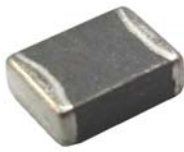


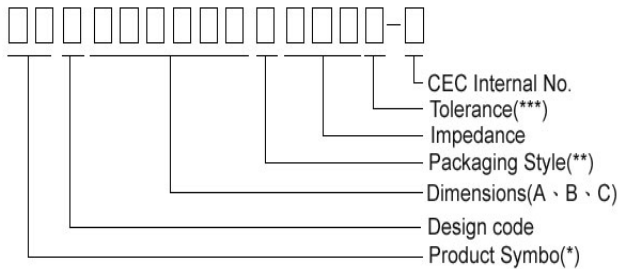
Multilayer Ferrite Chip beads



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.

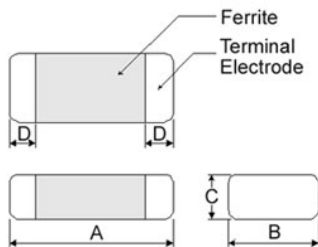
Three formulas of ferrite compose several types of EMI suppression chip beads that are classified into six categories- SB, GB, PB, UPB, NB, and HF series.

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

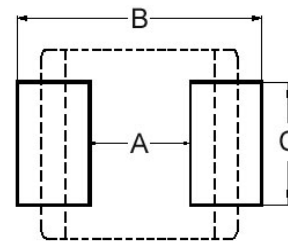
TYPE	A	B	C	D
①060303	0.6 \pm 0.03	0.30 \pm 0.03	0.3 \pm 0.03	0.15 \pm 0.05
②100505	1.0 \pm 0.10	0.50 \pm 0.10	0.5 \pm 0.10	0.25 \pm 0.10
③160808	1.6 \pm 0.15	0.80 \pm 0.15	0.8 \pm 0.15	0.3 \pm 0.2
④201209	2.0 \pm 0.20	1.25 \pm 0.20	0.9 \pm 0.20	0.5 \pm 0.3
⑤201212	2.0 \pm 0.20	1.25 \pm 0.20	1.25 \pm 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

