

## 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 =  $\pm 25\%$ ; M =  $\pm 20\%$ ; T:  $\pm 30\%$
- Note: RoHS Compliant

### Shape and Dimensions



### Recommended Pattern



Dimensions in mm

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

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

\* 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

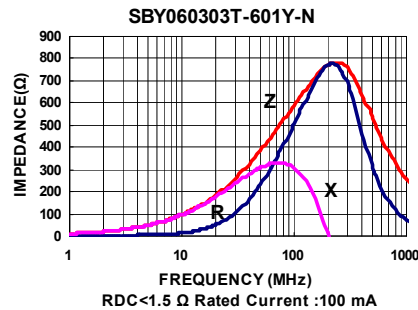
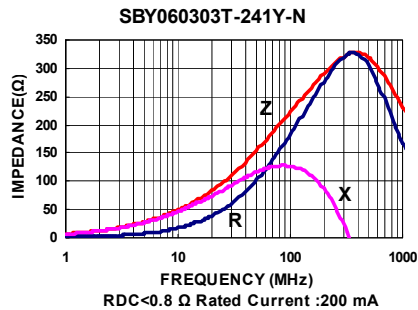
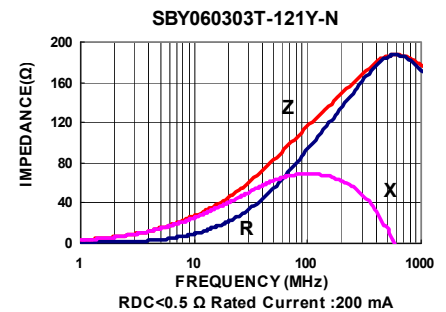
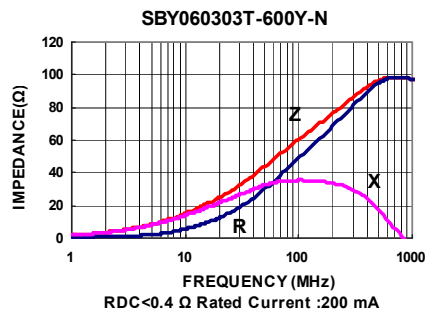
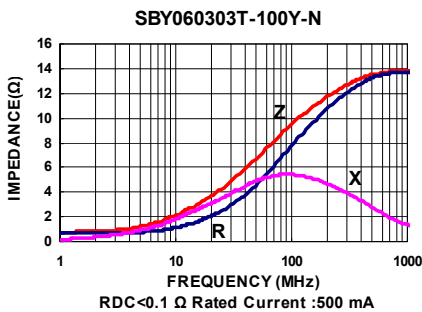
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
SBY060303T-100Y-N	10 $\pm$ 30%	100	0.1	500
SBY060303T-600Y-N	60	100	0.4	200
SBY060303T-121Y-N	120	100	0.5	200
SBY060303T-241Y-N	240	100	0.8	200
SBY060303T-601Y-N	600	100	1.5	100

