

# Multilayer Ferrite Chip Beads

# SB/PB/UP/NB/GB Series

[ SB Series for General Purpose / PB Series for Large Current/UP Series for Ultra High Current Use/NB Series for Data Line, Digital Signals, etc./GB Series for Medium Current ]

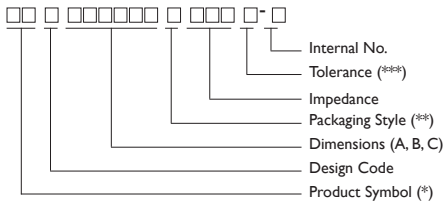


## OUTLINE

Yageo offers hundreds of multi-layered ferrite chip beads with various sizes, frequency characteristics, and a board range of impedance values to provide powerful solutions for EMI problems.

Three formulas of ferrite comprise several types of EMI suppression chip beads that are classified into 5 categories - SB, GB, PB, UP, and NB series.

## PRODUCT IDENTIFICATION



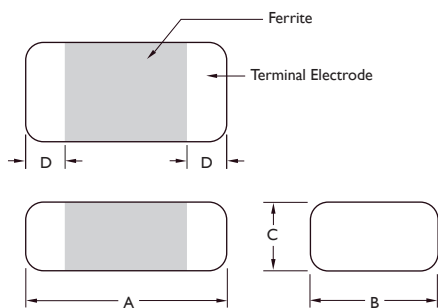
\* SB, PB, UP, NB, GB  
\*\* T :Tape and Reel; B : Bulk  
\*\*\* Y = ±25%; M = ±20%

■ YAGEO will start to release lead-free that meet SONY SS-00259's criteria, and Internal No. will be changed to "N" as identification.

Ex. SBY100505T-121Y-N

## SHAPES AND DIMENSIONS

Dimensions : mm



TYPE		A	B	C	D
SB/PB/NB	100505	1.0 ± 0.10	0.50 ± 0.10	0.5 ± 0.10	0.25 ± 0.10
SB/PB/UP/NB/GB	160808	1.6 ± 0.20	0.80 ± 0.2	0.8 ± 0.2	0.3 ± 0.2
SB/PB/UP/NB/GB	201209	2.0 ± 0.20	1.25 ± 0.20	0.9 ± 0.20	0.5 ± 0.3
SB/PB/UP/NB/GB	321611	3.2 ± 0.20	1.60 ± 0.20	1.1 ± 0.20	0.5 ± 0.3
SB/GB	321616	3.2 ± 0.20	1.60 ± 0.20	1.6 ± 0.20	0.5 ± 0.3
SB/GB	322513	3.2 ± 0.20	2.50 ± 0.20	1.3 ± 0.20	0.5 ± 0.3
SB/PB/GB	451616	4.5 ± 0.25	1.60 ± 0.20	1.6 ± 0.20	0.5 ± 0.3
SB/PB/GB	453215	4.5 ± 0.25	3.20 ± 0.20	1.5 ± 0.20	0.5 ± 0.3



## SB SERIES, FOR GENERAL USE

### APPLICATIONS

I/O Ports, DC Power Lines, and Signal Lines

Computer and Peripheral Products

Consumer Electronic Products

### FEATURES

Standard type used to suppress lower-frequency, lower current signals.

Impedance over a Broad Frequency Range

Suitable for Flow and Reflow Soldering

Available in 8 Sizes

## ELECTRICAL CHARACTERISTICS

PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.	PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.
SBY100505T-060Y-S	6	0.05	500	SBK201209T-751Y-S	750	0.50	200
SBY100505T-100Y-S	10	0.05	500	SBK201209T-102Y-S	1000	0.50	200
SBY100505T-400Y-S	40	0.30	300	SBK201209T-152Y-S	1500	0.60	200
SBY100505T-800Y-S	80	0.40	200	SBK201209T-202Y-S	2000	0.80	100
SBY100505T-121Y-S	120	0.50	200	SBK201209T-222Y-S	2200	1.00	100
SBY100505T-241Y-S	240	0.50	200	SBK201209T-252Y-S	2500	1.00	100
SBY100505T-481Y-S	480	0.80	200	SBK201209T-272Y-S	2700	1.50	100
SBY100505T-601Y-S	600	1.00	200	SBY321611T-190Y-S	19	0.05	600
SBY100505T-102Y-S	1000	1.50	100	SBY321611T-260Y-S	26	0.05	600
SBY100505T-152Y-S	1500	2.00	60	SBY321611T-320Y-S	32	0.05	600
SBK160808T-110Y-S	11	0.05	500	SBY321611T-500Y-S	50	0.10	500
SBK160808T-190Y-S	19	0.08	500	SBY321611T-600Y-S	60	0.10	500
SBK160808T-300Y-S	30	0.10	400	SBK321611T-700Y-S	70	0.10	500
SBK160808T-400Y-S	40	0.10	400	SBK321611T-900Y-S	90	0.15	500
SBK160808T-600Y-S	60	0.10	300	SBK321611T-121Y-S	120	0.15	500
SBK160808T-800Y-S	80	0.15	300	SBK321611T-151Y-S	150	0.15	500
SBK160808T-121Y-S	120	0.25	300	SBK321611T-201Y-S	200	0.20	400
SBK160808T-221Y-S	220	0.30	200	SBK321611T-401Y-S	400	0.20	400
SBK160808T-301Y-S	300	0.40	200	SBK321611T-501Y-S	500	0.20	400
SBK160808T-451Y-S	450	0.50	200	SBK321611T-601Y-S	600	0.30	400
SBK160808T-601Y-S	600	0.50	200	SBK321611T-102Y-S	1000 *	0.40	200
SBK160808T-751Y-S	750	0.70	200	SBK321611T-122Y-S	1200 *	0.40	200
SBK160808T-102Y-S	1000	0.70	200	SBK321611T-152Y-S	1500 *	0.45	200
SBK160808T-152Y-S	1500	1.00	50	SBK321611T-202Y-S	2000 **	0.60	200
SBK160808T-222Y-S	2200	1.20	50	SBK321611T-272Y-S	2700 **	0.60	200
SBK160808T-272Y-S	2700	1.30	50	SBY321616T-250Y-S	25	0.10	500
SBY201209T-070Y-S	7	0.10	600	SBY321616T-600Y-S	60	0.20	500
SBY201209T-090Y-S	9	0.10	600	SBK321616T-700Y-S	70	0.20	500
SBY201209T-110Y-S	11	0.10	600	SBY322513T-320Y-S	32	0.20	500
SBY201209T-170Y-S	17	0.10	600	SBY322513T-600Y-S	60	0.20	500
SBY201209T-320Y-S	32	0.10	600	SBY322513T-900Y-S	90	0.20	500
SBK201209T-600Y-S	60	0.15	500	SBY451616T-500Y-S	50	0.20	600
SBK201209T-700Y-S	70	0.15	500	SBY451616T-600Y-S	60	0.20	600
SBK201209T-800Y-S	80	0.15	500	SBY451616T-800Y-S	80	0.20	600
SBK201209T-121Y-S	120	0.25	300	SBY451616T-101Y-S	100	0.30	500
SBK201209T-151Y-S	150	0.25	300	SBK451616T-151Y-S	150	0.30	500
SBK201209T-221Y-S	220	0.30	300	SBK451616T-171Y-S	170	0.30	500
SBK201209T-301Y-S	300	0.30	300	SBY453215T-700Y-S	70	0.30	500
SBK201209T-401Y-S	400	0.30	300	SBY453215T-121Y-S	120	0.30	500
SBK201209T-501Y-S	500	0.40	300				
SBK201209T-601Y-S	600	0.40	300				

