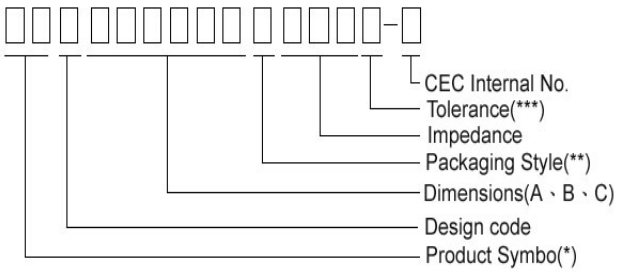
Multilayer Ferrite Chip beads

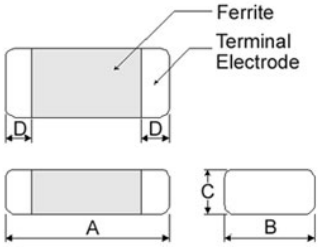
Chilisin offers hundreds of multi-layered ferrite chip beads with various sizes, frequency characteristics, and a wide range of impedance values to provide powerful solutions for EMI problems.
Three formulas of ferrite compose several types of EMI suppression chip beads that are classified into six categories- SB, GB, PB, UPB, NB, and HF series.

Product Identification



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

Shapes and Dimensions

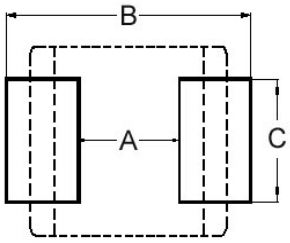


Dimensions in mm

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
③160808	1.6±0.15	0.80±0.15	0.8±0.15	0.3±0.2
④201209	2.0±0.20	1.25±0.20	0.9±0.20	0.5±0.3
⑤201212	2.0±0.20	1.25±0.20	1.25±0.20	0.5±0.3
④321611	3.2±0.20	1.60±0.20	1.1±0.20	0.5±0.3
⑥321616	3.2±0.20	1.60±0.20	1.6±0.20	0.5±0.3
⑦322513	3.2±0.20	2.50±0.20	1.3±0.20	0.5±0.3
⑧451616	4.5±0.25	1.60±0.20	1.6±0.20	0.5±0.3
⑧453215	4.5±0.25	3.20±0.20	1.5±0.20	0.5±0.3

①：SB / PB ②：SB / PB / NB / HF ④：SB / PB / NB / GB / UPB
③：SB / PB / NB / GB / UPB / HF ⑤：UPB ⑥：SB / GB
⑦：SB / PB / GB ⑧：SB / PB / GB / 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
③160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
⑤201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
④321611	2.0	4.2 ~ 5.2	1.2
⑥321616	2.0	4.2 ~ 5.2	1.2
⑦322513	2.0	5.5 ~ 6.5	1.8
⑧451616	3.0	5.5 ~ 6.5	1.2
⑧453215	3.0	5.5 ~ 6.5	2.4

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

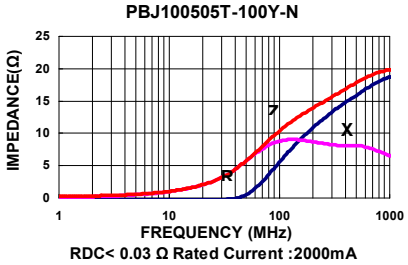
Dimension Conversion

Code	Dimension in mm (AxBxC)	EIA
060303	0.6X0.3X0.3	0201
100505	1.0X0.5X0.5	0402
160808	1.6x0.8x0.8	0603
201209	2.0x1.2x0.9	0805
321611	3.2x1.6x.1.1	1206
321616	3.2x1.6x1.6	1206
322513	3.2x2.5x1.3	1210
451616	4.5x1.6x1.6	1806
453215	4.5x3.2x1.5	1812

Electrical Characteristics

Part Number	Impedance (Ω)	Test Frequency (MHz) @200mV	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 100505T-100Y-N	10	100	0..03	2000

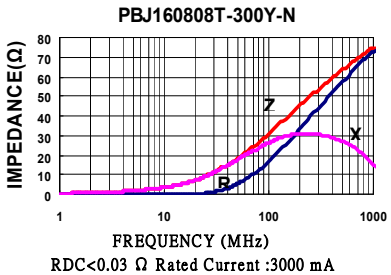
Test Instruments：HP4291A Impedance / Material Analyzer

