

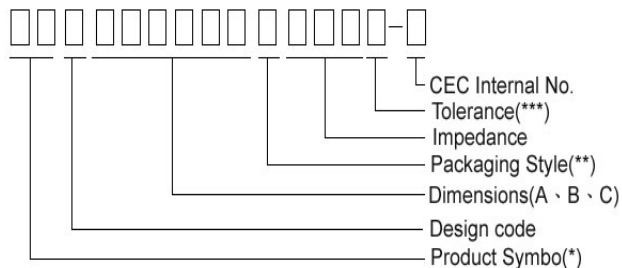
Multilayer Ferrite Chip beads



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.

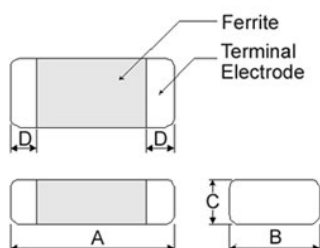
Three formulas of ferrite compose several types of EMI suppression chip beads that are classified into six categories- SB, GB, PB, UPB, NB, and HF series.

Product Identification



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

Shapes and Dimensions



Dimensions in mm

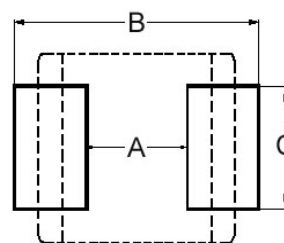
TYPE	A	B	C	D
①060303	0.6 \pm 0.03	0.30 \pm 0.03	0.3 \pm 0.03	0.15 \pm 0.05
②100505	1.0 \pm 0.10	0.50 \pm 0.10	0.5 \pm 0.10	0.25 \pm 0.10
③160808	1.6 \pm 0.15	0.80 \pm 0.15	0.8 \pm 0.15	0.3 \pm 0.2
④201209	2.0 \pm 0.20	1.25 \pm 0.20	0.9 \pm 0.20	0.5 \pm 0.3
⑤201212	2.0 \pm 0.20	1.25 \pm 0.20	1.25 \pm 0.20	0.5 \pm 0.3
④321611	3.2 \pm 0.20	1.60 \pm 0.20	1.1 \pm 0.20	0.5 \pm 0.3
⑥321616	3.2 \pm 0.20	1.60 \pm 0.20	1.6 \pm 0.20	0.5 \pm 0.3
⑦322513	3.2 \pm 0.20	2.50 \pm 0.20	1.3 \pm 0.20	0.5 \pm 0.3
⑧451616	4.5 \pm 0.25	1.60 \pm 0.20	1.6 \pm 0.20	0.5 \pm 0.3
⑧453215	4.5 \pm 0.25	3.20 \pm 0.20	1.5 \pm 0.20	0.5 \pm 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

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

Recommended Pattern



Dimensions in mm

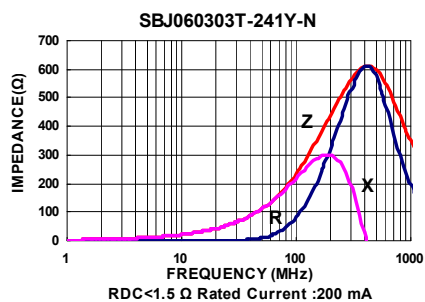
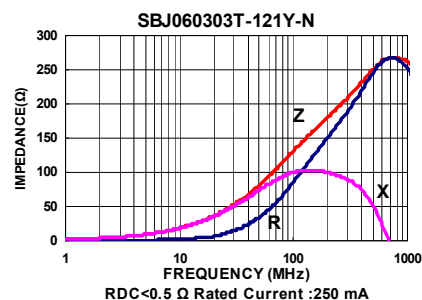
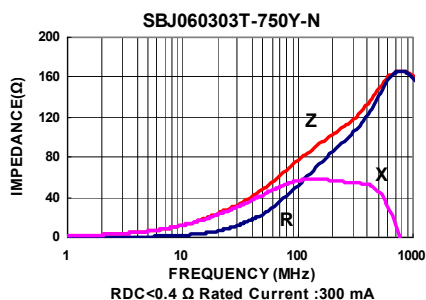
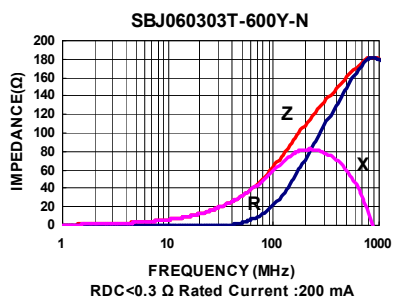
TYPE	A	B	C
①060303	0.2 ~ 0.3	0.75 ~ 1.05	0.3
②100505	0.4	1.2 ~ 1.4	0.5
③160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
⑤201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
④321611	2.0	4.2 ~ 5.2	1.2
⑥321616	2.0	4.2 ~ 5.2	1.2
⑦322513	2.0	5.5 ~ 6.5	1.8
⑧451616	3.0	5.5 ~ 6.5	1.2
⑧453215	3.0	5.5 ~ 6.5	2.4