Note : \* at 50MHz      \*\* at 30MHz



## LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	RDC	RATED CURRENT	PART NO.	IMPEDANCE	RDC	RATED CURRENT
	( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.		( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
SBY100505T-060□-N	6	0.05	500	SBK160808T-501□-N	500	0.5	200
SBY100505T-100□-N	10	0.05	500	SBK160808T-601□-N	600	0.5	200
SBY100505T-300□-N	30	0.3	300	SBK160808T-751□-N	750	0.7	200
SBY100505T-400□-N	40	0.3	300	SBK160808T-102□-N	1000	0.7	200
SBY100505T-470□-N	47	0.4	200	SBK160808T-122□-N	1200	1	50
SBY100505T-600□-N	60	0.4	200	SBK160808T-152□-N	1500	1	50
SBY100505T-700□-N	70	0.4	200	SBK160808T-202□-N	2000	1.2	50
SBY100505T-750□-N	75	0.4	200	SBK160808T-222□-N	2200	1.2	50
SBY100505T-800□-N	80	0.4	200	SBK160808T-252□-N	2500	1.3	50
SBY100505T-121□-N	120	0.5	200	SBK160808T-272□-N	2700	1.3	50
SBY100505T-151□-N	150	0.5	200	SBY201209T-070□-N	7	0.1	600
SBY100505T-221□-N	220	0.5	200	SBY201209T-090□-N	9	0.1	600
SBY100505T-241□-N	240	0.5	200	SBY201209T-100□-N	10	0.1	600
SBY100505T-301□-N	300	0.8	200	SBY201209T-110□-N	11	0.1	600
SBY100505T-481□-N	480	0.8	200	SBY201209T-170□-N	17	0.1	600
SBY100505T-601□-N	600	1	200	SBY201209T-190□-N	19	0.1	600
SBY100505T-102□-N	1000	1.5	100	SBY201209T-220□-N	22	0.1	600
SBY100505T-152□-N	1500	2	60	SBY201209T-260□-N	26	0.1	600
SBK160808T-050□-N	5	0.05	500	SBY201209T-280□-N	28	0.1	600
SBK160808T-060□-N	6	0.05	500	SBY201209T-300□-N	30	0.1	600
SBK160808T-070□-N	7	0.05	500	SBY201209T-310□-N	31	0.1	600
SBK160808T-100□-N	10	0.05	500	SBY201209T-320□-N	32	0.1	600
SBK160808T-110□-N	11	0.05	500	SBY201209T-390□-N	39	0.1	500
SBK160808T-150□-N	15	0.08	500	SBY201209T-400□-N	40	0.1	500
SBK160808T-170□-N	17	0.08	500	SBY201209T-470□-N	47	0.1	500
SBK160808T-190□-N	19	0.08	500	SBY201209T-500□-N	50	0.1	500
SBK160808T-220□-N	22	0.1	400	SBY201209T-560□-N	56	0.15	500
SBK160808T-250□-N	25	0.1	400	SBK201209T-600□-N	60	0.15	500
SBK160808T-260□-N	26	0.1	400	SBK201209T-700□-N	70	0.15	500
SBK160808T-300□-N	30	0.1	400	SBK201209T-750□-N	75	0.15	500
SBK160808T-310□-N	31	0.1	400	SBK201209T-800□-N	80	0.15	500
SBK160808T-400□-N	40	0.1	400	SBK201209T-900□-N	90	0.15	500
SBK160808T-470□-N	47	0.1	300	SBK201209T-101□-N	100	0.25	300
SBK160808T-500□-N	50	0.1	300	SBK201209T-121□-N	120	0.25	300
SBK160808T-600□-N	60	0.1	300	SBK201209T-151□-N	150	0.25	300
SBK160808T-680□-N	68	0.15	300	SBK201209T-201□-N	200	0.3	300
SBK160808T-700□-N	70	0.15	300	SBK201209T-221□-N	220	0.3	300
SBK160808T-750□-N	75	0.15	300	SBK201209T-241□-N	240	0.3	300
SBK160808T-800□-N	80	0.15	300	SBK201209T-301□-N	300	0.3	300
SBK160808T-900□-N	90	0.2	300	SBK201209T-331□-N	330	0.3	300
SBK160808T-101□-N	100	0.2	300	SBK201209T-401□-N	400	0.3	300
SBK160808T-121□-N	120	0.25	400	SBK201209T-431□-N	430	0.4	300
SBK160808T-151□-N	150	0.3	200	SBK201209T-451□-N	450	0.4	300
SBK160808T-181□-N	180	0.3	200	SBK201209T-471□-N	470	0.4	300
SBK160808T-201□-N	200	0.3	200	SBK201209T-501□-N	500	0.4	300
SBK160808T-121□-N	220	0.3	200	SBK201209T-601□-N	600	0.4	300
SBK160808T-241□-N	240	0.4	200	SBK201209T-751□-N	750	0.5	200
SBK160808T-301□-N	300	0.4	200	SBK201209T-102□-N	1000	0.5	200
SBK160808T-331□-N	330	0.5	200	SBK201209T-122□-N	1200	0.6	200
SBK160808T-451□-N	450	0.5	200	SBK201209T-152□-N	1500	0.6	200
SBK160808T-471□-N	470	0.5	200	SBK201209T-202□-N	2000	0.8	100



## LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	RDC	RATED CURRENT	PART NO.	IMPEDANCE	RDC	RATED CURRENT
	( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.		( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
SBK201209T-222□-N	2200	1	100	SBK321611T-401□-N	400	0.2	400
SBK201209T-252□-N	2500	1	100	SBK321611T-471□-N	470	0.2	400
SBK201209T-272□-N	2700	1.5	100	SBK321611T-501□-N	500	0.2	400
SBY321611T-080□-N	8	0.05	600	SBK321611T-601□-N	600	0.3	400
SBY321611T-090□-N	9	0.05	600	SBK321611T-102□-N	1000	0.4	200
SBY321611T-110□-N	11	0.05	600	SBK321611T-122□-N	1200	0.4	200
SBY321611T-190□-N	19	0.05	600	SBK321611T-152□-N	1500	0.45	200
SBY321611T-260□-N	26	0.05	600	SBK321611T-202□-N	2000	0.6	200
SBY321611T-300□-N	30	0.05	600	SBY321616T-250□-N	25	0.1	500
SBY321611T-310□-N	31	0.05	600	SBY321616T-600□-N	60	0.2	500
SBY321611T-320□-N	32	0.05	600	SBK321616T-700□-N	70	0.2	500
SBY321611T-470□-N	47	0.1	500	SBY322513T-320□-N	32	0.2	500
SBY321611T-500□-N	50	0.1	500	SBY322513T-600□-N	60	0.2	500
SBY321611T-600□-N	60	0.1	500	SBY322513T-900□-N	90	0.2	500
SBK321611T-700□-N	70	0.1	500	SBY451616T-500□-N	50	0.2	600
SBK321611T-750□-N	75	0.15	500	SBY451616T-600□-N	60	0.2	600
SBK321611T-800□-N	80	0.15	500	SBY451616T-800□-N	80	0.2	600
SBK321611T-900□-N	90	0.15	500	SBY451616T-900□-N	90	0.3	500
SBK321611T-101□-N	100	0.15	500	SBY451616T-101□-N	100	0.3	500
SBK321611T-121□-N	120	0.15	500	SBK451616T-151□-N	150	0.3	500
SBK321611T-151□-N	150	0.15	500	SBK451616T-171□-N	170	0.3	500
SBK321611T-201□-N	200	0.2	400	SBY453215T-700□-N	70	0.3	500
SBK321611T-221□-N	220	0.2	400	SBY453215T-121□-N	120	0.3	500
SBK321611T-301□-N	300	0.2	400				



## PB SERIES, FOR HIGH CURRENT USE

### APPLICATIONS

High current DC power lines for USB interface circuitry, personal computers, electronic games, hard disk drives, and other general electronic equipment.

### FEATURES

Suitable for High Current Applications  
 Small Package Size-EIA STD 0402/0603/0805/1206/1806 and 1812  
 Nickel Barrier Terminations Provide Excellent Solder Heat Resistance  
 Current Rating up to 6 AMPS (Max) (High Current Handling Capacity)  
 Low DCR  
 Suitable for Flow and Reflow Soldering  
 Available in 6 Sizes