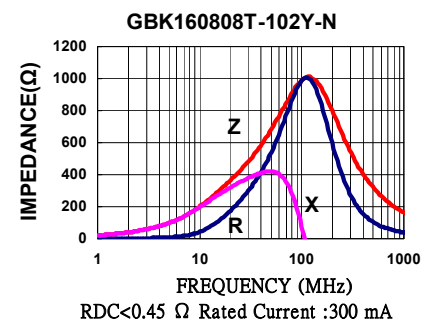
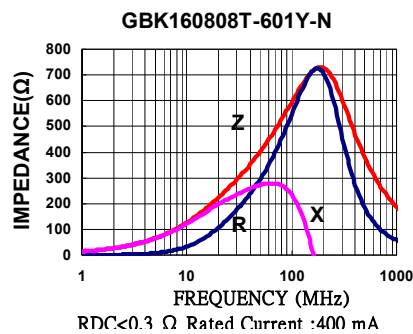
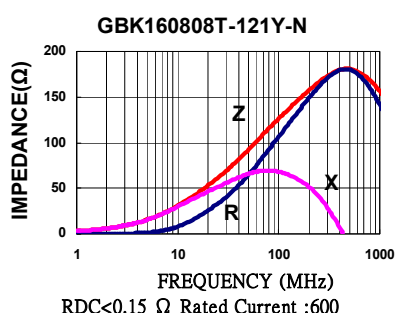
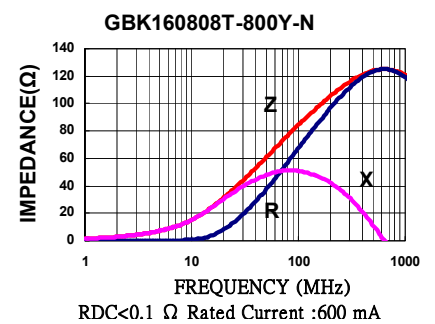
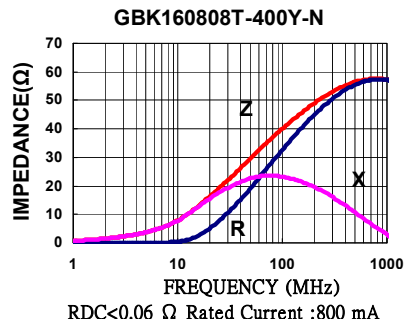
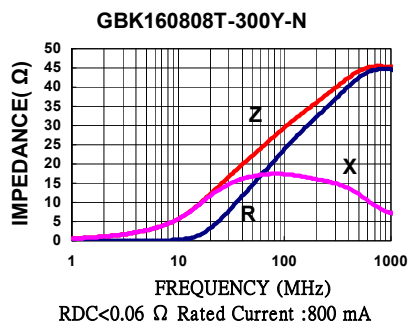
TYPE	A	B	C
①060303	0.2 ~ 0.3	0.75 ~ 1.05	0.3
②100505	0.4	1.2 ~ 1.4	0.5
③160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
⑤201212	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.2
④321611	2.0	4.2 ~ 5.2	1.2
⑥321616	2.0	4.2 ~ 5.2	1.2
⑦322513	2.0	5.5 ~ 6.5	1.8
⑧451616	3.0	5.5 ~ 6.5	1.2
⑧453215	3.0	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	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBK160808T-100Y-N	100	10	0.03	1000
GBK160808T-110Y-N	100	11	0.03	1000
GBK160808T-190Y-N	100	19	0.05	1000
GBK160808T-300Y-N	100	30	0.06	800
GBK160808T-400Y-N	100	40	0.06	800
GBK160808T-600Y-N	100	60	0.06	600
GBK160808T-800Y-N	100	80	0.10	600
GBK160808T-101Y-N	100	100	0.15	600
GBK160808T-121Y-N	100	120	0.15	600
GBK160808T-221Y-N	100	220	0.18	400
GBK160808T-301Y-N	100	300	0.25	400
GBK160808T-451Y-N	100	450	0.30	400
GBK160808T-601Y-N	100	600	0.30	400
GBK160808T-751Y-N	100	750	0.45	300
GBK160808T-102Y-N	100	1000	0.45	300
GBK160808T-152Y-N	100	1500	0.70	150