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

Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz) 200 mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ060303T-600Y-N	60	100	0.3	200
SBJ060303T-750Y-N	75	100	0.4	300
SBJ060303T-121Y-N	120	100	0.5	250
SBJ060303T-471Y-N	470	100	1.5	200

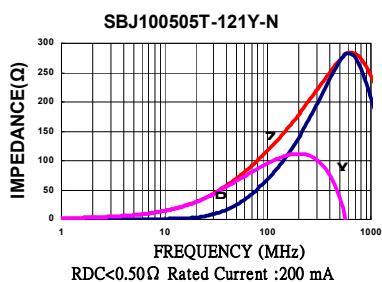
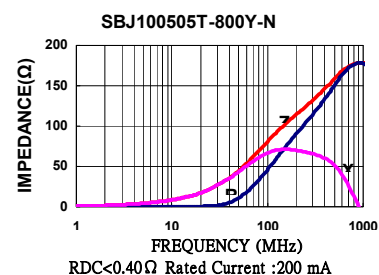
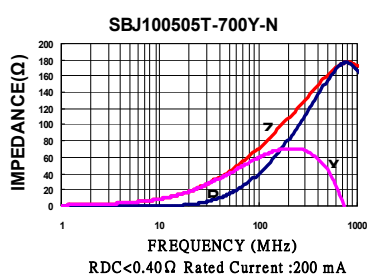
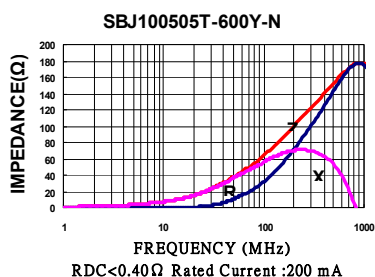
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz) 200 mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ100505T-060Y-N	6	100	0.05	500
SBJ100505T-100Y-N	10	100	0.05	500
SBJ100505T-400Y-N	40	100	0.20	500
SBJ100505T-600Y-N	60	100	0.20	500
SBJ100505T-700Y-N	70	100	0.20	500
SBJ100505T-800Y-N	80	100	0.20	500
SBJ100505T-121Y-N	120	100	0.25	500
SBJ100505T-221Y-N	220	100	0.40	400
SBJ100505T-301Y-N	300	100	0.50	300
SBJ100505T-481Y-N	480	100	0.50	300
SBJ100505T-601Y-N	600	100	0.60	300
SBJ100505T-102Y-N	1000	100	0.95	200
SBJ100505T-152Y-N	1500	100	1.15	100
SBJ100505T-182Y-N	1800	100	1.40	100
SBJ100505T-252Y-N	2500	100	1.80	100

