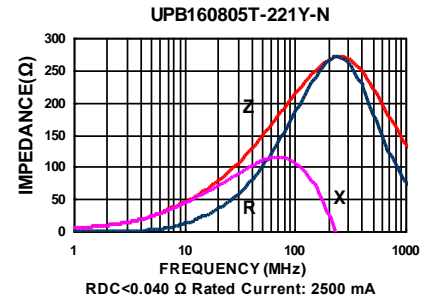
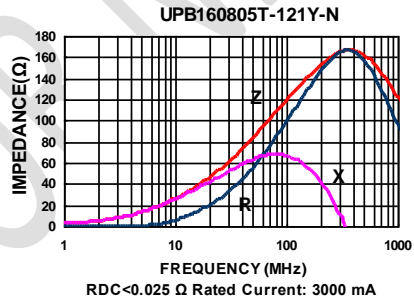
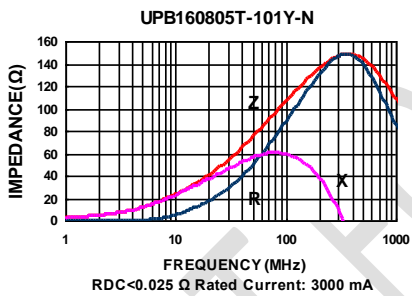
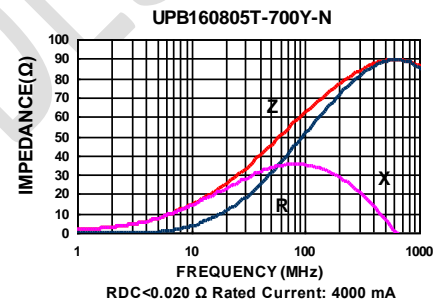
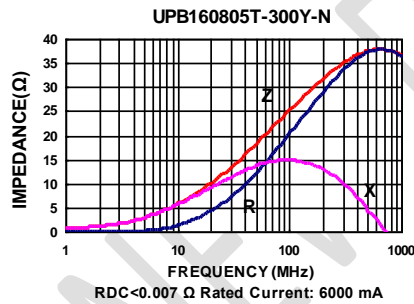
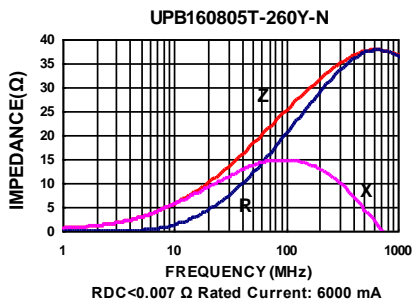
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
UPB160805T-260Y-N	26	100	0.007	6000
UPB160805T-300Y-N	30	100	0.007	6000
UPB160805T-700Y-N	70	100	0.020	4000
UPB160805T-101Y-N	100	100	0.025	3000
UPB160805T-121Y-N	120	100	0.025	3000
UPB160805T-221Y-N	220	100	0.040	2500
UPB160805T-331Y-N	330	100	0.070	1500