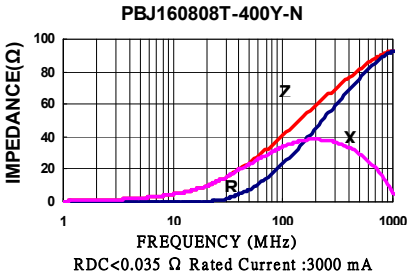


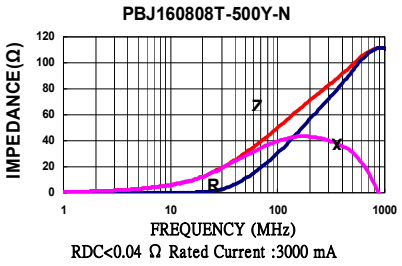
Electrical Characteristics

Part Number	Impedance (Ω)	Test Frequency (MHz) @200mV	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 160808T-100Y-N	10	100	0.02	4000
PBJ 160808T-110Y-N	11	100	0.02	4000
PBJ 160808T-170Y-N	17	100	0.03	3000
PBJ 160808T-260Y-N	26	100	0.03	3000
PBJ 160808T-300Y-N	30	100	0.03	3000
PBJ 160808T-400Y-N	40	100	0.035	3000
PBJ 160808T-500Y-N	50	100	0.04	3000
PBJ 160808T-600Y-N	60	100	0.04	3000
PBJ 160808T-700Y-N	70	100	0.05	2500
PBJ 160808T-800Y-N	80	100	0.05	2500
PBJ 160808T-101Y-N	100	100	0.05	2500
PBJ 160808T-121Y-N	120	100	0.08	2500
PBJ 160808T-221Y-N	220	100	0.10	2000
PBJ 160808T-331Y-N	330	100	0.15	1500
PBJ 160808T-501Y-N	500	100	0.20	1000
PBJ 160808T-601Y-N	600	100	0.20	1000
PBJ 160808T-751Y-N	750	100	0.25	800
PBJ 160808T-102Y-N	1000	100	0.25	800

Test Instruments：HP4291A Impedance / Material Analyzer







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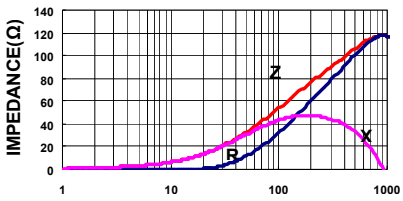
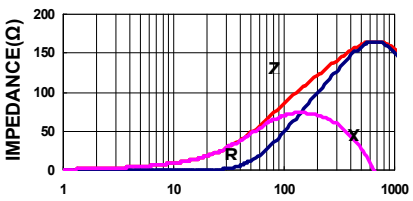
PBJ160808T-600Y-N