## ELECTRICAL CHARACTERISTICS

PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.
PBY100505T-100Y-S	10	0.03	1000
PBY160808T-110Y-S	11	0.02	4000
PBY160808T-250Y-S	25	0.03	3000
PBY160808T-400Y-S	40	0.035	3000
PBY160808T-600Y-S	60	0.04	3000
PBY160808T-121Y-S	120	0.08	2500
PBY160808T-151Y-S	150	0.085	2000
PBY160808T-181Y-S	180	0.09	2000
PBY160808T-201Y-S	200	0.095	2000
PBY160808T-301Y-S	300	0.10	2000
PBY160808T-501Y-S	500	0.15	1500
PBY160808T-601Y-S	600	0.20	1000
PBY160808T-102Y-S	1000	0.25	800
PBY201209T-110Y-S	11	0.01	6000
PBY201209T-170Y-S	17	0.02	5000
PBY201209T-300Y-S	30	0.015	5000
PBY201209T-500Y-S	50	0.025	3000
PBY201209T-600Y-S	60	0.03	3000
PBY201209T-800Y-S	80	0.04	3000
PBY201209T-121Y-S	120	0.04	3000
PBY201209T-201Y-S	200	0.05	2500
PBY201209T-301Y-S	300	0.08	2000
PBY201209T-601Y-S	600	0.10	2000
PBY201209T-102Y-S	1000	0.12	1500
PBY321611T-190Y-S	19	0.015	6000
PBY321611T-320Y-S	32	0.015	4000
PBY321611T-500Y-S	50	0.02	4000
PBY321611T-800Y-S	80	0.025	3000
PBY321611T-101Y-S	100	0.03	2500
PBY321611T-121Y-S	120	0.03	2500
PBY321611T-221Y-S	220	0.05	2000
PBY321611T-301Y-S	300	0.06	2000
PBY321611T-601Y-S	600	0.10	1800
PBY321611T-102Y-S	1000 *	0.15	1200
PBY321611T-122Y-S	1200 *	0.18	1000
PBY321611T-152Y-S	1500 *	0.20	800
PBY322513T-600Y-S	60	0.025	4000
PBY322513T-900Y-S	90	0.025	3000
PBY451616T-500Y-S	50	0.020	6000
PBY451616T-600Y-S	60	0.020	5000
PBY451616T-800Y-S	80	0.025	4000
PBY451616T-900Y-S	90	0.04	4000
PBY451616T-151Y-S	150	0.100	2000
PBY453215T-700Y-S	70	0.03	6000
PBY453215T-121Y-S	120	0.03	4000
PBY453215T-151Y-S	150	0.03	4000
PBY453215T-601Y-S	600	0.1	2000

Note : \* at 50MHz



## LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	RDC	RATED	PART NO.	IMPEDANCE	RDC	RATED
	( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	CURRENT (mA) Max.		( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	CURRENT (mA) Max.
PBY100505T-100□-N	10	0.03	1000	PBY201209T-151□-N	150	0.05	2500
PBY160808T-100□-N	10	0.02	4000	PBY201209T-181□-N	180	0.05	2500
PBY160808T-110□-N	11	0.02	4000	PBY201209T-201□-N	200	0.05	2500
PBY160808T-190□-N	19	0.03	3000	PBY201209T-221□-N	220	0.08	2000
PBY160808T-200□-N	20	0.03	3000	PBY201209T-301□-N	300	0.08	2000
PBY160808T-220□-N	22	0.03	3000	PBY201209T-331□-N	330	0.08	2000
PBY160808T-250□-N	25	0.03	3000	PBY201209T-401□-N	400	0.1	2000
PBY160808T-300□-N	30	0.03	3000	PBY201209T-471□-N	470	0.1	2000
PBY160808T-310□-N	31	0.035	3000	PBY201209T-501□-N	500	0.1	2000
PBY160808T-400□-N	40	0.035	3000	PBY201209T-601□-N	600	0.1	2000
PBY160808T-470□-N	47	0.04	3000	PBY201209T-102□-N	1000	0.12	1500
PBY160808T-500□-N	50	0.04	3000	PBY321611T-080□-N	8	0.015	6000
PBY160808T-560□-N	56	0.04	3000	PBY321611T-110□-N	11	0.015	6000
PBY160808T-600□-N	60	0.04	3000	PBY321611T-190□-N	19	0.015	6000
PBY160808T-680□-N	68	0.05	2500	PBY321611T-260□-N	26	0.015	6000
PBY160808T-700□-N	70	0.05	2500	PBY321611T-300□-N	30	0.015	4000
PBY160808T-750□-N	75	0.05	2500	PBY321611T-310□-N	31	0.015	4000
PBY160808T-800□-N	80	0.05	2500	PBY321611T-320□-N	32	0.015	4000
PBY160808T-900□-N	90	0.05	2500	PBY321611T-420□-N	42	0.015	4000
PBY160808T-101□-N	100	0.05	2500	PBY321611T-500□-N	50	0.02	4000
PBY160808T-121□-N	120	0.08	2500	PBY321611T-600□-N	60	0.02	4000
PBY160808T-151□-N	150	0.085	2000	PBY321611T-680□-N	68	0.02	4000
PBY160808T-181□-N	180	0.09	2000	PBY321611T-700□-N	70	0.02	4000
PBY160808T-201□-N	200	0.095	2000	PBY321611T-800□-N	80	0.025	3000
PBY160808T-221□-N	220	0.1	2000	PBY321611T-900□-N	90	0.03	3000
PBY160808T-301□-N	300	0.12	1500	PBY321611T-101□-N	100	0.03	2000
PBY160808T-331□-N	330	0.12	1500	PBY321611T-121□-N	120	0.03	2000
PBY160808T-401□-N	400	0.12	1500	PBY321611T-151□-N	150	0.04	2000
PBY160808T-471□-N	470	0.12	1500	PBY321611T-201□-N	200	0.05	2000
PBY160808T-501□-N	500	0.15	1200	PBY321611T-221□-N	220	0.05	2000
PBY160808T-601□-N	600	0.2	1000	PBY321611T-301□-N	300	0.06	2000
PBY160808T-102□-N	1000	0.25	800	PBY321611T-401□-N	400	0.1	2000
PBY201209T-070□-N	7	0.01	6000	PBY321611T-501□-N	500	0.1	2000
PBY201209T-110□-N	11	0.01	6000	PBY321611T-601□-N	600	0.1	2000
PBY201209T-170□-N	17	0.02	5000	PBY321611T-102□-N	1000	0.15	1200
PBY201209T-190□-N	19	0.02	4000	PBY321611T-122□-N	1200	0.18	1000
PBY201209T-220□-N	22	0.02	4000	PBY321611T-152□-N	1500	0.2	800
PBY201209T-280□-N	28	0.02	4000	PBY322513T-600□-N	60	0.025	4000
PBY201209T-300□-N	30	0.02	4000	PBY322513T-900□-N	90	0.025	3000
PBY201209T-310□-N	31	0.02	4000	PBY451616T-190□-N	19	0.02	6000
PBY201209T-390□-N	39	0.02	3000	PBY451616T-400□-N	40	0.02	6000
PBY201209T-400□-N	40	0.02	3000	PBY451616T-500□-N	50	0.02	6000
PBY201209T-420□-N	42	0.025	3000	PBY451616T-600□-N	60	0.02	5000
PBY201209T-500□-N	50	0.025	3000	PBY451616T-700□-N	70	0.025	5000
PBY201209T-600□-N	60	0.03	3000	PBY451616T-750□-N	75	0.025	5000
PBY201209T-700□-N	70	0.04	3000	PBY451616T-800□-N	80	0.025	4000
PBY201209T-750□-N	75	0.04	3000	PBY451616T-101□-N	100	0.1	2000
PBY201209T-800□-N	80	0.04	3000	PBY451616T-151□-N	150	0.1	2000
PBY201209T-900□-N	90	0.04	3000	PBY451616T-191□-N	190	0.1	2000
PBY201209T-101□-N	100	0.04	3000	PBY451616T-601□-N	600	0.1	2000
PBY201209T-121□-N	120	0.04	3000	PBY451616T-102□-N	1000	0.1	2000



## LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	RDC	RATED CURRENT
	( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
PBY451616T-132□-N	1300	0.1	2000
PBY453215T-700□-N	70	0.03	6000
PBY453215T-800□-N	80	0.03	4000
PBY453215T-900□-N	90	0.03	4000
PBY453215T-121□-N	120	0.03	4000
PBY453215T-125□-N	125	0.03	4000
PBY453215T-151□-N	150	0.03	4000



## UPB SERIES, FOR ULTRA HIGH CURRENT USE

### APPLICATIONS

Preventing of Electronics Magnet Interference in Power Line of PC, Printer, & CD ROM  
High Frequency Filtering of Medium Speed Clocks and Video Signals

### FEATURES

High Current Performance  
Low D.C. Resistance Minute  $m\Omega$  Typically  
Impedance Character of Broad Frequency