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

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

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



# SMD Multilayer Ferrite Chip Beads – UPB Series

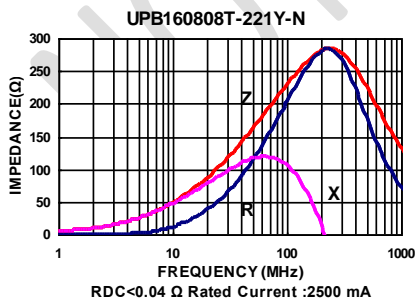
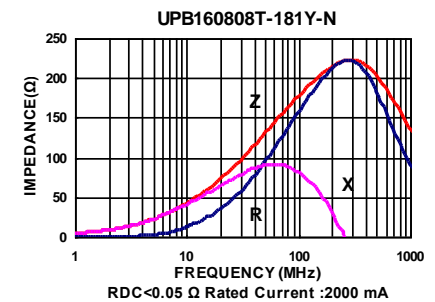
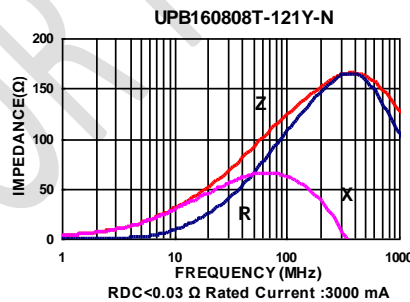
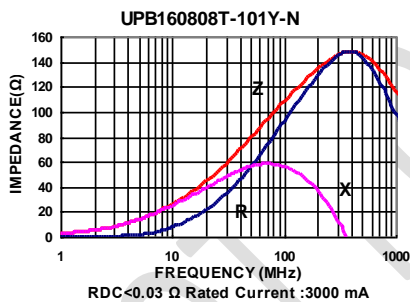
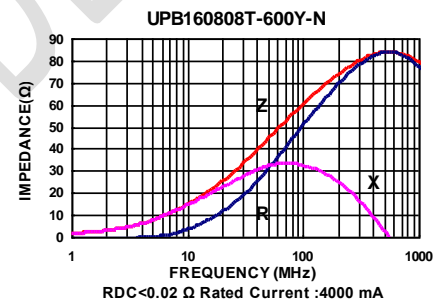
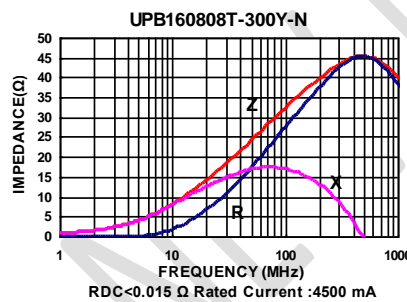
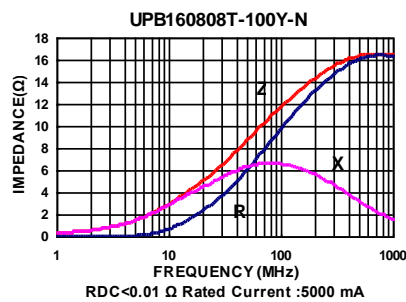
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
UPB160808T-100Y-N	10	100	0.010	5000
UPB160808T-300Y-N	30	100	0.015	4500
UPB160808T-600Y-N	60	100	0.020	4000
UPB160808T-700Y-N	70	100	0.020	4000
UPB160808T-101Y-N	100	100	0.030	3000
UPB160808T-121Y-N	120	100	0.030	3000
UPB160808T-181Y-N	180	100	0.050	2000
UPB160808T-221Y-N	220	100	0.040	2500