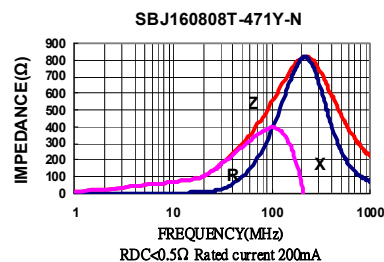
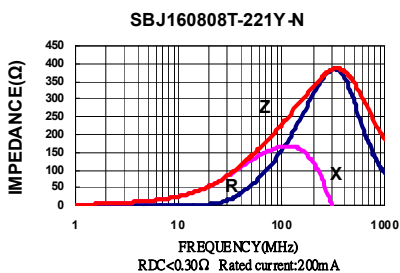
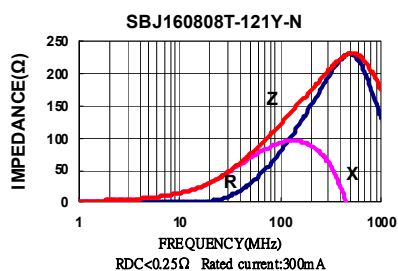
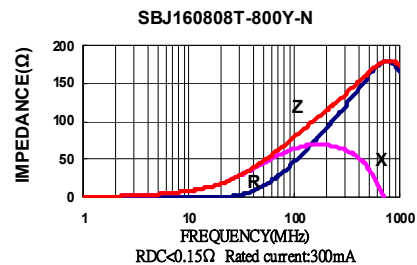
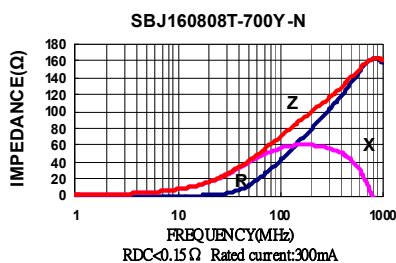
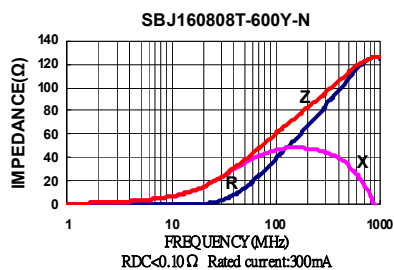
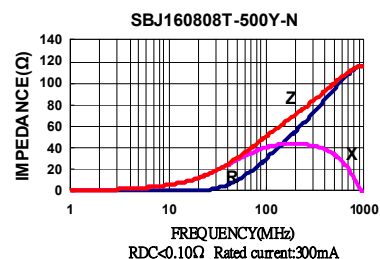
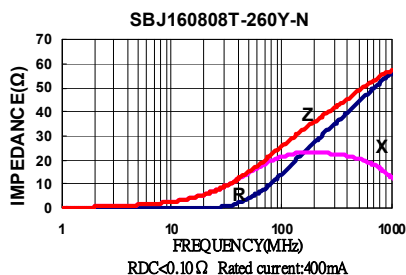
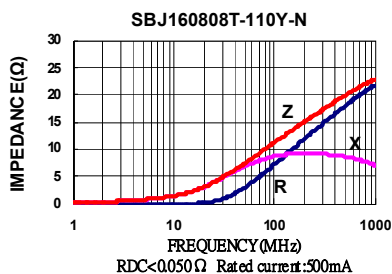
Test Instruments : HP4291A Impedance / Material Analyzer



