

Multilayer Ferrite Chip Beads



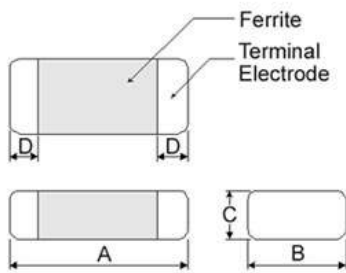
Chilisin offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions. These ferrite formulas are used to compose seven types of EMI suppression chip beads: SB, GB, PB, UPB, NB, HF, and VPB series.

Product Identification

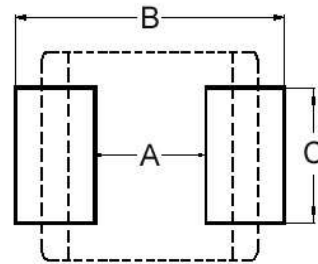


- Product symbol: SB, GB, PB, UPB, NB, HF, VPB
- Packaging: T : Tape and Reel ; B : Bulk
- Tolerance: Y = $\pm 25\%$; M = $\pm 20\%$; T: $\pm 30\%$
- Note: RoHS Compliant

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

SMD Multilayer Ferrite Chip Beads – NBQ Series

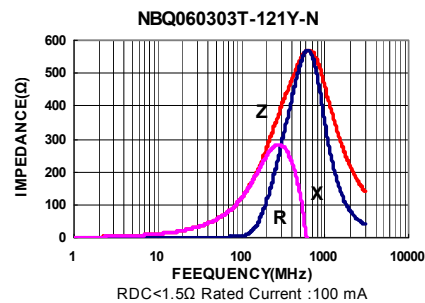
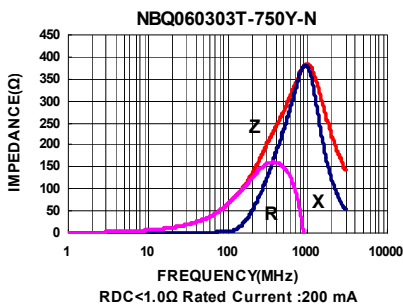
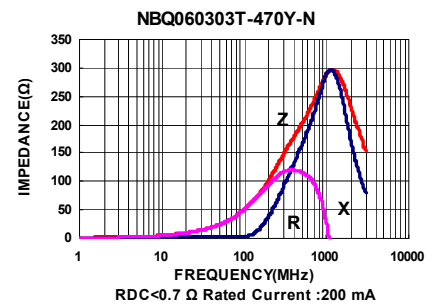
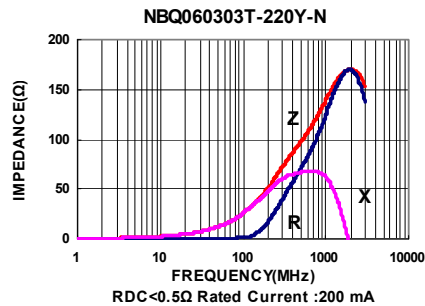
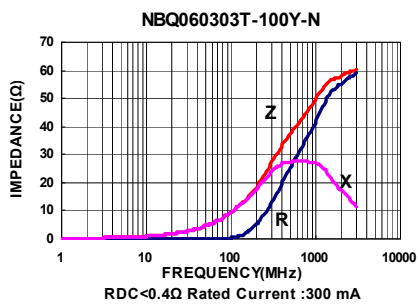
Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
NBQ060303T-100Y-N	10 \pm 30%	100	0.4	300
NBQ060303T-220Y-N	22	100	0.5	200
NBQ060303T-470Y-N	47	100	0.7	200
NBQ060303T-750Y-N	75	100	1.0	200
NBQ060303T-121Y-N	120	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