**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



# SMD Multilayer Ferrite Chip Beads – UPB Series

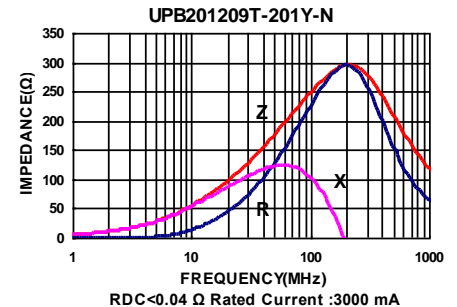
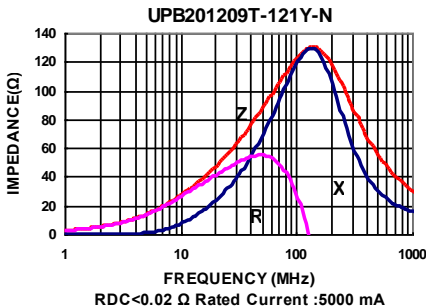
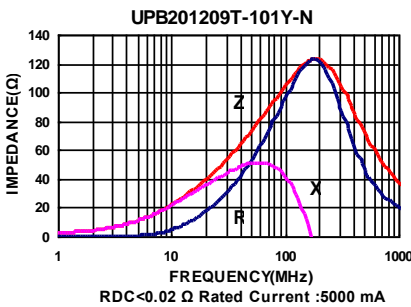
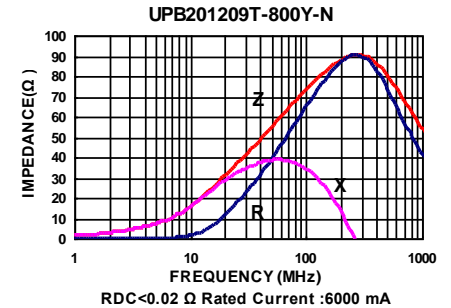
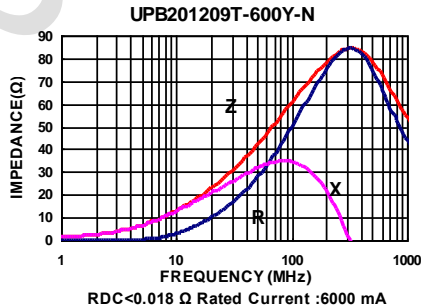
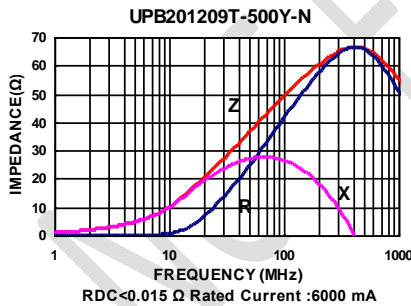
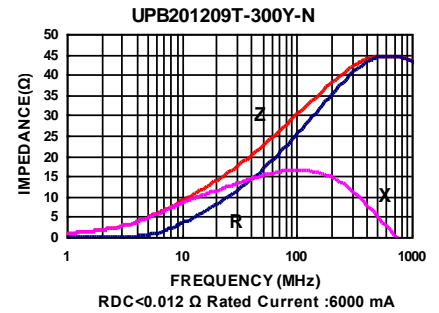
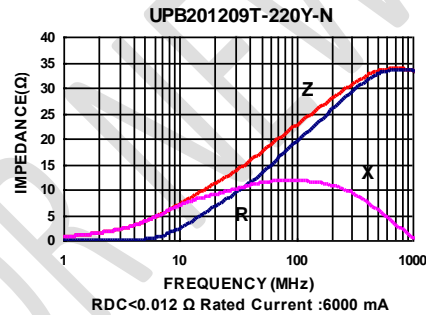
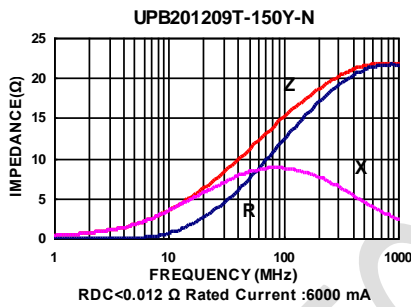
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
UPB201209T-150Y-N	15	100	0.012	6000
UPB201209T-220Y-N	22	100	0.012	6000
UPB201209T-300Y-N	30	100	0.012	6000
UPB201209T-500Y-N	50	100	0.015	6000
UPB201209T-600Y-N	60	100	0.018	6000
UPB201209T-800Y-N	80	100	0.02	6000
UPB201209T-101Y-N	100	100	0.02	5000
UPB201209T-121Y-N	120	100	0.02	5000
UPB201209T-201Y-N	200	100	0.04	3000
UPB201209T-221Y-N	220	100	0.04	3000
UPB201209T-301Y-N	300	100	0.05	3000
UPB201209T-331Y-N	330	100	0.05	3000

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

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- Measure Equipment :  
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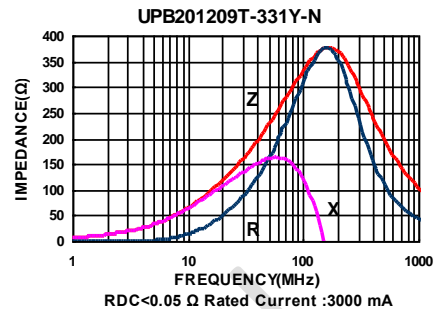
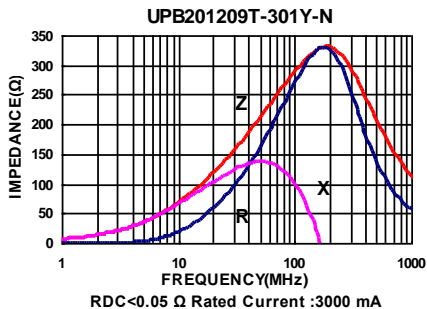
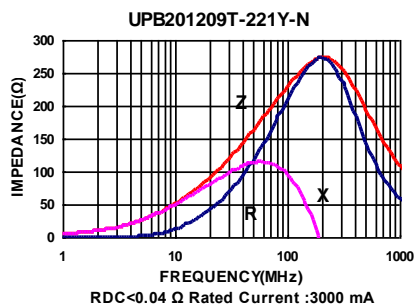
## Test Instruments : Agilent E4991A Impedance / Material Analyzer