## ELECTRICAL CHARACTERISTICS

PART NO.	IMPEDANCE	DC RESISTANCE	RATED CURRENT
	at 100MHz ( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
UPB160808T-110Y-S	11	0.015	4500
UPB160808T-170Y-S	17	0.015	4500
UPB160808T-250Y-S	25	0.015	4500
UPB160808T-300Y-S	30	0.015	4500
UPB201209T-110Y-S	11	0.015	5000
UPB201209T-150Y-S	15	0.015	5000
UPB201209T-190Y-S	19	0.015	5000
UPB201209T-260Y-S	26	0.015	5000
UPB201209T-300Y-S	30	0.015	5000
UPB201209T-330Y-S	33	0.015	5000
UPB201209T-400Y-S	40	0.015	5000
UPB201209T-500Y-S	50	0.015	5000
UPB201209T-600Y-S	60	0.020	4500
UPB201212T-600Y-S	60	0.02	5000
UPB201212T-700Y-S	70	0.02	5000
UPB201212T-800Y-S	80	0.02	5000
UPB201212T-101Y-S	100	0.025	5000
UPB201212T-121Y-S	120	0.025	5000
UPB321611T-110Y-S	11	0.012	6000
UPB321611T-190Y-S	19	0.012	6000
UPB321611T-260Y-S	26	0.012	6000
UPB321611T-300Y-S	30	0.012	6000
UPB321611T-400Y-S	40	0.012	6000
UPB321611T-500Y-S	50	0.012	6000
UPB321611T-600Y-S	60	0.012	6000
UPB321611T-800Y-S	80	0.012	6000
UPB321611T-101Y-S	100	0.012	6000
UPB321611T-121Y-S	120	0.012	6000
UPB321611T-151Y-S	150	0.020	4500
UPB321616T-600Y-S	60	0.012	6000
UPB323215T-700Y-S	70	0.01	9000





## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	DC RESISTANCE	RATED CURRENT
	at 100MHz ( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
UPB160808T-110 □-N	11	0.015	4500
UPB160808T-170 □-N	17	0.015	4500
UPB160808T-250 □-N	25	0.015	4500
UPB160808T-300 □-N	30	0.015	4500
UPB201209T-110 □-N	11	0.012	5000
UPB201209T-150 □-N	15	0.012	5000
UPB201209T-190 □-N	19	0.012	5000
UPB201209T-260 □-N	26	0.012	5000
UPB201209T-300 □-N	30	0.012	5000
UPB201209T-330 □-N	33	0.012	5000
UPB201209T-400 □-N	40	0.015	5000
UPB201209T-500 □-N	50	0.015	5000
UPB201209T-600 □-N	60	0.02	4500
UPB201209T-700 □-N	70	0.02	4500
UPB201209T-800 □-N	80	0.02	4500
UPB201212T-600 □-N	60	0.02	5000
UPB201212T-700 □-N	70	0.02	5000
UPB201212T-800 □-N	80	0.02	5000
UPB201212T-101 □-N	100	0.025	5000
UPB201212T-121 □-N	120	0.025	5000
UPB321611T-110 □-N	11	0.012	6000
UPB321611T-190 □-N	19	0.012	6000
UPB321611T-260 □-N	26	0.012	6000
UPB321611T-300 □-N	30	0.012	6000
UPB321611T-320 □-N	32	0.012	6000
UPB321611T-400 □-N	40	0.012	6000
UPB321611T-500 □-N	50	0.012	6000
UPB321611T-600 □-N	60	0.012	6000
UPB321611T-800 □-N	80	0.012	6000
UPB321611T-101 □-N	100	0.012	6000
UPB321611T-121 □-N	120	0.012	6000
UPB321611T-151 □-N	150	0.02	4500
UPB451616T-600 □-N	60	0.012	7000
UPB453215T-700 □-N	70	0.01	9000
UPB453215T-900 □-N	90	0.01	9000

NOTE : □ -tolerance Y= $\pm 25\%$  / T= $\pm 30\%$

1. Operating temperature range -55°C~125°C

2. Rate current: Applied the current to coils, the temperature rise shall not be more than 30°C

"-N" FOR COMPLETELY LEAD FREE TYPE (INCLUDING FERRITE BODY & SOLDER)



## NB SERIES, FOR HIGH SPEED SIGNALS USE

### APPLICATIONS

High-Speed Circuits for Computer & Peripheral Equipments and Communication Devices

Cellular Phone

Suitable for Circuits with Unstable Ground

### FEATURES

Exhibiting High Impedance with Sharp Increase at High-Speed Signal Frequencies with Minimal Diminishing the Desired Wave Form

Suitable for Flow and Reflow Soldering

Available in 4 Sizes

## ELECTRICAL CHARACTERISTICS

PART NO.	IMPEDANCE	DC RESISTANCE	RATED CURRENT
	at 100MHz ( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
NBQ100505T-060Y-S	6	0.10	300
NBQ100505T-100Y-S	10	0.20	200
NBQ100505T-400Y-S	40	0.40	150
NBQ100505T-800Y-S	80	0.60	100
NBQ100505T-121Y-S	120	0.80	50
NBQ160808T-060Y-S	6	0.05	500
NBQ160808T-100Y-S	10	0.07	400
NBQ160808T-400Y-S	40	0.30	300
NBQ160808T-600Y-S	60	0.30	300
NBQ160808T-800Y-S	80	0.40	300
NBQ160808T-121Y-S	120	0.40	300
NBQ160808T-241Y-S	240	0.40	200
NBQ160808T-301Y-S	300	0.50	200
NBQ160808T-481Y-S	480	0.60	150
NBQ160808T-601Y-S	600	0.60	100
NBQ160808T-102Y-S	1000	0.70	100
NBQ160808T-122Y-S	1200	0.70	100
NBQ160808T-152Y-S	1500	0.80	100
NBQ160808T-182Y-S	1800	0.95	100
NBQ160808T-222Y-S	2200	1.0	50
NBQ160808T-252Y-S	2500	1.0	50
NBQ201209T-060Y-S	6	0.07	800
NBQ201209T-110Y-S	11	0.10	700
NBQ201209T-260Y-S	26	0.15	600
NBQ201209T-320Y-S	32	0.15	600
NBQ201209T-600Y-S	60	0.15	500
NBQ201209T-750Y-S	75	0.15	500
NBQ201209T-900Y-S	90	0.15	500
NBQ201209T-121Y-S	120	0.20	400
NBQ201209T-151Y-S	150	0.20	400
NBQ201209T-171Y-S	170	0.30	400
NBQ201209T-221Y-S	220	0.30	300
NBQ201209T-301Y-S	300	0.30	300
NBQ201209T-401Y-S	400	0.35	300
NBQ201209T-501Y-S	500	0.35	200
NBQ201209T-601Y-S	600	0.35	200
NBQ201209T-102Y-S	1000	0.40	200
NBQ201209T-122Y-S	1200	0.45	200
NBQ201209T-152Y-S	1500	0.45	200
NBQ201209T-222Y-S	2200	0.50	200
NBQ201209T-272Y-S	2700	0.60	200
NBQ321611T-320Y-S	32	0.15	600
NBQ321611T-600Y-S	60	0.15	500
NBQ321611T-800Y-S	80	0.15	500
NBQ321611T-900Y-S	90	0.15	500
NBQ321611T-121Y-S	120	0.20	400
NBQ321611T-151Y-S	150	0.20	400
NBQ321611T-201Y-S	200	0.25	300
NBQ321611T-221Y-S	220	0.30	300
NBQ321611T-351Y-S	350	0.30	300
NBQ321611T-401Y-S	400	0.30	300
NBQ321611T-601Y-S	600	0.35	300
NBQ321611T-122Y-S	1200	0.40	200
NBQ321611T-152Y-S	1500	0.45	200



## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	DC RESISTANCE	RATED CURRENT
	at 100MHz ( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
NBQ100505T-060 □ -N	6	0.1	300
NBQ100505T-100 □ -N	10	0.2	200
NBQ100505T-220 □ -N	22	0.4	150
NBQ100505T-400 □ -N	40	0.4	150
NBQ100505T-600 □ -N	60	0.6	100
NBQ100505T-800 □ -N	80	0.6	100
NBQ100505T-121 □ -N	120	0.8	50
NBQ100505T-221 □ -N	220	1.4	50
NBQ160808T-060 □ -N	6	0.05	500
NBQ160808T-100 □ -N	10	0.07	400
NBQ160808T-300 □ -N	30	0.2	300
NBQ160808T-400 □ -N	40	0.2	300
NBQ160808T-470 □ -N	47	0.2	300
NBQ160808T-500 □ -N	50	0.25	300
NBQ160808T-600 □ -N	60	0.25	300
NBQ160808T-680 □ -N	68	0.25	300
NBQ160808T-700 □ -N	70	0.25	300
NBQ160808T-750 □ -N	75	0.25	300
NBQ160808T-800 □ -N	80	0.25	300
NBQ160808T-101 □ -N	100	0.3	300
NBQ160808T-121 □ -N	120	0.3	300
NBQ160808T-131 □ -N	130	0.3	300
NBQ160808T-141 □ -N	140	0.3	300
NBQ160808T-151 □ -N	150	0.3	200
NBQ160808T-161 □ -N	160	0.3	200
NBQ160808T-221 □ -N	220	0.35	200
NBQ160808T-241 □ -N	240	0.35	200
NBQ160808T-301 □ -N	300	0.4	200
NBQ160808T-471 □ -N	470	0.5	200
NBQ160808T-481 □ -N	480	0.5	200
NBQ160808T-601 □ -N	600	0.5	200
NBQ160808T-102 □ -N	1000	0.6	100
NBQ160808T-122 □ -N	1200	0.6	100
NBQ160808T-152 □ -N	1500	0.7	100
NBQ160808T-182 □ -N	1800	0.8	100
NBQ160808T-222 □ -N	2200	1	50
NBQ160808T-252 □ -N	2500	1.5	50
NBQ201209T-050 □ -N	5	0.07	800
NBQ201209T-060 □ -N	6	0.07	800
NBQ201209T-070 □ -N	7	0.1	700
NBQ201209T-110 □ -N	11	0.1	700
NBQ201209T-260 □ -N	26	0.15	600
NBQ201209T-300 □ -N	30	0.15	600
NBQ201209T-320 □ -N	32	0.15	600
NBQ201209T-400 □ -N	40	0.15	500
NBQ201209T-600 □ -N	60	0.15	500
NBQ201209T-750 □ -N	75	0.15	500
NBQ201209T-900 □ -N	90	0.15	500
NBQ201209T-101 □ -N	100	0.2	400
NBQ201209T-121 □ -N	120	0.2	400
NBQ201209T-151 □ -N	150	0.2	400
NBQ201209T-171 □ -N	170	0.3	400



## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE	DC RESISTANCE	RATED CURRENT
	at 100MHz ( $\Omega \pm 25\%$ )	( $\Omega$ ) Max.	(mA) Max.
NBQ201209T-201 □-N	200	0.3	300
NBQ201209T-221 □-N	220	0.3	300
NBQ201209T-301 □-N	300	0.3	300
NBQ201209T-401 □-N	400	0.3	300
NBQ201209T-421 □-N	420	0.3	300
NBQ201209T-501 □-N	500	0.35	200
NBQ201209T-601 □-N	600	0.35	200
NBQ201209T-751 □-N	750	0.4	200
NBQ201209T-102 □-N	1000	0.4	200
NBQ201209T-122 □-N	1200	0.45	200
NBQ201209T-152 □-N	1500	0.45	200
NBQ201209T-202 □-N	2000	0.5	200
NBQ201209T-222 □-N	2200	0.5	200
NBQ201209T-252 □-N	2500	0.6	200
NBQ201209T-272 □-N	2700	0.6	200
NBQ321611T-170 □-N	17	0.15	600
NBQ321611T-190 □-N	19	0.15	600
NBQ321611T-320 □-N	32	0.15	600
NBQ321611T-600 □-N	60	0.15	500
NBQ321611T-800 □-N	80	0.15	500
NBQ321611T-900 □-N	90	0.15	500
NBQ321611T-121 □-N	120	0.2	400
NBQ321611T-151 □-N	150	0.2	400
NBQ321611T-201 □-N	200	0.25	300
NBQ321611T-221 □-N	220	0.3	300
NBQ321611T-351 □-N	350	0.3	300
NBQ321611T-401 □-N	400	0.3	300
NBQ321611T-601 □-N	600	0.35	300
NBQ321611T-122 □-N	1200	0.4	200
NBQ321611T-152 □-N	1500	0.45	200

NOTE : □ -tolerance Y=±25% / T=±30%

1. Operating temperature range -55°C~125°C

2. Rate current: Applied the current to coils, the temperature rise shall not be more than 30°C

"-N" FOR COMPLETELY LEAD FREE TYPE (INCLUDING FERRITE BODY & SOLDER)



## GB SERIES, FOR MID CURRENT USE

### APPLICATIONS

\* Computers \* Modems \* CD-ROMs \* Hard Drives  
\* Televisions \* Wireless Device

### FEATURES

This series exhibits a low DC resistance across a wide range of impedances. Low DC resistance characteristics make the chip beads suitable for use on signal lines handling larger currents.

## ELECTRICAL CHARACTERISTICS

PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.	PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.
GBK160808T-110Y-S	11	0.03	1000	GBY321611T-190Y-S	19	0.03	1000
GBK160808T-190Y-S	19	0.05	1000	GBY321611T-260Y-S	26	0.03	1000
GBK160808T-300Y-S	30	0.06	800	GBY321611T-320Y-S	32	0.03	1000
GBK160808T-400Y-S	40	0.06	800	GBY321611T-500Y-S	50	0.06	800
GBK160808T-600Y-S	60	0.06	600	GBY321611T-600Y-S	60	0.06	800
GBK160808T-800Y-S	80	0.10	600	GBK321611T-700Y-S	70	0.06	800
GBK160808T-121Y-S	120	0.15	600	GBK321611T-900Y-S	90	0.10	800
GBK160808T-221Y-S	220	0.18	400	GBK321611T-121Y-S	120	0.10	800
GBK160808T-301Y-S	300	0.25	400	GBK321611T-151Y-S	150	0.10	800
GBK160808T-451Y-S	450	0.30	400	GBK321611T-201Y-S	200	0.15	600
GBK160808T-601Y-S	600	0.30	400	GBK321611T-401Y-S	400	0.15	600
GBK160808T-751Y-S	750	0.45	300	GBK321611T-501Y-S	500	0.15	600
GBK160808T-102Y-S	1000	0.45	300	GBK321611T-601Y-S	600	0.20	500
GBY201209T-070Y-S	7	0.06	1000	GBK321611T-102Y-S	1000 *	0.25	400
GBY201209T-090Y-S	9	0.06	1000	GBK321611T-122Y-S	1200 *	0.25	400
GBY201209T-110Y-S	11	0.06	1000	GBK321611T-202Y-S	2000 **	0.35	400
GBY201209T-170Y-S	17	0.06	1000	GBY321616T-250Y-S	25	0.10	1000
GBY201209T-320Y-S	32	0.06	1000	GBY321616T-600Y-S	60	0.10	1000
GBK201209T-600Y-S	60	0.10	800	GBK321616T-700Y-S	70	0.10	1000
GBK201209T-700Y-S	70	0.10	800	GBY322513T-320Y-S	32	0.10	1000
GBK201209T-800Y-S	80	0.10	800	GBY322513T-600Y-S	60	0.10	1000
GBK201209T-121Y-S	120	0.15	600	GBY322513T-900Y-S	90	0.10	1000
GBK201209T-151Y-S	150	0.15	600	GBY451616T-500Y-S	50	0.10	1000
GBK201209T-221Y-S	220	0.18	600	GBY451616T-600Y-S	60	0.10	1000
GBK201209T-301Y-S	300	0.18	600	GBY451616T-800Y-S	80	0.10	1000
GBK201209T-401Y-S	400	0.18	600	GBY451616T-101Y-S	100	0.18	800
GBK201209T-501Y-S	500	0.25	500	GBK451616T-151Y-S	150	0.18	800
GBK201209T-601Y-S	600	0.25	500	GBK451616T-171Y-S	170	0.18	800
GBK201209T-751Y-S	750	0.30	400	GBY453215T-700Y-S	70	0.18	800
GBK201209T-102Y-S	1000	0.30	400	GBY453215T-121Y-S	120	0.18	800
GBK201209T-152Y-S	1500	0.40	400				
GBK201209T-202Y-S	2000	0.55	400				

Note : \* at 50MHz \*\* at 30MHz



## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.
GBK160808T-110 □ -N	11	0.03	1000
GBK160808T-190 □ -N	19	0.05	1000
GBK160808T-300 □ -N	30	0.06	800
GBK160808T-320 □ -N	32	0.06	800
GBK160808T-400 □ -N	40	0.06	800
GBK160808T-500 □ -N	50	0.06	600
GBK160808T-600 □ -N	60	0.06	600
GBK160808T-800 □ -N	80	0.1	600
GBK160808T-101 □ -N	100	0.15	600
GBK160808T-121 □ -N	120	0.15	600
GBK160808T-181 □ -N	180	0.18	400
GBK160808T-221 □ -N	220	0.18	400
GBK160808T-301 □ -N	300	0.25	400
GBK160808T-451 □ -N	450	0.3	400
GBK160808T-471 □ -N	470	0.3	400
GBK160808T-601 □ -N	600	0.3	400
GBK160808T-751 □ -N	750	0.45	300
GBK160808T-102 □ -N	1000	0.45	300
GBK160808T-152 □ -N	1500	0.7	150
GBY201209T-070 □ -N	7	0.06	1000
GBY201209T-090 □ -N	9	0.06	1000
GBY201209T-110 □ -N	11	0.06	1000
GBY201209T-170 □ -N	17	0.06	1000
GBY201209T-300 □ -N	30	0.06	1000
GBY201209T-320 □ -N	32	0.06	1000
GBY201209T-330 □ -N	33	0.1	800
GBY201209T-400 □ -N	40	0.1	800
GBK201209T-600 □ -N	60	0.1	800
GBK201209T-700 □ -N	70	0.1	800
GBK201209T-800 □ -N	80	0.1	800
GBK201209T-101 □ -N	100	0.15	600
GBK201209T-121 □ -N	120	0.15	600
GBK201209T-151 □ -N	150	0.15	600
GBK201209T-221 □ -N	220	0.18	600
GBK201209T-301 □ -N	300	0.18	600



## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

PART NO.	IMPEDANCE at 100MHz ( $\Omega \pm 25\%$ )	DC RESISTANCE ( $\Omega$ ) Max.	RATED CURRENT (mA) Max.
GBK201209T-401 □ -N	400	0.18	600
GBK201209T-501 □ -N	500	0.25	500
GBK201209T-601 □ -N	600	0.25	500
GBK201209T-751 □ -N	750	0.3	400
GBK201209T-102 □ -N	1000	0.3	400
GBK201209T-152 □ -N	1500	0.4	400
GBK201209T-202 □ -N	2000	0.55	400
GBY321611T-190 □ -N	19	0.03	1000
GBY321611T-260 □ -N	26	0.03	1000
GBY321611T-320 □ -N	32	0.03	1000
GBY321611T-500 □ -N	50	0.06	800
GBY321611T-600 □ -N	60	0.06	800
GBK321611T-700 □ -N	70	0.06	800
GBK321611T-900 □ -N	90	0.1	800
GBK321611T-121 □ -N	120	0.1	800
GBK321611T-151 □ -N	150	0.1	800
GBK321611T-201 □ -N	200	0.15	600
GBK321611T-301 □ -N	300	0.15	600
GBK321611T-401 □ -N	400	0.15	600
GBK321611T-501 □ -N	500	0.15	600
GBK321611T-601 □ -N	600	0.2	500
GBK321611T-102 □ -N	1000	0.25	400
GBK321611T-122 □ -N	1200	0.25	400
GBK321611T-202 □ -N	2000	0.35	400
GBY321611T-250 □ -N	25	0.1	1000
GBY321611T-600 □ -N	60	0.1	1000
GBK321611T-700 □ -N	70	0.1	1000
GBY322513T-320 □ -N	32	0.1	1000
GBY322513T-600 □ -N	60	0.1	1000
GBY322513T-900 □ -N	90	0.1	1000
GBY451616T-500 □ -N	50	0.1	1000
GBY451616T-600 □ -N	60	0.1	1000
GBY451616T-800 □ -N	80	0.1	1000
GBY451616T-101 □ -N	100	0.18	800



## ELECTRICAL CHARACTERISTICS : LEAD-FREE & ROHS COMPLIANCE

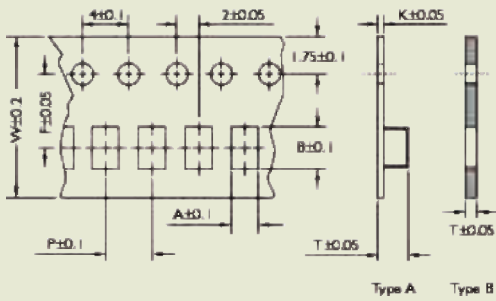
<b>PART NO.</b>	<b>IMPEDANCE</b> at 100MHz ( $\Omega \pm 25\%$ )	<b>DC RESISTANCE</b> ( $\Omega$ ) Max.	<b>RATED CURRENT</b> (mA) Max.
GBK451616T-151 □ -N	150	0.18	800
GBK451616T-171 □ -N	170	0.18	800
GBY453215T-700 □ -N	70	0.18	800
GBY453215T-121 □ -N	120	0.18	800





## TAPE DIMENSIONS

Dimensions : mm

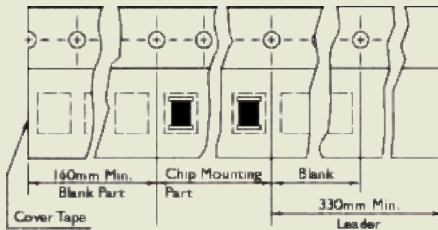


TYPE		A	B	T	W	P	F	K	TAPE TYPE
SB/PB/NB	100505	0.65	1.15	0.60	8.0	2.0	3.5	-	B
SB/PB/UP/NB/GB	160808	1.10	1.85	0.95	8.0	4.0	3.5	-	B
SB/PB/UP/NB/GB	201209	1.42	2.25	0.22	8.0	4.0	3.5	1.04	A
SB/PB/UP/NB/GB	321611	1.88	3.50	0.22	8.0	4.0	3.5	1.27	A
SB/GB	321616	1.88	3.53	0.22	8.0	4.0	3.5	1.80	A
SB/GB	322513	2.77	3.42	0.22	8.0	4.0	3.5	1.55	A
SB/PB/GB	451616	1.93	4.95	0.24	12.0	4.0	5.5	1.93	A
SB/PB/GB	453215	3.66	4.95	0.24	12.0	8.0	5.5	1.85	A

## TAPE MATERIAL

Carrier Tape : Polystyrene (for 201209, 201211, 321611, etc.)  
Paper (for 160808, 100505)

Cover Type : Polyethyene

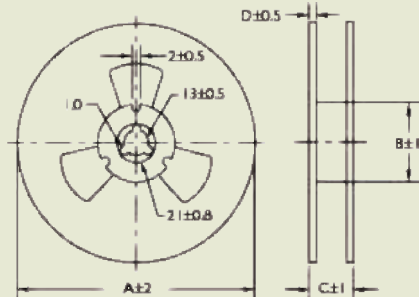


## PACKAGING QUANTITY

TYPE		BULK	QUANTITY/REEL
SB/PB/NB	100505	√	10000
SB/PB/UP/NB/GB	160808	√	4000
SB/PB/UP/NB/GB	201209	√	4000
SB/PB/UP/NB/GB	321611	√	3000
SB/GB	321616	√	2000
SB/GB	322513	√	2500
SB/PB/GB	451616	√	2000
SB/PB/GB	453215	√	1000

## REEL DIMENSIONS

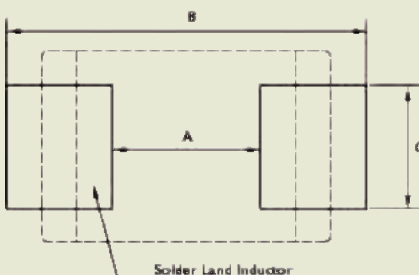
Dimensions : mm



TYPE		A	B	C	D
SB/PB/NB	100505	178	60	10	2
SB/PB/UP/NB/GB	160808	178	60	10	2
SB/PB/UP/NB/GB	201209	178	60	10	2
SB/PB/UP/NB/GB	321611	178	60	10	2
SB/GB	321616	178	60	10	2
SB/GB	322513	178	60	10	2
SB/PB/GB	451616	178	60	14	2
SB/PB/GB	453215	178	60	14	2