SMD Multilayer Ferrite Chip Beads – NBQ Series

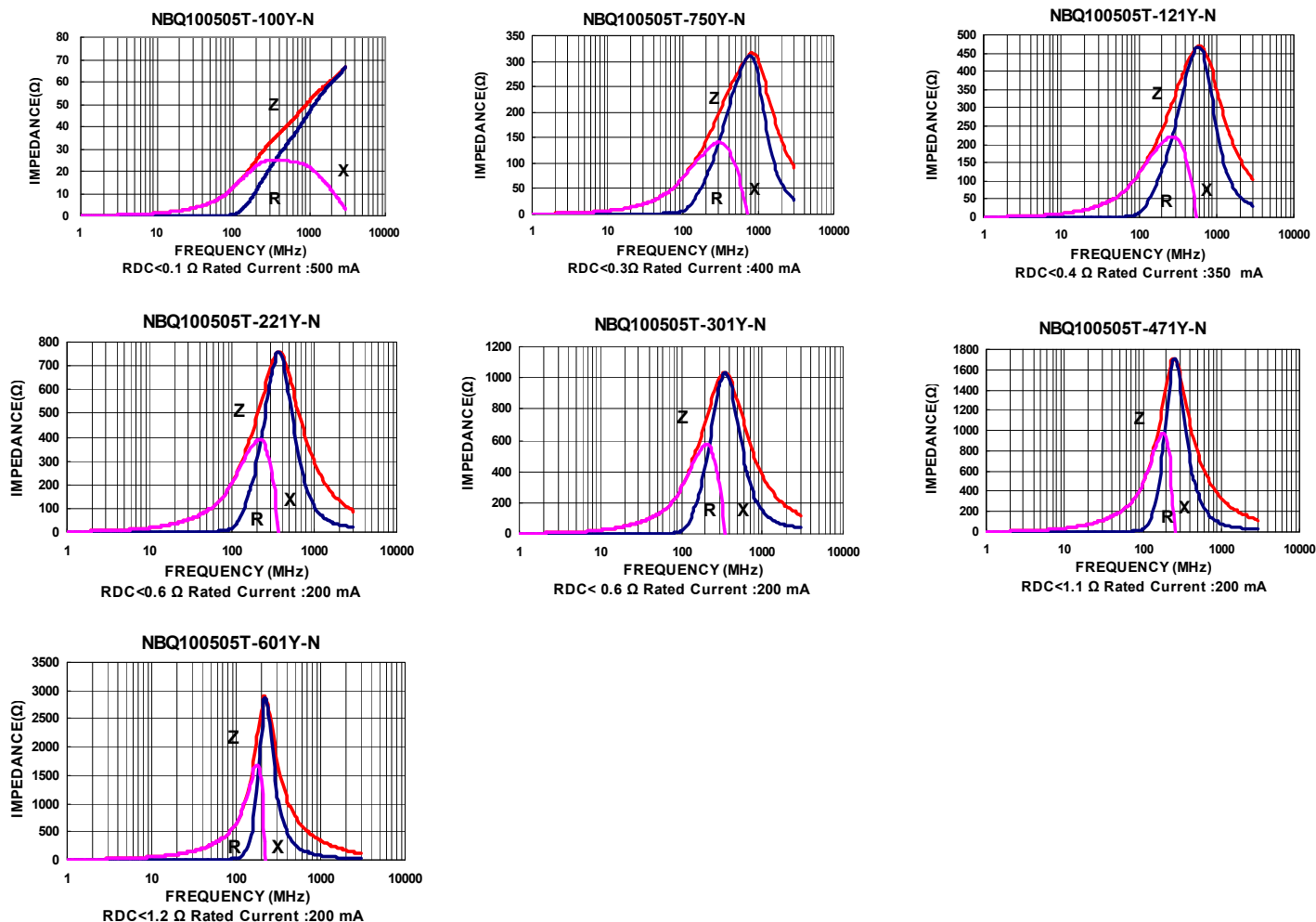
Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
NBQ100505T-100Y-N	10 \pm 30%	100	0.10	500
NBQ100505T-750Y-N	75	100	0.30	400
NBQ100505T-121Y-N	120	100	0.40	350
NBQ100505T-221Y-N	220	100	0.60	200
NBQ100505T-301Y-N	300	100	0.80	200
NBQ100505T-471Y-N	470	100	1.10	200
NBQ100505T-601Y-N	600	100	1.20	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