**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



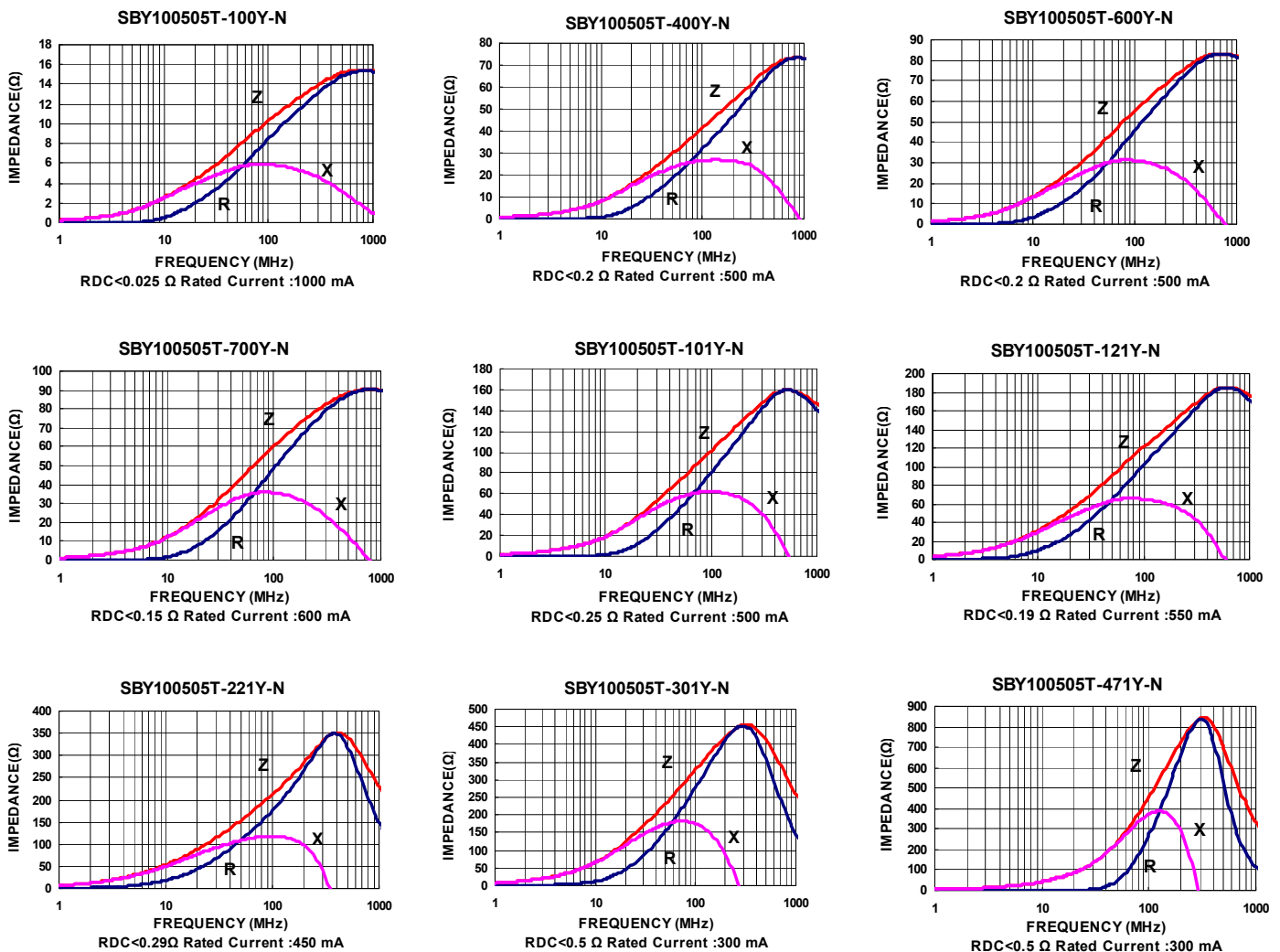
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
SBY100505T-100Y-N	10 $\pm$ 30%	100	0.025	1000
SBY100505T-400Y-N	40	100	0.20	500
SBY100505T-600Y-N	60	100	0.20	500
SBY100505T-700Y-N	70	100	0.15	600
SBY100505T-101Y-N	100	100	0.25	500
SBY100505T-121Y-N	120	100	0.19	550
SBY100505T-221Y-N	220	100	0.29	450
SBY100505T-301Y-N	300	100	0.50	300
SBY100505T-471Y-N	470	100	0.50	300
SBY100505T-601Y-N	600	100	0.52	300
SBY100505T-102Y-N	1000	100	0.65	300
SBY100505T-182Y-N	1800	100	1.40	100
SBY100505T-222Y-N	2200	100	1.40	100