## RECOMMENDED PATTERN

Dimensions : mm



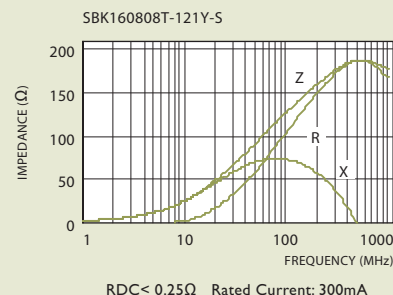
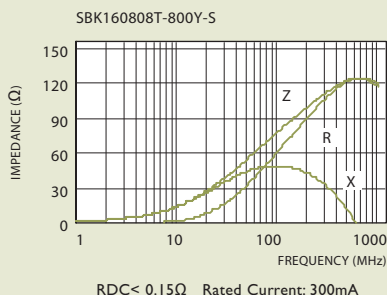
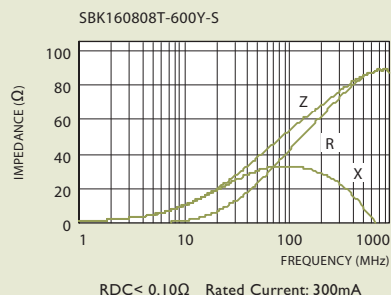
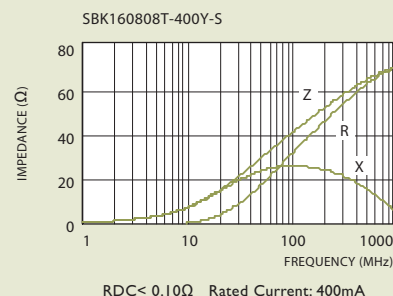
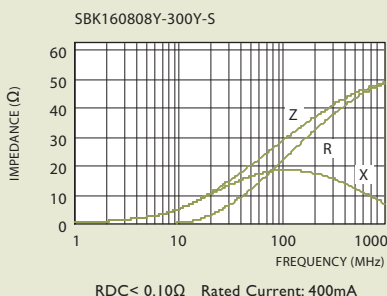
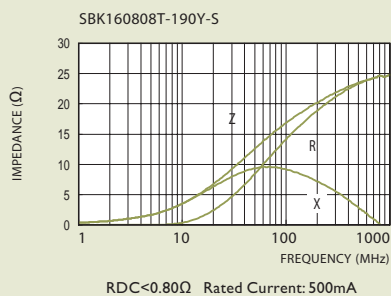
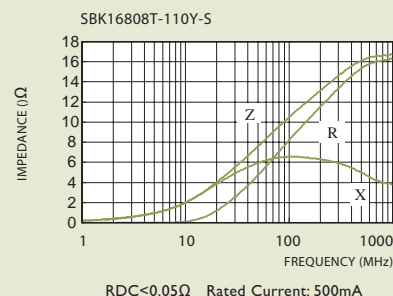
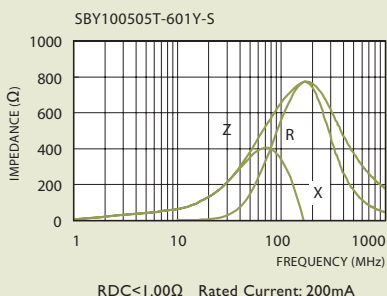
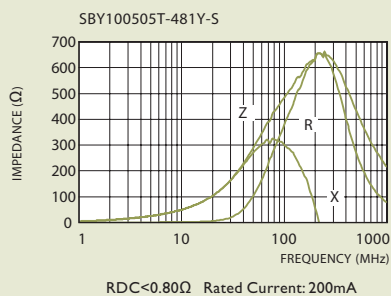
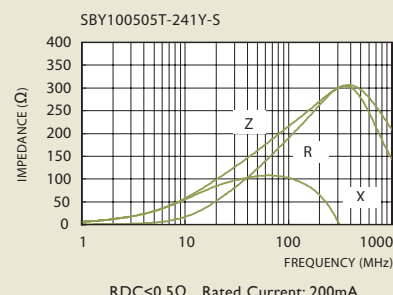
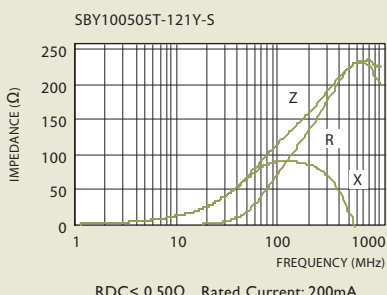
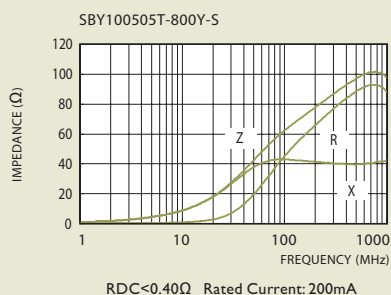
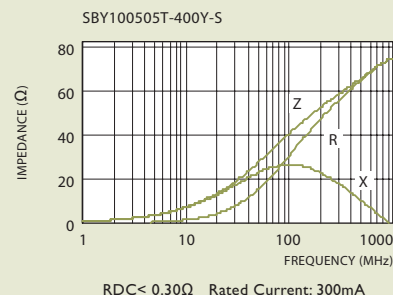
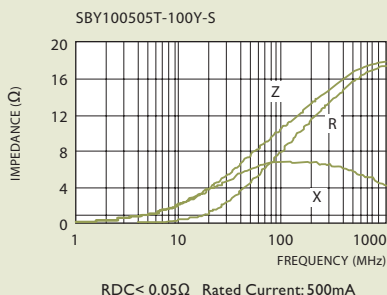
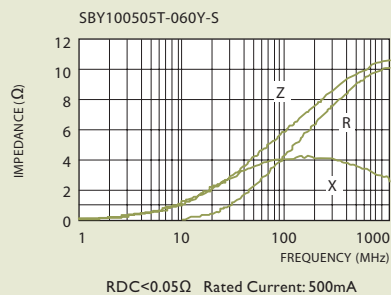
TYPE		A	B	C
SB/PB/NB	100505	0.4	1.2 ~ 1.4	0.4
SB/PB/UP/NB/GB	160808	0.8	2.4 ~ 3.4	0.6
SB/PB/UP/NB/GB	201209	1.2	3.0 ~ 4.0	1.0
SB/PB/UP/NB/GB	321611	2.0	4.2 ~ 5.2	1.2
SB/GB	321616	2.0	4.2 ~ 5.2	1.2
SB/GB	322513	2.0	5.5 ~ 6.5	1.8
SB/PB/GB	451616	3.0	5.5 ~ 6.5	1.2
SB/PB/GB	453215	3.0	5.5 ~ 6.5	2.4

\* Don't apply narrower pattern than listed above to PB/UP and upb  
Narrow pattern might cause excessive heat or open circuit.



## TYPICAL ELECTRICAL CHARACTERISTICS

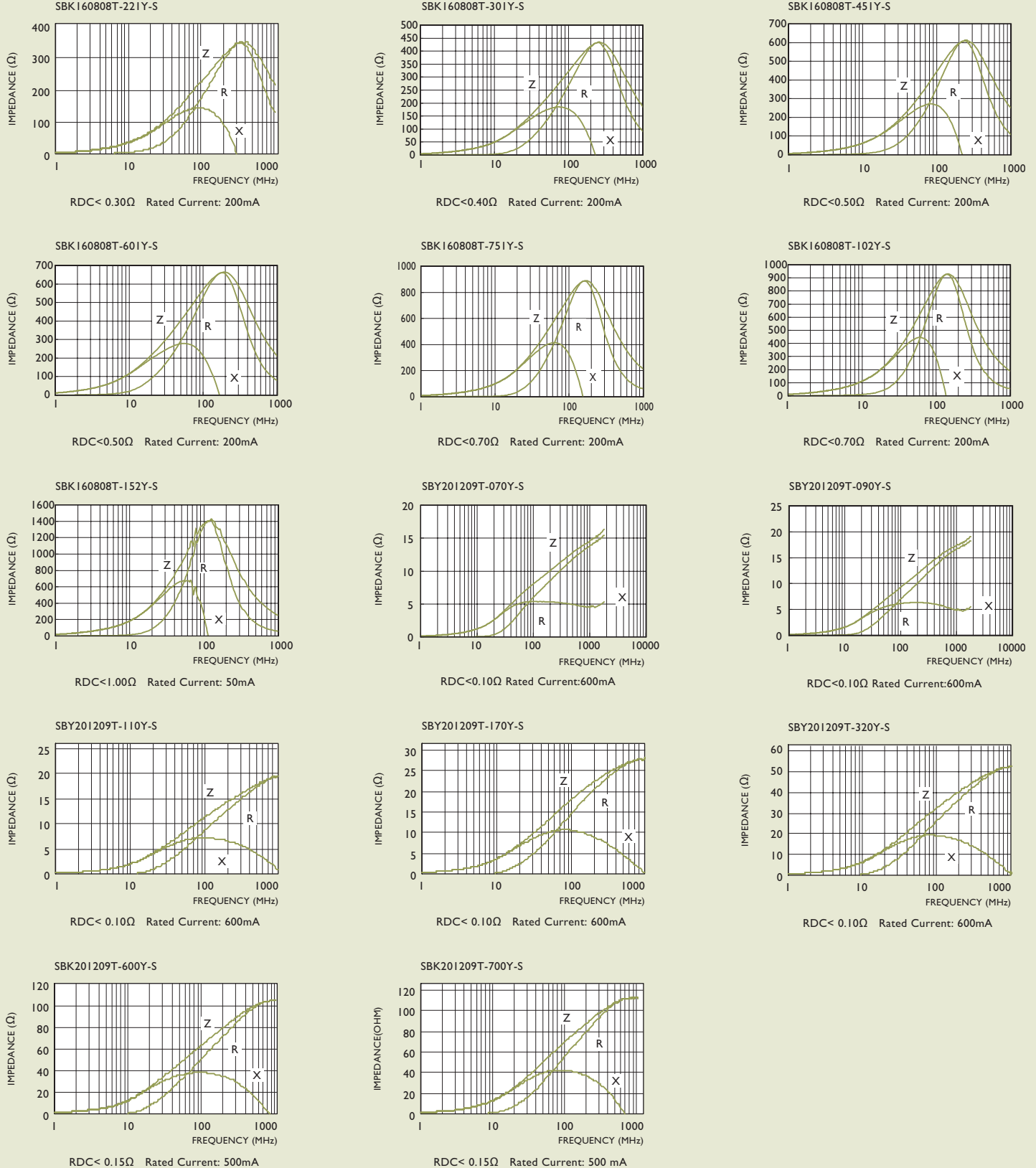
Test Instruments : HP4291A Impedance / Material Analyzer