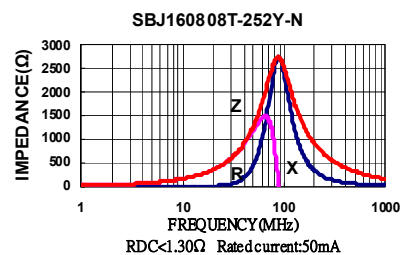
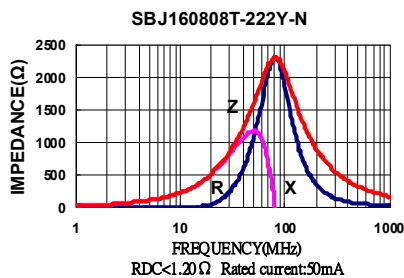
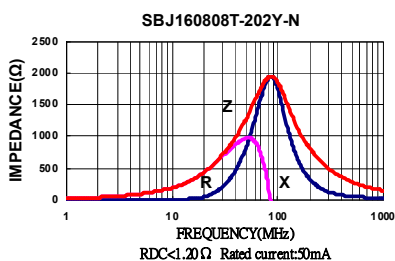
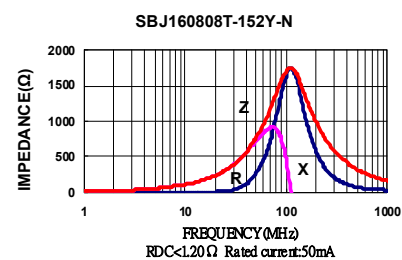
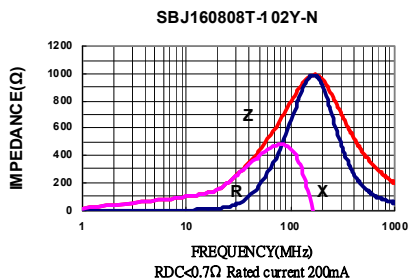
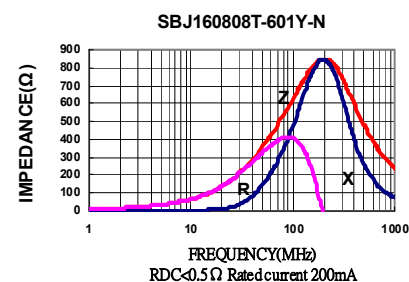
Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ160808T-070Y-N	7	100	0.05	500
SBJ160808T-110Y-N	11	100	0.05	500
SBJ160808T-190Y-N	19	100	0.08	500
SBJ160808T-260Y-N	26	100	0.10	400
SBJ160808T-320Y-N	32	100	0.10	400
SBJ160808T-500Y-N	50	100	0.10	400
SBJ160808T-600Y-N	60	100	0.10	400
SBJ160808T-700Y-N	70	100	0.15	400
SBJ160808T-800Y-N	80	100	0.15	400
SBJ160808T-121Y-N	120	100	0.25	400
SBJ160808T-221Y-N	220	100	0.30	400
SBJ160808T-301Y-N	300	100	0.40	400
SBJ160808T-471Y-N	470	100	0.40	400
SBJ160808T-601Y-N	600	100	0.40	400
SBJ160808T-751Y-N	750	100	0.60	300
SBJ160808T-102Y-N	1000	100	0.60	300
SBJ160808T-152Y-N	1500	100	0.80	200
SBJ160808T-202Y-N	2000	100	1.0	200
SBJ160808T-222Y-N	2200	100	1.0	200
SBJ160808T-252Y-N	2500	100	1.0	200
SBJ160808T-272Y-N	2700	100	1.0	200