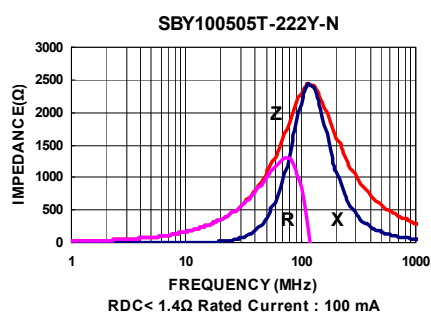
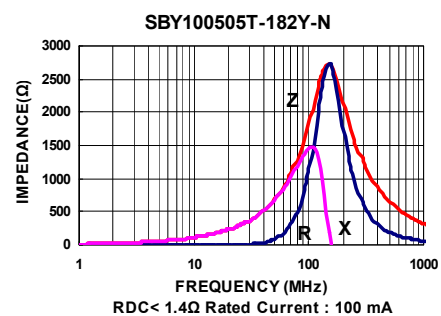
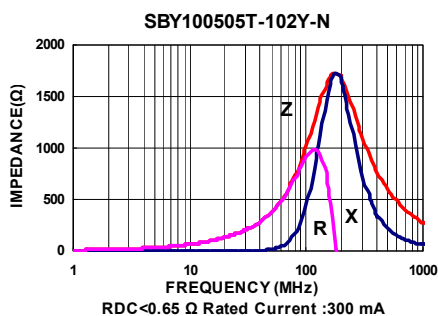
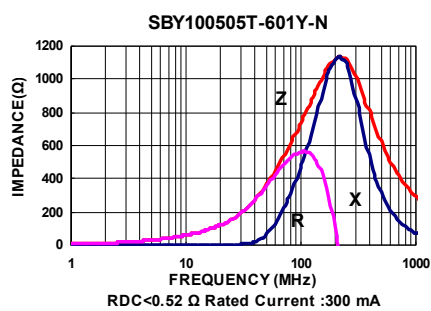
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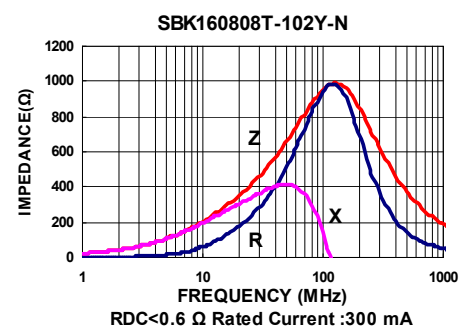
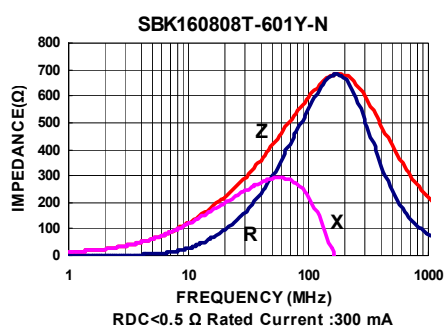
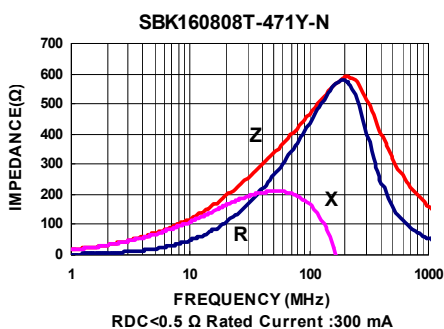
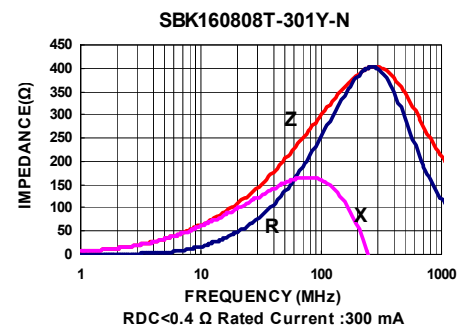
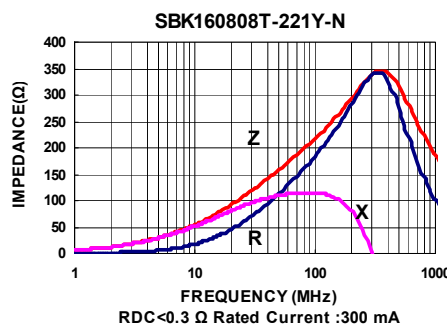
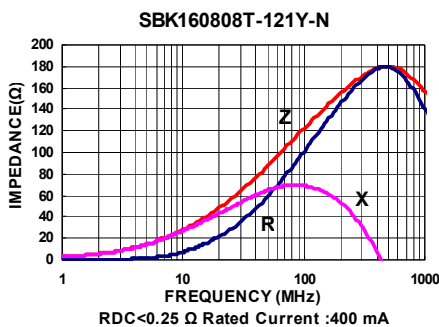
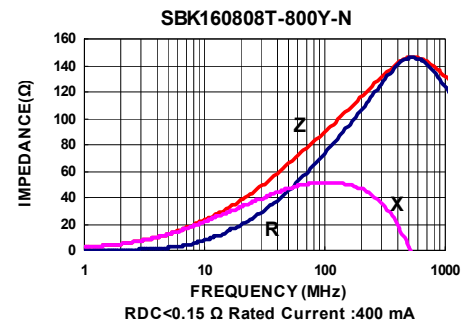
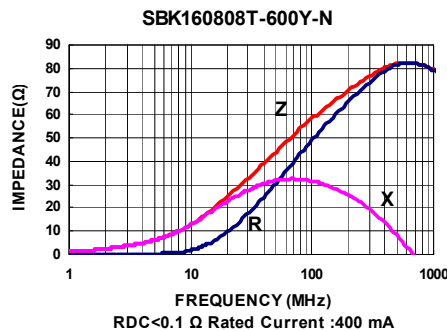
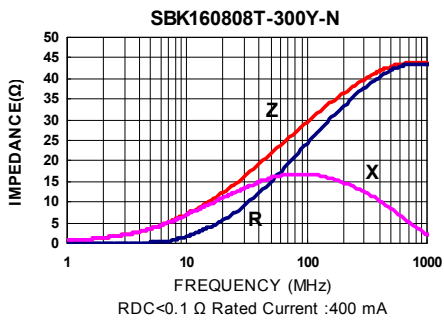
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
SBK160808T-300Y-N	30	100	0.10	400
SBK160808T-600Y-N	60	100	0.10	400
SBK160808T-800Y-N	80	100	0.15	400
SBK160808T-121Y-N	120	100	0.25	400
SBK160808T-221Y-N	220	100	0.30	300
SBK160808T-301Y-N	300	100	0.40	300
SBK160808T-471Y-N	470	100	0.50	300
SBK160808T-601Y-N	600	100	0.50	300
SBK160808T-102Y-N	1000	100	0.60	300
SBK160808T-152Y-N	1500	100	0.60	300
SBK160808T-222Y-N	2200	100	0.80	200
SBK160808T-272Y-N	2700	100	0.80	200