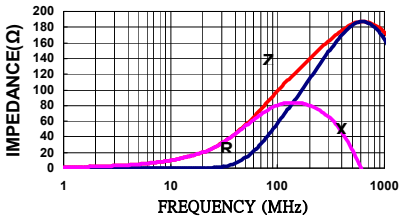
RDC<0.04 Ω Rated Current :3000 mA

PBJ160808T-800Y-N



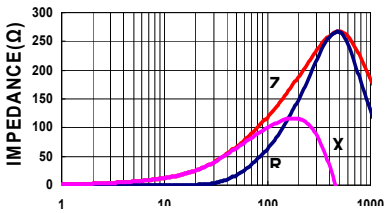
RDC<0.05Ω Rated Current :2500 mA

PBJ160808T-101Y-N



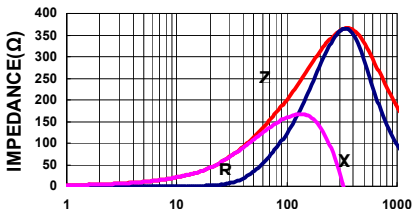
RDC<0.05 Ω Rated Current :2500 mA

PBJ160808T-121Y-N



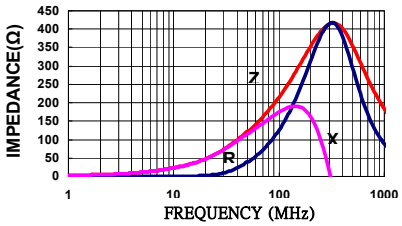
RDC<0.08 Ω Rated Current :2500 mA

PBJ160808T-201Y-N



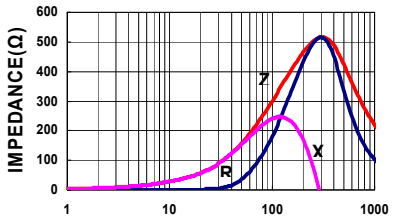
RDC<0.095 Ω Rated Current :2000 mA

PBJ160808T-221Y-N



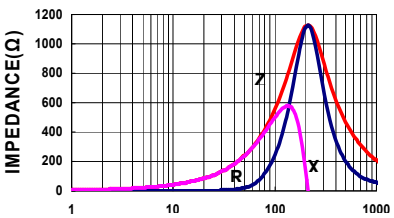
RDC<0.10Ω Rated Current :2000 mA

PBJ160808T-301Y-N



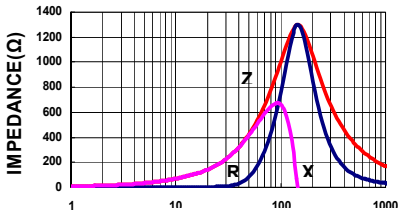
RDC<0.10Ω Rated Current :2000 mA

PBJ160808T-601Y-N



RDC<0.20Ω Rated Current :1000 mA

PBJ160808T-102Y-N



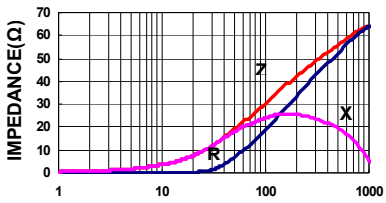
RDC<0.25Ω Rated Current :800 mA

Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz) @200mV	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 201209T-070Y-N	7	100	0.01	6000
PBJ 201209T-110Y-N	11	100	0.01	6000
PBJ 201209T-190Y-N	19	100	0.02	4000
PBJ 201209T-300Y-N	30	100	0.02	4000
PBJ 201209T-320Y-N	32	100	0.02	4000
PBJ 201209T-400Y-N	40	100	0.02	3000
PBJ 201209T-500Y-N	50	100	0.025	3000
PBJ 201209T-600Y-N	60	100	0.03	3000
PBJ 201209T-800Y-N	80	100	0.04	3000
PBJ 201209T-900Y-N	90	100	0.04	3000
PBJ 201209T-101Y-N	100	100	0.04	3000
PBJ 201209T-121Y-N	120	100	0.04	3000
PBJ 201209T-221Y-N	220	100	0.08	2000
PBJ 201209T-301Y-N	300	100	0.08	2000
PBJ 201209T-331Y-N	330	100	0.08	2000
PBJ 201209T-401Y-N	400	100	0.10	2000
PBJ 201209T-601Y-N	600	100	0.12	2000
PBJ 201209T-102Y-N	1000	100	0.15	1500

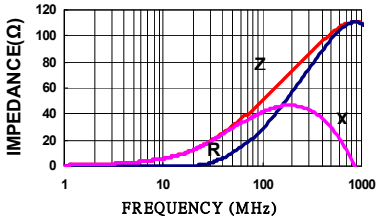
Test Instruments：HP4291A Impedance / Material Analyzer