SMD Multilayer Ferrite Chip Beads – NBQ Series

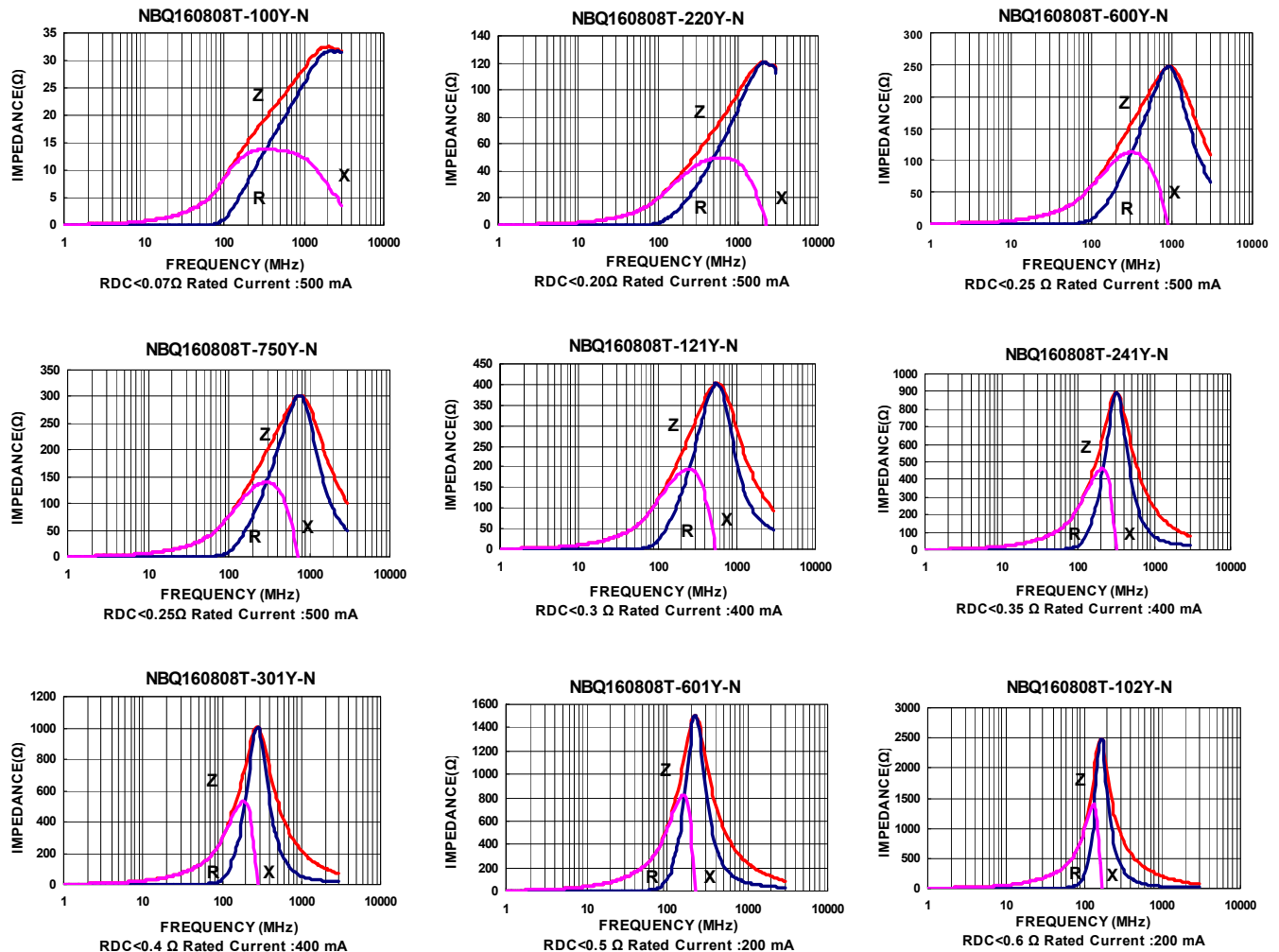
Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
NBQ160808T-100Y-N	10 \pm 30%	100	0.07	500
NBQ160808T-220Y-N	22	100	0.20	500
NBQ160808T-600Y-N	60	100	0.25	500
NBQ160808T-750Y-N	75	100	0.25	500
NBQ160808T-121Y-N	120	100	0.30	400
NBQ160808T-241Y-N	240	100	0.35	400
NBQ160808T-301Y-N	300	100	0.40	400
NBQ160808T-601Y-N	600	100	0.50	200
NBQ160808T-102Y-N	1000	100	0.60	200
NBQ160808T-122Y-N	1200	100	0.60	100
NBQ160808T-152Y-N	1500	100	0.70	100
NBQ160808T-182Y-N	1800	100	0.80	100
NBQ160808T-252Y-N	2500	100	1.0	100