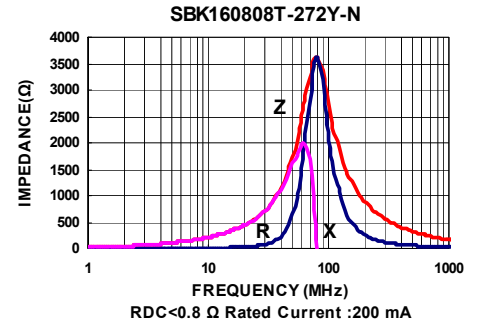
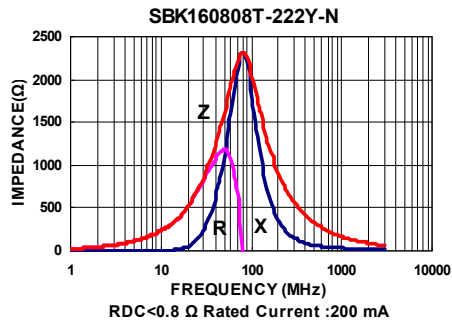
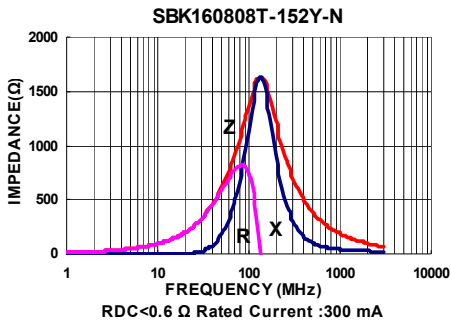
**Note:** When ordering, please specify tolerance code. Tolerance : Y $\pm$ 25%