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# SMD Multilayer Ferrite Chip Beads – UPB Series

Test Instruments : Agilent E4991A Impedance / Material Analyzer



# SMD Multilayer Ferrite Chip Beads – UPB Series

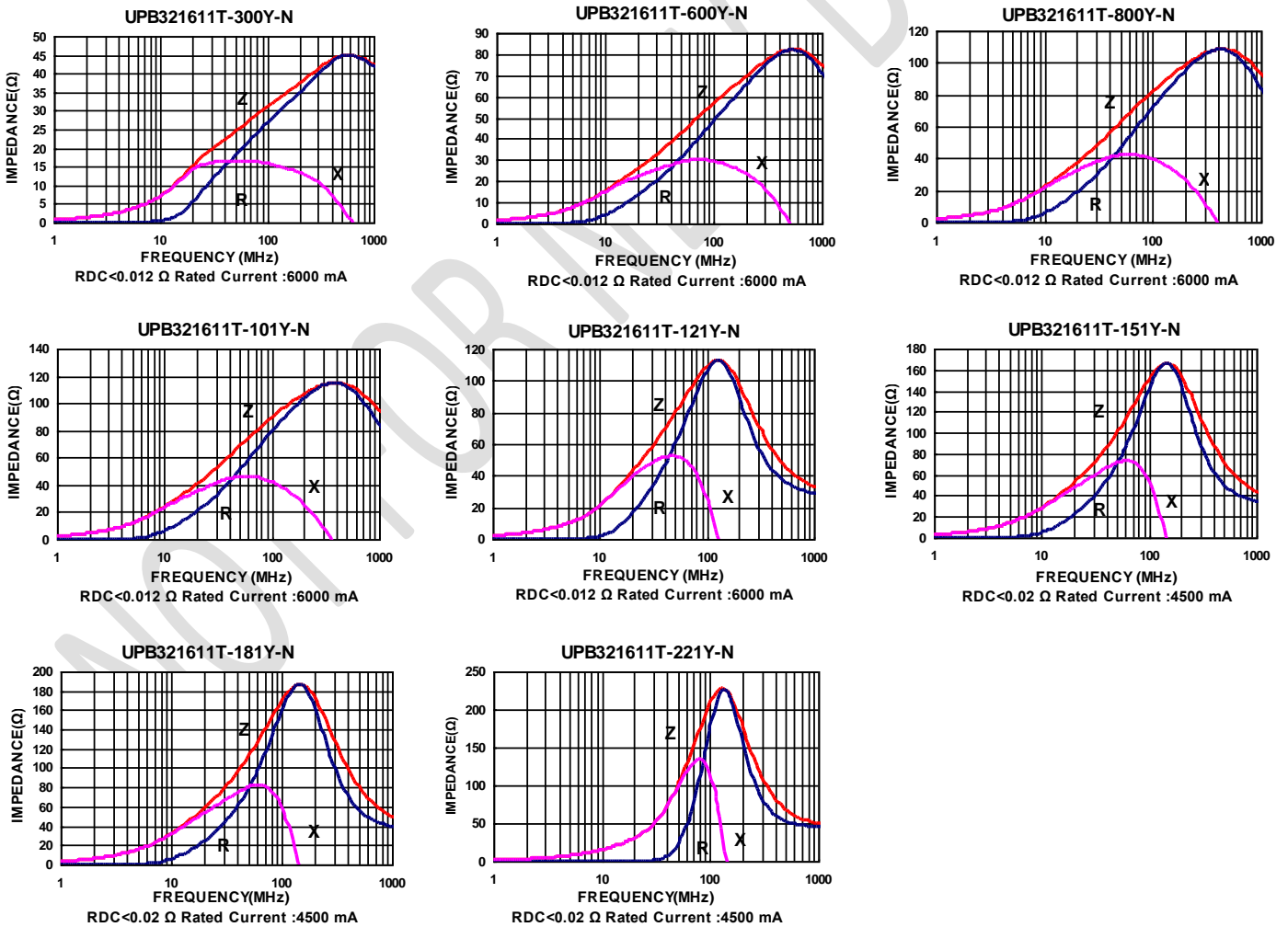
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
UPB321611T-300Y-N	30	100	0.012	6000
UPB321611T-600Y-N	60	100	0.012	6000
UPB321611T-800Y-N	80	100	0.012	6000
UPB321611T-101Y-N	100	100	0.012	6000
UPB321611T-121Y-N	120	100	0.012	6000
UPB321611T-151Y-N	150	100	0.020	4500
UPB321611T-181Y-N	180	100	0.020	4500
UPB321611T-221Y-N	220	100	0.020	4500