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

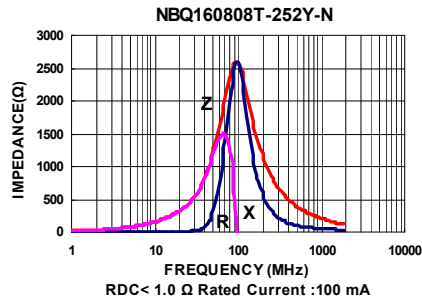
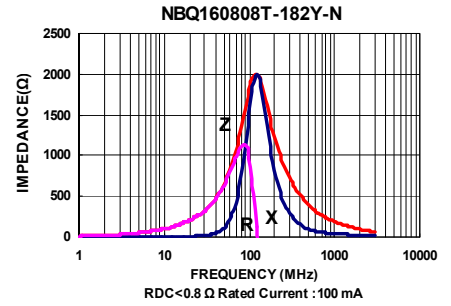
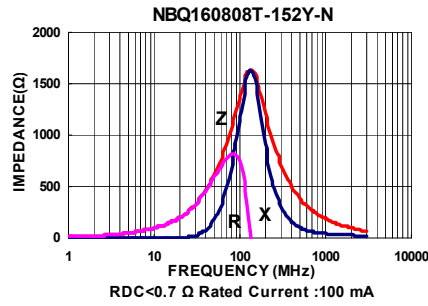
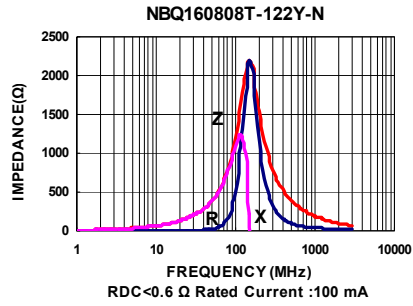
- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Rate Current : Applied the current to coils, the temperature rise shall not be more than 30°C
- Measure Equipment :
Z : HP4291A
RDC : HP4338B or CHEN HWA 502

Test Instruments : Agilent E4991A Impedance / Material Analyzer



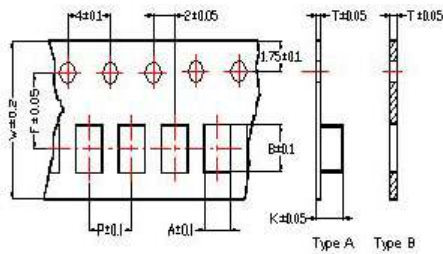
SMD Multilayer Ferrite Chip Beads – NBQ Series

Test Instruments : Agilent E4991A Impedance / Material Analyzer

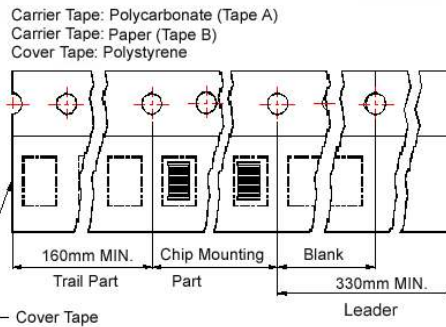


Packaging Specifications

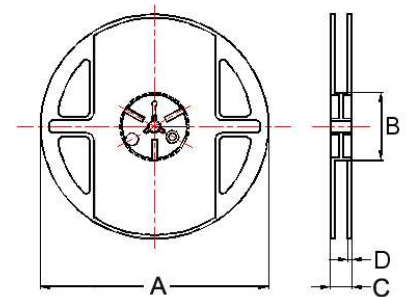
Tape Dimensions



Tape Material



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