- 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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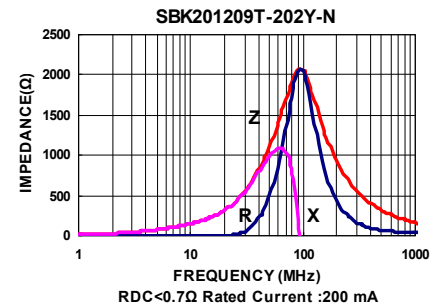
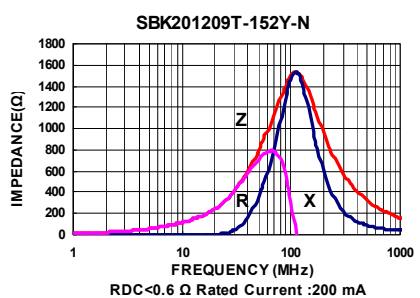
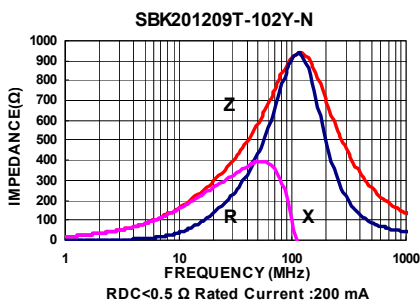
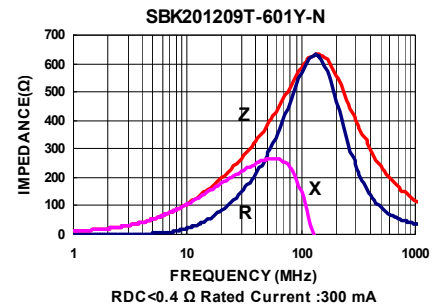
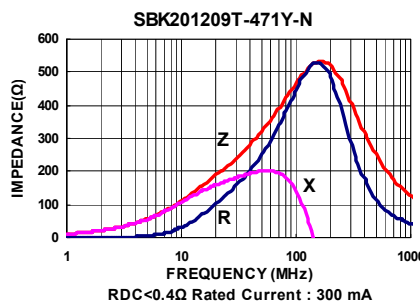
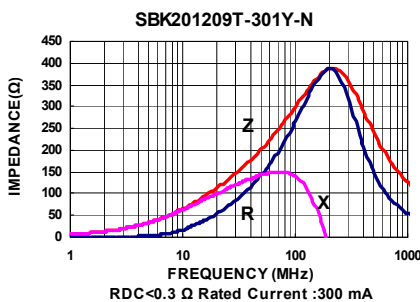
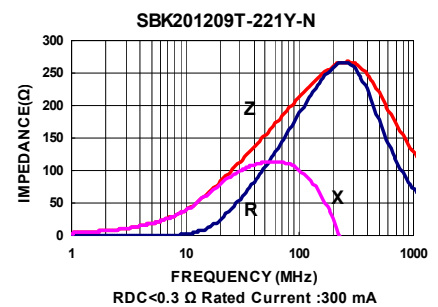
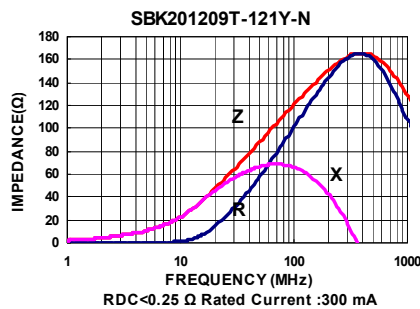
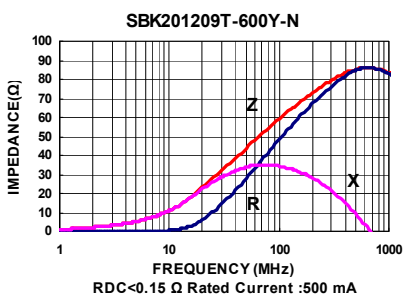
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	DC Resistance ( $\Omega$ ) Max	Rated current (mA) Max
SBK201209T-600Y-N	60	100	0.15	500
SBK201209T-121Y-N	120	100	0.25	300
SBK201209T-221Y-N	220	100	0.30	300
SBK201209T-301Y-N	300	100	0.30	300
SBK201209T-471Y-N	470	100	0.30	300
SBK201209T-601Y-N	600	100	0.40	300
SBK201209T-102Y-N	1000	100	0.50	200
SBK201209T-152Y-N	1500	100	0.60	200
SBK201209T-202Y-N	2000	100	0.70	200
SBK201209T-252Y-N	2500	100	0.70	200
SBK201209T-272Y-N	2700	100	0.70	200