Test Instruments : HP4291A Impedance / Material Analyzer



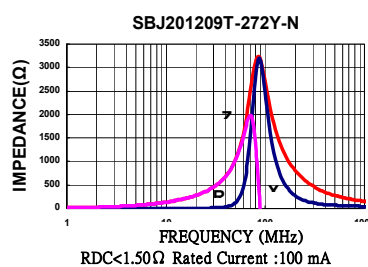
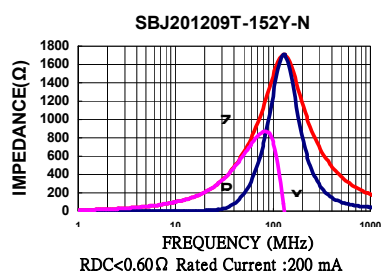
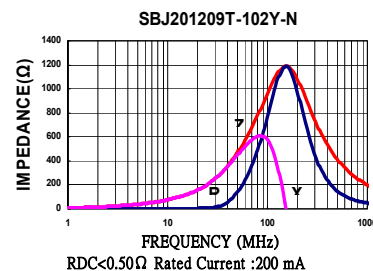
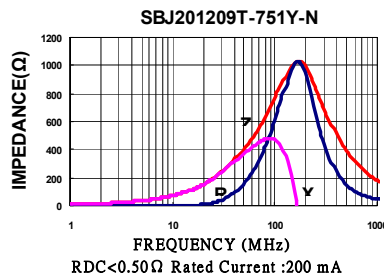
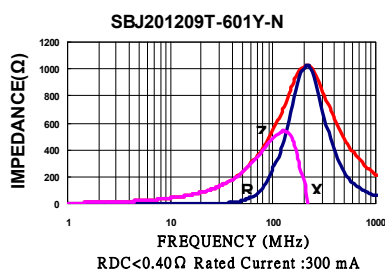
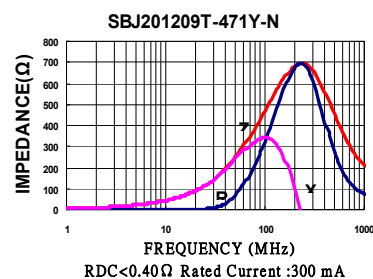
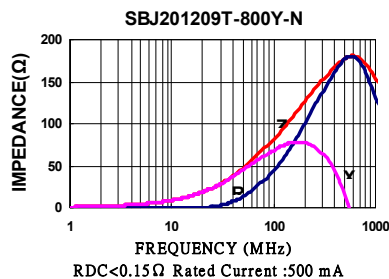
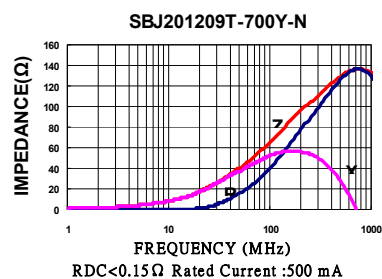
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ201209T-070Y-N	7	100	0.10	600
SBJ201209T-110Y-N	11	100	0.10	600
SBJ201209T-170Y-N	17	100	0.10	600
SBJ201209T-190Y-N	19	100	0.10	600
SBJ201209T-260Y-N	26	100	0.10	600
SBJ201209T-320Y-N	32	100	0.10	600
SBJ201209T-400Y-N	40	100	0.10	500
SBJ201209T-500Y-N	50	100	0.10	500
SBJ201209T-600Y-N	60	100	0.15	500
SBJ201209T-700Y-N	70	100	0.15	500
SBJ201209T-800Y-N	80	100	0.15	500
SBJ201209T-121Y-N	120	100	0.25	300
SBJ201209T-221Y-N	220	100	0.30	300
SBJ201209T-301Y-N	300	100	0.30	300
SBJ201209T-471Y-N	470	100	0.40	300
SBJ201209T-601Y-N	600	100	0.40	300
SBJ201209T-751Y-N	750	100	0.50	200
SBJ201209T-102Y-N	1000	100	0.50	200
SBJ201209T-152Y-N	1500	100	0.60	200
SBJ201209T-202Y-N	2000	100	0.70	200
SBJ201209T-222Y-N	2200	100	0.80	200
SBJ201209T-252Y-N	2500	100	0.80	200
SBJ201209T-272Y-N	2700	100	1.50	100

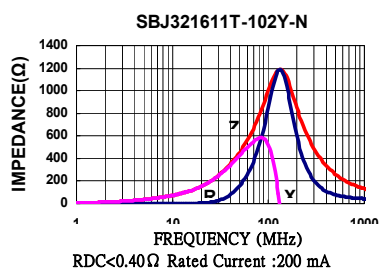
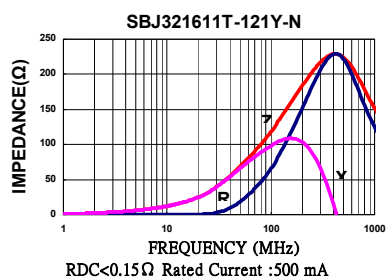
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ321611T-110Y-N	11	100	0.05	600
SBJ321611T-190Y-N	19	100	0.05	600
SBJ321611T-260Y-N	26	100	0.05	600
SBJ321611T-310Y-N	31	100	0.05	600
SBJ321611T-500Y-N	50	100	0.10	500
SBJ321611T-600Y-N	60	100	0.10	500
SBJ321611T-700Y-N	70	100	0.10	500
SBJ321611T-800Y-N	80	100	0.15	500
SBJ321611T-900Y-N	90	100	0.15	500
SBJ321611T-121Y-N	120	100	0.15	500
SBJ321611T-221Y-N	220	100	0.20	400
SBJ321611T-301Y-N	300	100	0.20	400
SBJ321611T-601Y-N	600	100	0.30	400
SBJ321611T-102Y-N	1000	100	0.40	200
SBJ321611T-122Y-N	1200	100	0.40	200
SBJ321611T-152Y-N	1500	100	0.45	200