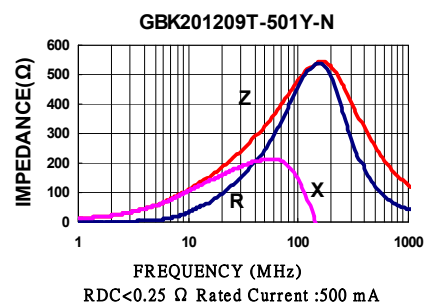
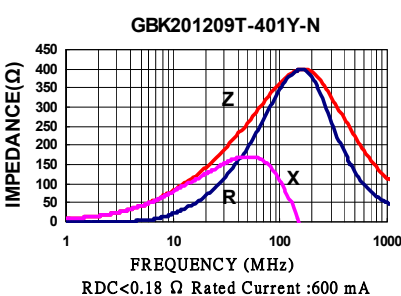
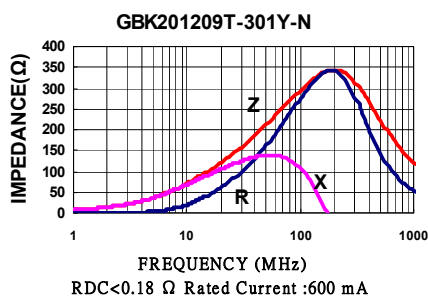
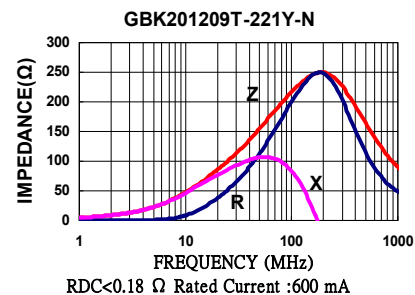
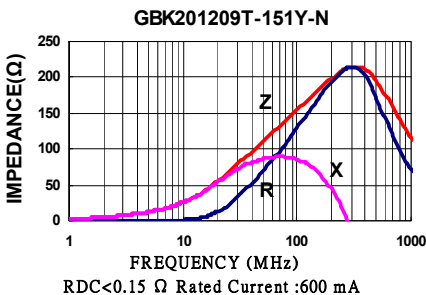
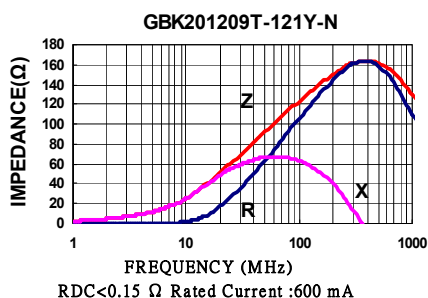
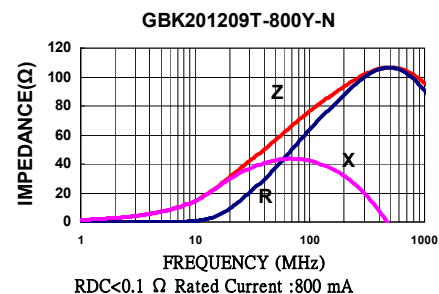
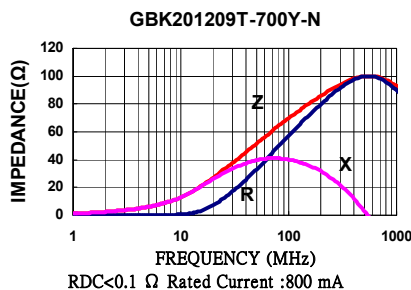
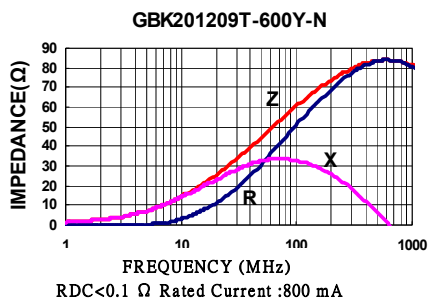
Test Instruments : HP4291A Impedance / Material Analyzer



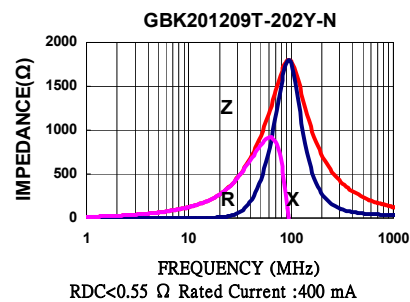
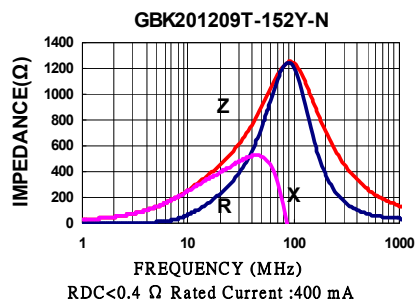
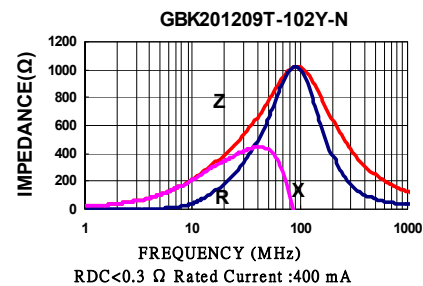
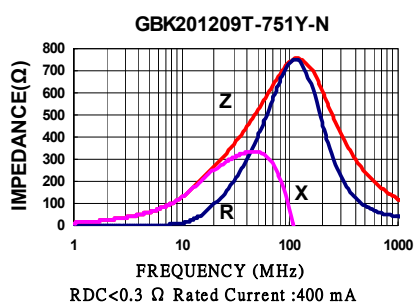
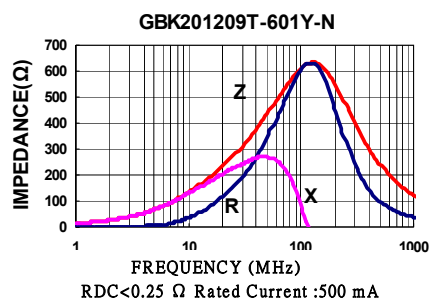
Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBY201209T-070Y-N	100	7	0.06	1000
GBY201209T-090Y-N	100	9	0.06	1000
GBY201209T-110Y-N	100	11	0.06	1000
GBY201209T-170Y-N	100	17	0.06	1000
GBY201209T-320Y-N	100	32	0.06	1000
GBY201209T-400Y-N	100	40	0.10	800
GBK201209T-600Y-N	100	60	0.10	800
GBK201209T-700Y-N	100	70	0.10	800
GBK201209T-800Y-N	100	80	0.10	800
GBK201209T-121Y-N	100	120	0.15	600
GBK201209T-151Y-N	100	150	0.15	600
GBK201209T-221Y-N	100	220	0.18	600
GBK201209T-301Y-N	100	300	0.18	600
GBK201209T-401Y-N	100	400	0.18	600
GBK201209T-501Y-N	100	500	0.25	500
GBK201209T-601Y-N	100	600	0.25	500
GBK201209T-751Y-N	100	750	0.30	400
GBK201209T-102Y-N	100	1000	0.30	400
GBK201209T-152Y-N	100	1500	0.40	400
GBK201209T-202Y-N	100	2000	0.55	400