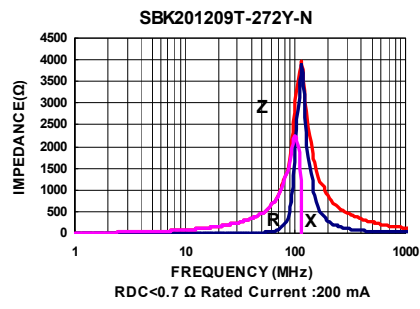
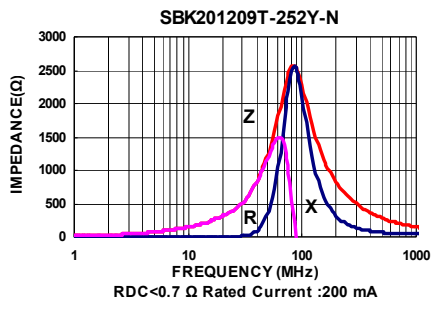
**Note:** When ordering, please specify tolerance code. Tolerance : Y= $\pm 25\%$

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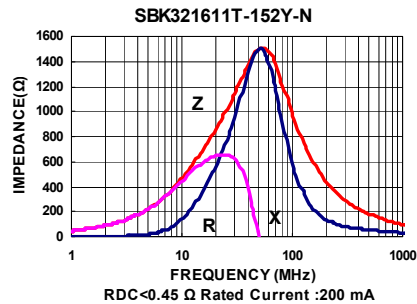
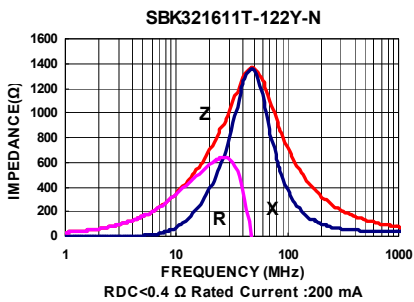
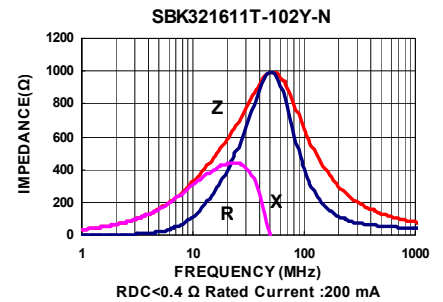
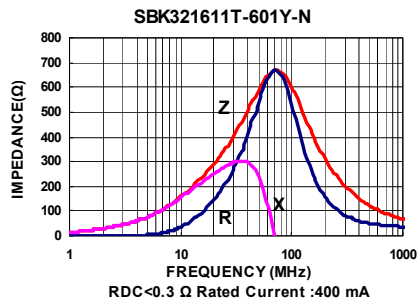
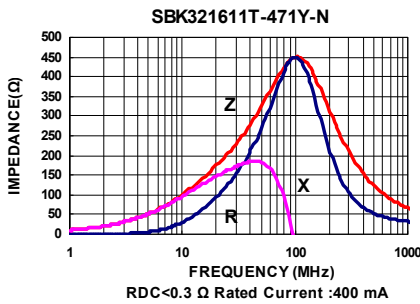
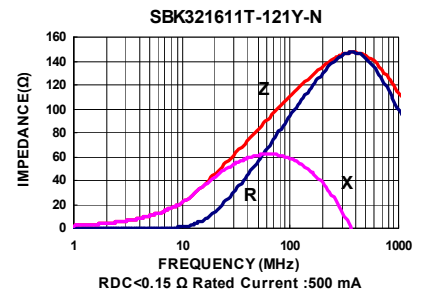
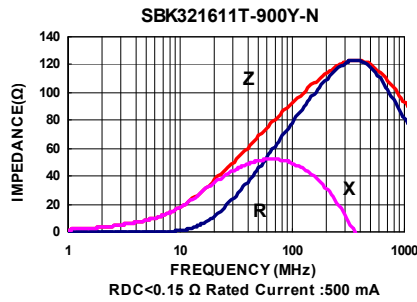
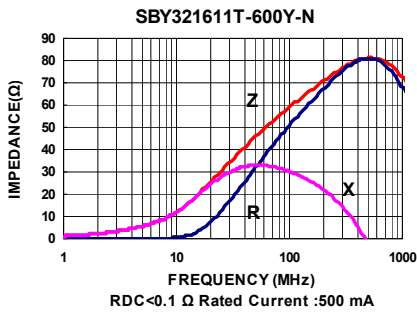
## Electrical Characteristics

Part Number	Impedance ( $\Omega \pm 25\%$ )	Test Frequency (MHz)	RDC ( $\Omega$ ) Max	Rated current (mA) Max
SBY321611T-600Y-N	60	100	0.10	500
SBK321611T-900Y-N	90	100	0.15	500
SBK321611T-121Y-N	120	100	0.15	500
SBK321611T-471Y-N	470	100	0.20	400
SBK321611T-601Y-N	600	100	0.30	400
SBK321611T-102Y-N	1000	50	0.40	200
SBK321611T-122Y-N	1200	50	0.40	200
SBK321611T-152Y-N	1500	50	0.45	200

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

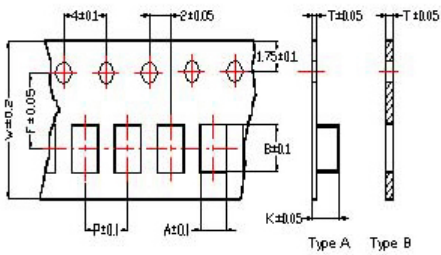
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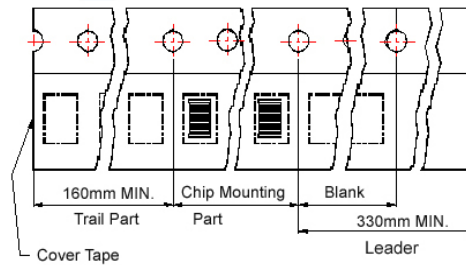
## Packaging Specifications

### Tape Dimensions

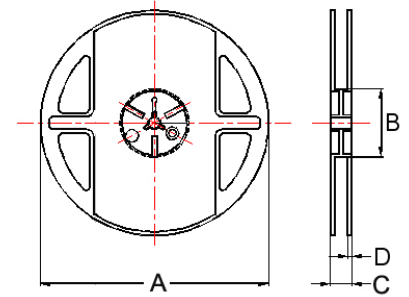


### Tape Material

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

## 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	0.65	1.15	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
③160805	1.05	1.85	0.75	8.0	4.0	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