PBJ201209T-300Y-N



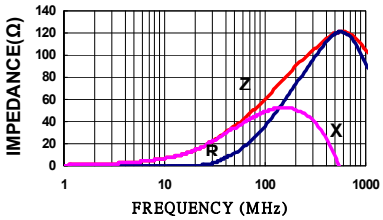
RDC<0.02Ω Rated Current :4000 mA

PBJ201209T-500Y-N



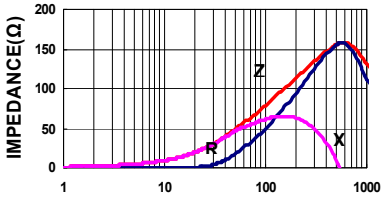
RDC<0.25Ω Rated Current :3000 mA

PBJ201209T-600Y-N



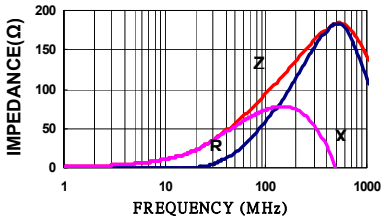
RDC<0.03Ω Rated Current :3000 mA

PBJ201209T-800Y-N



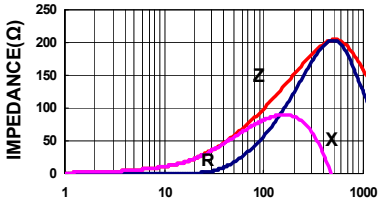
RDC<0.04Ω Rated Current :3000 mA

PBJ201209T-900Y-N



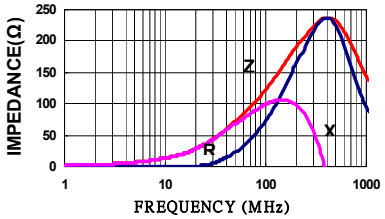
RDC<0.04Ω Rated Current :3000 mA

PBJ201209T-101Y-N



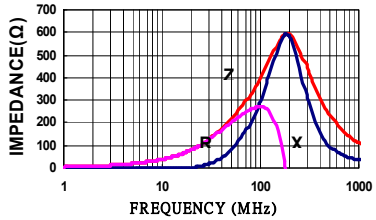
RDC<0.04Ω Rated Current :3000 mA

PBJ201209T-121Y-N



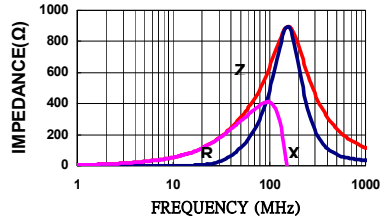
RDC<0.04Ω Rated Current :3000 mA

PBJ201209T-401Y-N



RDC<0.10Ω Rated Current :2000 mA

PBJ201209T-601Y-N



RDC<0.12Ω Rated Current :2000 mA

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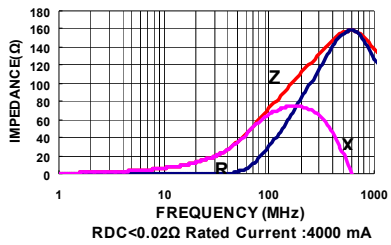
Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 321611T-110Y-N	11	100	0.015	6000
PBJ 321611T-190Y-N	19	100	0.015	6000
PBJ 321611T-260Y-N	26	100	0.015	6000
PBJ 321611T-310Y-N	31	100	0.015	4000
PBJ 321611T-320Y-N	32	100	0.015	4000
PBJ 321611T-500Y-N	50	100	0.02	4000
PBJ 321611T-700Y-N	70	100	0.02	4000
PBJ 321611T-800Y-N	80	100	0.025	3000
PBJ 321611T-900Y-N	90	100	0.03	3000
PBJ 321611T-101Y-N	100	100	0.03	2500
PBJ 321611T-121Y-N	120	100	0.03	2500
PBJ 321611T-151Y-N	150	100	0.04	2000
PBJ 321611T-221Y-N	220	100	0.05	2000
PBJ 321611T-301Y-N	300	100	0.06	2000
PBJ 321611T-401Y-N	400	100	0.10	2000
PBJ 321611T-601Y-N	600	100	0.10	2000
PBJ 321611T-102Y-N	1000	100	0.15	1200
PBJ 321611T-122Y-N	1200	100	0.18	1000
PBJ 321611T-152Y-N	1500	100	0.20	800

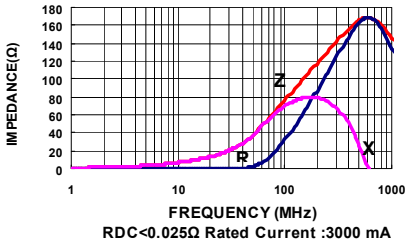
Test Instruments：HP4291A Impedance / Material Analyzer