Test Instruments : HP4291A Impedance / Material Analyzer



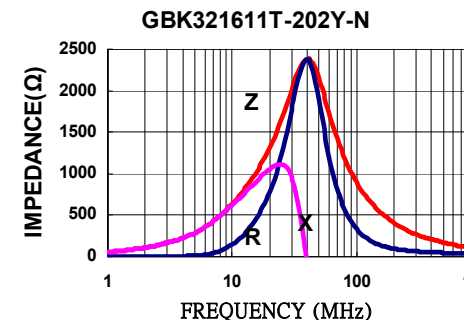
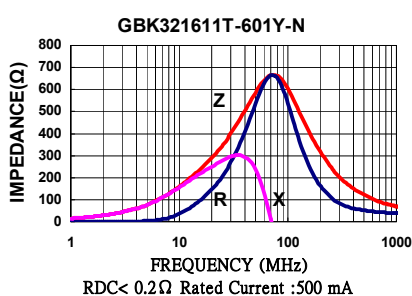
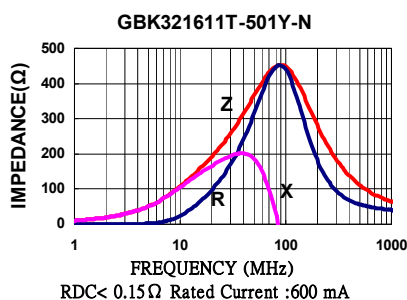
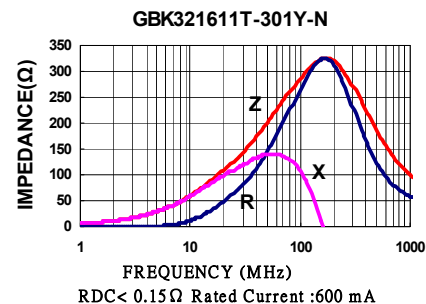
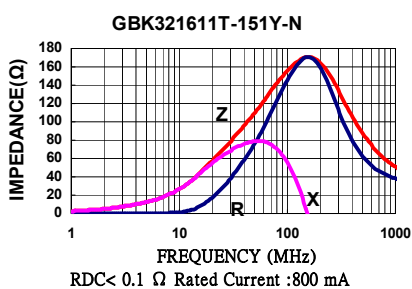
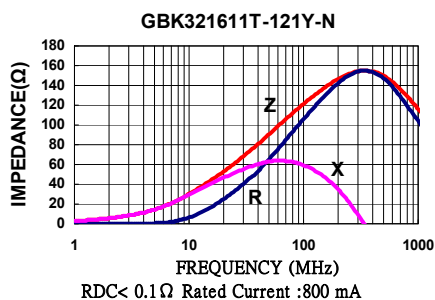
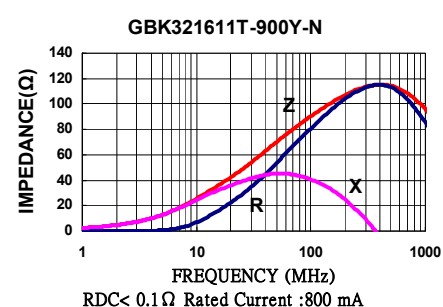
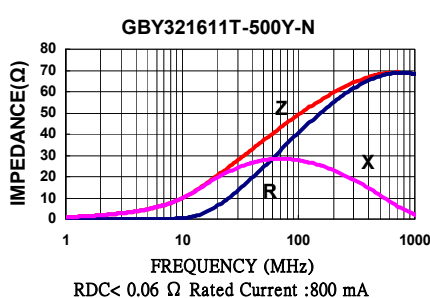
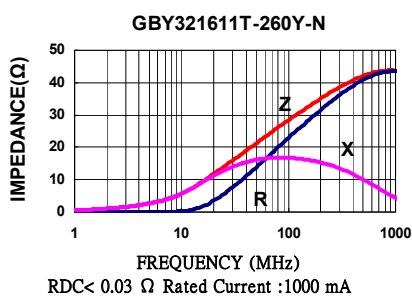
SMD Multilayer Ferrite Chip Beads – GBY,GBK Series



Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBY321611T-190Y-N	100	19	0.03	1000
GBY321611T-260Y-N	100	26	0.03	1000
GBY321611T-320Y-N	100	32	0.03	1000
GBY321611T-500Y-N	100	50	0.06	800
GBY321611T-600Y-N	100	60	0.06	800
GBK321611T-700Y-N	100	70	0.06	800
GBK321611T-900Y-N	100	90	0.10	800
GBK321611T-121Y-N	100	120	0.10	800
GBK321611T-151Y-N	100	150	0.10	800
GBK321611T-201Y-N	100	200	0.15	600
GBK321611T-401Y-N	100	400	0.15	600
GBK321611T-501Y-N	100	500	0.15	600
GBK321611T-601Y-N	100	600	0.20	500
GBK321611T-102Y-N	50	1000	0.25	400
GBK321611T-122Y-N	50	1200	0.25	400
GBK321611T-202Y-N	30	2000	0.35	400

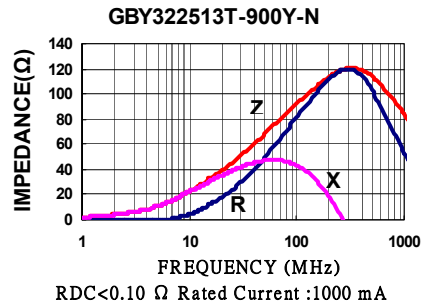
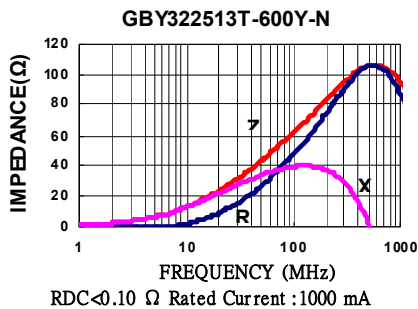
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBY322513T-320Y-N	100	32	0.10	1000
GBY322513T-600Y-N	100	60	0.10	1000
GBY322513T-900Y-N	100	90	0.10	1000