Test Instruments : HP4291A Impedance / Material Analyzer



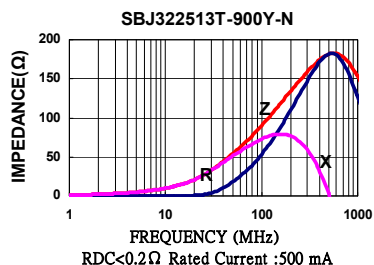
Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ321616T-250Y-N	25	100	0.1	500
SBJ321616T-520Y-N	52	100	0.2	500
SBJ321616T-600Y-N	60	100	0.2	500
SBJ321616T-700Y-N	70	100	0.2	500

Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ322513T-260Y-N	26	100	0.2	500
SBJ322513T-300Y-N	30	100	0.2	500
SBJ322513T-320Y-N	32	100	0.2	500
SBJ322513T-600Y-N	60	100	0.2	500
SBJ322513T-900Y-N	90	100	0.2	500
SBJ322513T-121Y-N	120	100	0.2	500
SBJ322513T-202Y-N	2000	100	0.2	200

Test Instruments : HP4291A Impedance / Material Analyzer



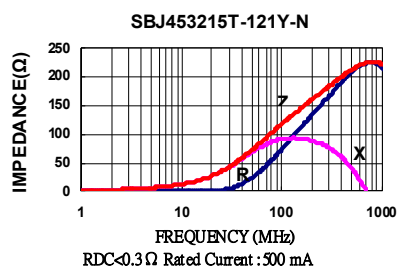
Electrical Characteristics

Part Number	Impedance ($\Omega \pm 25\%$)	Test Frequency (MHz) 200mV	DC Resistance (Ω) Max	Rated current (mA) Max
SBJ451616T-330Y-N	33	100	0.2	600
SBJ451616T-500Y-N	50	100	0.2	600
SBJ451616T-600Y-N	60	100	0.2	600
SBJ451616T-800Y-N	80	100	0.2	600
SBJ451616T-101Y-N	100	100	0.3	500
SBJ451616T-151Y-N	150	100	0.3	500
SBJ451616T-171Y-N	170	100	0.3	500

Electrical Characteristics

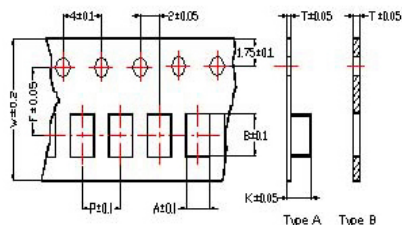
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SBJ453215T-300Y-N	30	100	0.3	500
SBJ453215T-700Y-N	70	100	0.3	500
SBJ453215T-950Y-N	95	100	0.3	500
SBJ453215T-121Y-N	121	100	0.3	500
SBJ453215T-125Y-N	125	100	0.3	500

Test Instruments : HP4291A Impedance / Material Analyzer

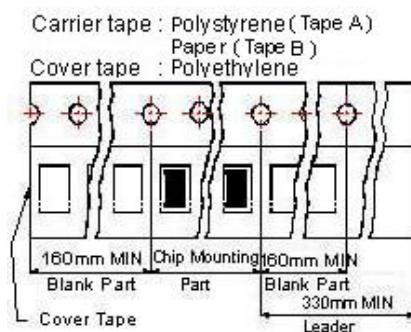


Packaging Specifications

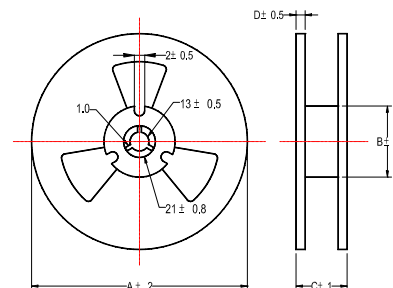
Tape Dimensions



Tape Material



Reel Dimensions



①: SB / PB ②: SB / PB / NB / HF ③: SB / PB / NB / GB / UPB
④: 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 PCS / REEL
	A	B	T	W	P	F	K	Tape Type.	A	B	C	D	
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