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

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- Measure Equipment :  
Z : HP4291A  
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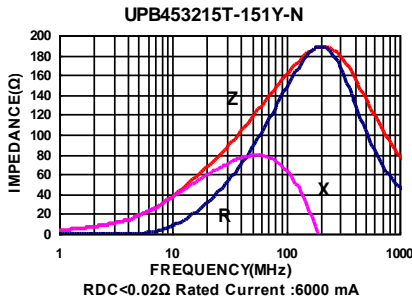
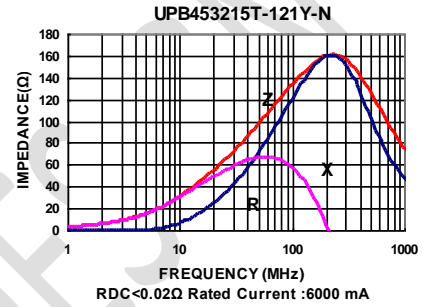
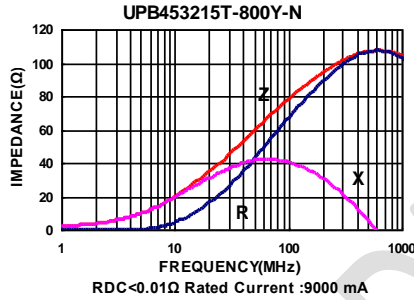
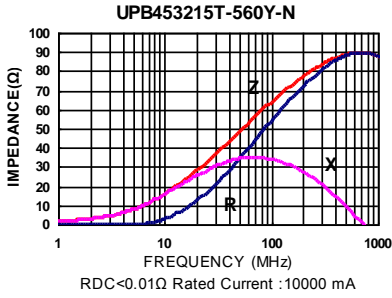


# SMD Multilayer Ferrite Chip Beads – UPB Series

## Electrical Characteristics

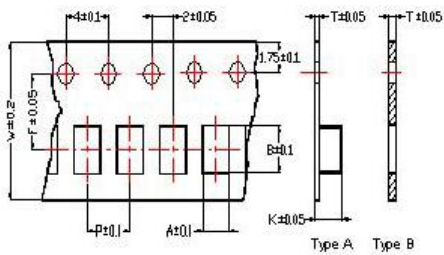
Part Number	Test Frequency (MHz)	Impedance ( $\Omega \pm 25\%$ )	DC Resistance ( $\Omega$ ) Max	Rated current (mA) Max
UPB453215T-560Y-N	100	56	0.010	10000
UPB453215T-800Y-N	100	80	0.010	9000
UPB453215T-121Y-N	100	120	0.020	6000
UPB453215T-151Y-N	100	150	0.020	6000

Test Instruments : Agilent E4991A Impedance / Material Analyzer



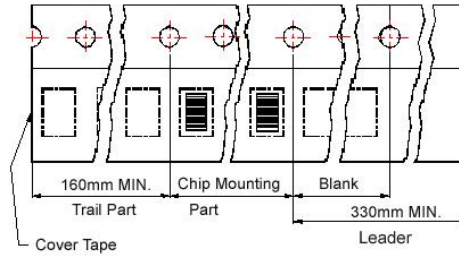
## Packaging Specifications

### Tape Dimensions

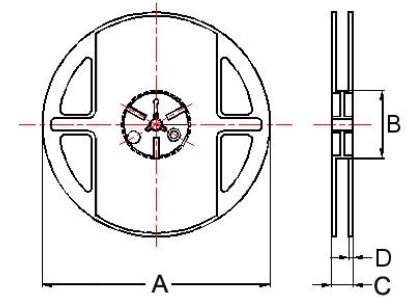


### Tape Material

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