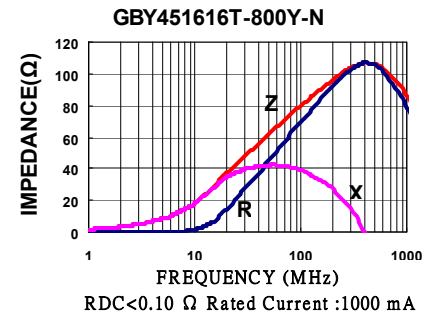
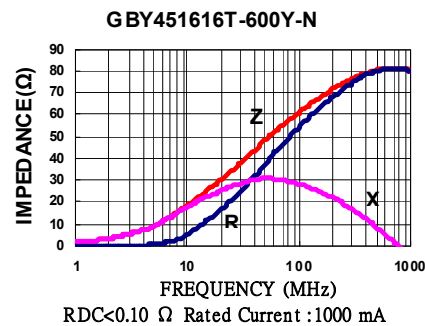
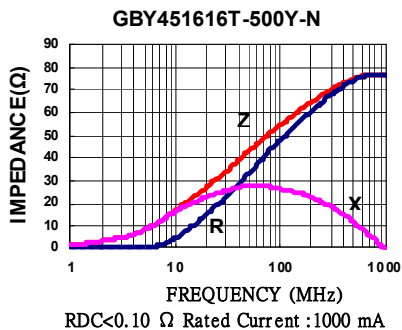
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBY451616T-500Y-N	100	50	0.10	1000
GBY451616T-600Y-N	100	60	0.10	1000
GBY451616T-800Y-N	100	80	0.10	1000
GBY451616T-101Y-N	100	100	0.18	800

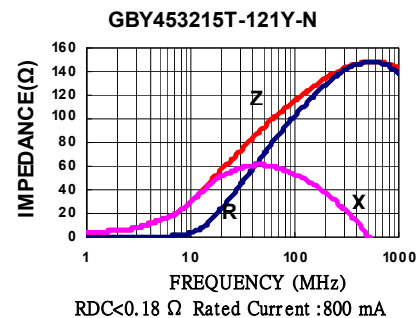
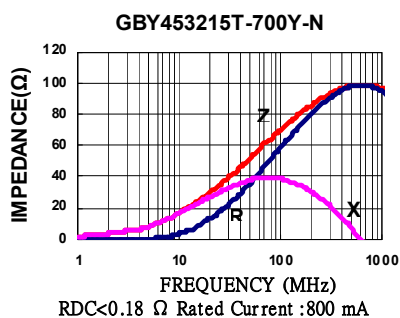
Test Instruments : HP4291A Impedance / Material Analyzer



Electrical Characteristics

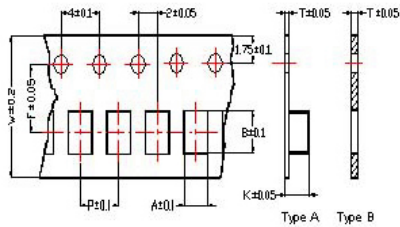
Part Number	Test Frequency (MHz)	Impedance ($\Omega \pm 25\%$)	D.C. Resistance (Ω) Max	Rated current (mA) Max
GBY453215T-700Y-N	100	70	0.18	800
GBY453215T-121Y-N	100	120	0.18	800

Test Instruments : HP4291A Impedance / Material Analyzer

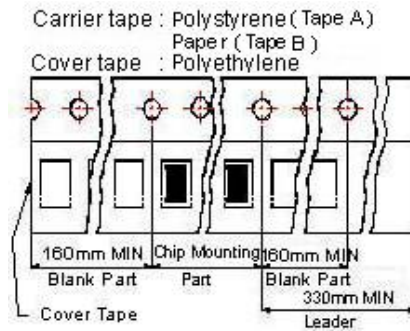


Packaging Specifications

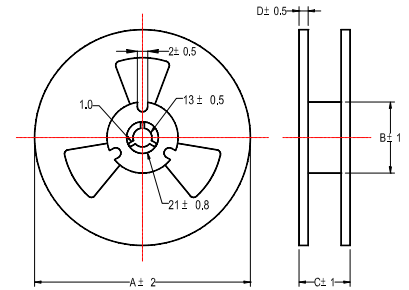
Tape Dimensions



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 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