PBJ321611T-700Y-N



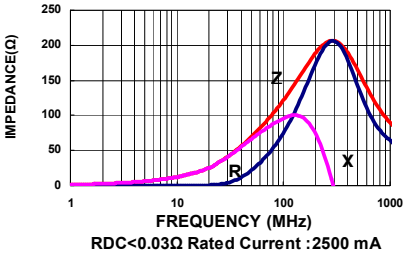
RDC<0.02Ω Rated Current :4000 mA

PBJ321611T-800Y-N



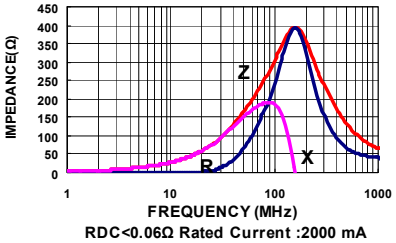
RDC<0.025Ω Rated Current :3000 mA

PBJ321611T-121Y-N



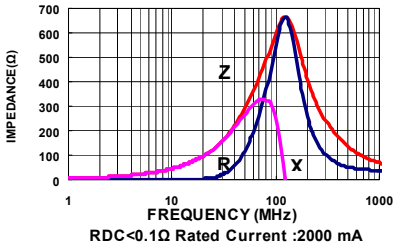
RDC<0.03Ω Rated Current :2500 mA

PBJ321611T-301Y-N



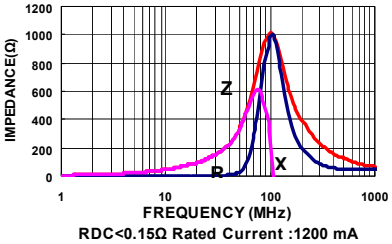
RDC<0.06Ω Rated Current :2000 mA

PBJ321611T-601Y-N



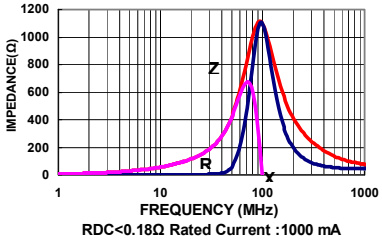
RDC<0.1Ω Rated Current :2000 mA

PBJ321611T-102Y-N



RDC<0.15Ω Rated Current :1200 mA

PBJ321611T-122Y-N



RDC<0.18Ω Rated Current :1000 mA

Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 322513T-600Y-N	60	100	0.025	4000
PBJ 322513T-900Y-N	90	100	0.025	3000

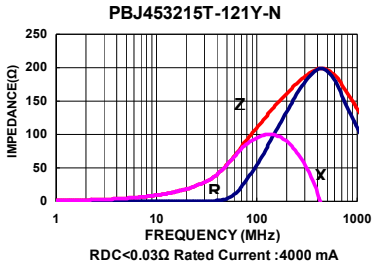
Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 451616T-500Y-N	50	100	0.020	6000
PBJ 451616T-600Y-N	60	100	0.020	5000
PBJ 451616T-700Y-N	70	100	0.025	5000
PBJ 451616T-750Y-N	75	100	0.025	5000
PBJ 451616T-800Y-N	80	100	0.025	4000
PBJ 451616T-151Y-N	150	100	0.100	2000

Electrical Characteristics

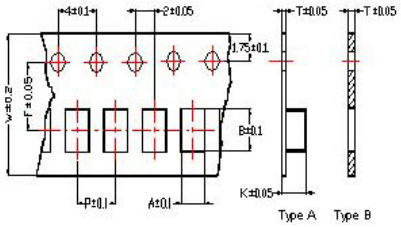
Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	DC Resistance (Ω) Max	Rated current (mA) Max
PBJ 453215T-300Y-N	30	100	0.030	6000
PBJ 453215T-600Y-N	60	100	0.030	6000
PBJ 453215T-700Y-N	70	100	0.030	6000
PBJ 453215T-900Y-N	90	100	0.030	4000
PBJ 453215T-121Y-N	120	100	0.030	4000
PBJ 453215T-131Y-N	130	100	0.040	3000

Test Instruments：**HP4291A Impedance / Material Analyzer**

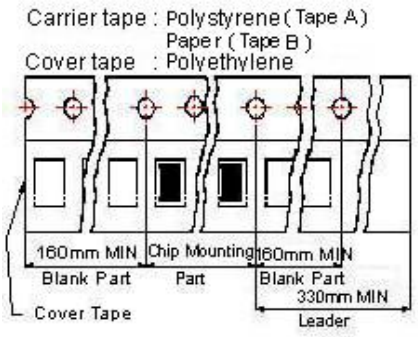


Packaging Specifications

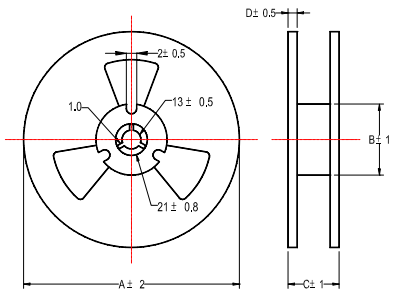
Tape Dimensions



Tape Material



Reel Dimensions



①:SB / PB ②:SB / PB / NB / HF ④:SB / PB / NB / GB / UPB
③ : SB / PB / NB / GB / UPB / HF ⑤ : UPB ⑥ : SB / GB
⑦ : SB / PB / GB ⑧ : SB / PB / GB / UPB

Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape Type.	A	B	C	D	PCS / REEL
①060303	0.38	0.67	0.45	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
③160808	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	2	4000
④201209	1.50	2.30	0.97	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑤201212	1.35	2.25	0.22	8.0	4.0	3.5	1.35	A	178	60	12	2	3000
④321611	1.88	3.50	0.22	8.0	4.0	3.5	1.27	A	178	60	12	2	3000
⑥321616	1.88	3.53	0.22	8.0	4.0	3.5	1.80	A	178	60	12	2	2000
⑦322513	2.77	3.42	0.22	8.0	4.0	3.5	1.55	A	178	60	12	2	2500
⑧451616	1.93	4.95	0.24	12	4.0	5.5	1.93	A	178	60	14	2	2000
⑧453215	3.66	4.95	0.24	12	8.0	5.5	1.85	A	178	60	14	2	1000