## TYPICAL ELECTRICAL CHARACTERISTICS

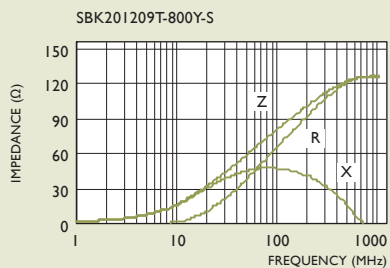
Test Instruments : HP4291A Impedance / Material Analyzer



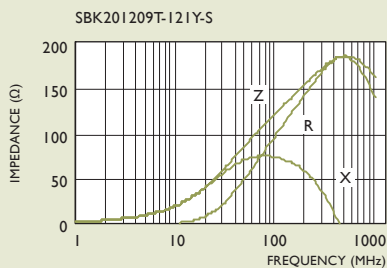


## TYPICAL ELECTRICAL CHARACTERISTICS

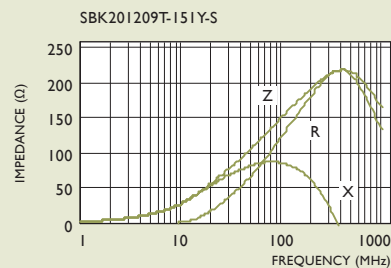
Test Instruments : HP4291A Impedance / Material Analyzer



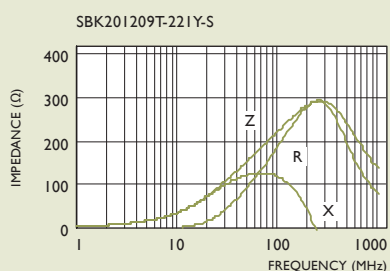
RDC < 0.15  $\Omega$  Rated Current: 500mA



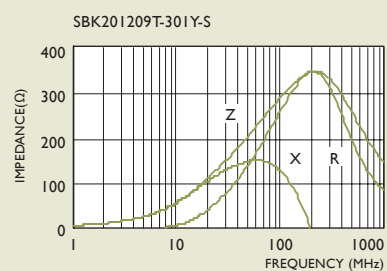
RDC < 0.25  $\Omega$  Rated Current: 300mA



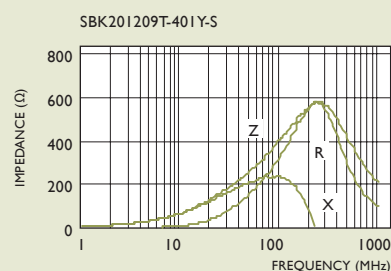
RDC < 0.25  $\Omega$  Rated Current: 300mA



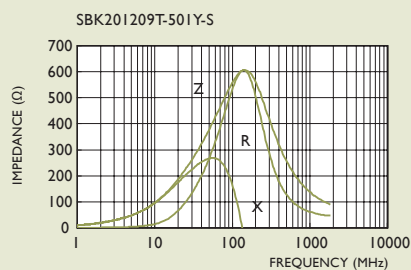
RDC < 0.30  $\Omega$  Rated Current: 300mA



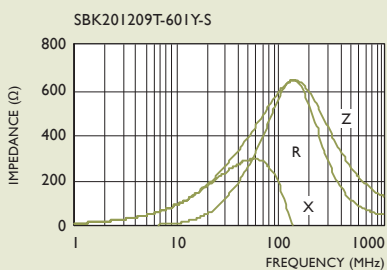
RDC < 0.30  $\Omega$  Rated Current: 300mA



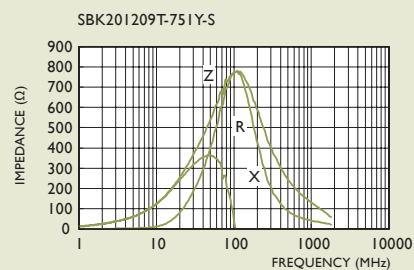
RDC < 0.30  $\Omega$  Rated Current: 300mA



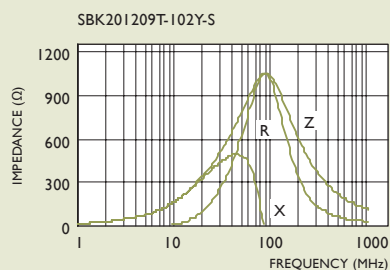
RDC < 0.40  $\Omega$  Rated Current: 300mA



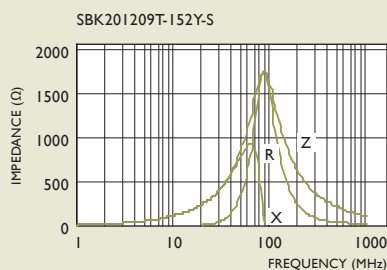
RDC < 0.40  $\Omega$  Rated Current: 300mA



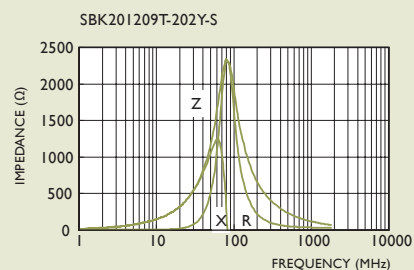
RDC < 0.50  $\Omega$  Rated Current: 200mA



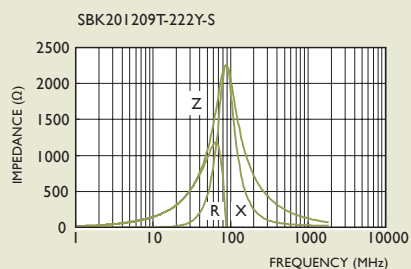
RDC < 0.50  $\Omega$  Rated Current: 200mA



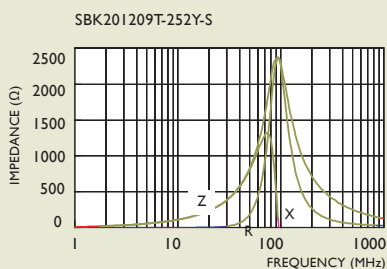
RDC < 0.60  $\Omega$  Rated Current: 200mA



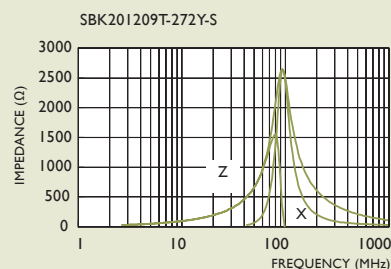
RDC < 0.80  $\Omega$  Rated Current: 100mA



RDC < 1.00  $\Omega$  Rated Current: 100mA



RDC < 1.00  $\Omega$  Rated Current: 600mA

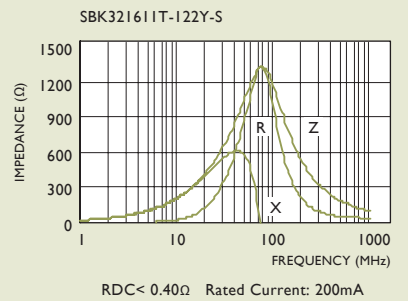
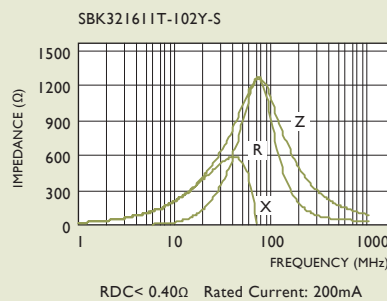
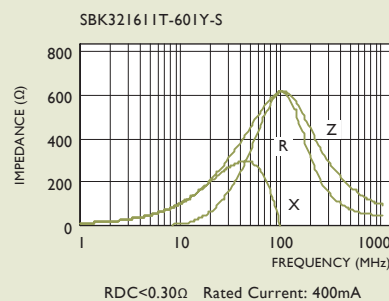
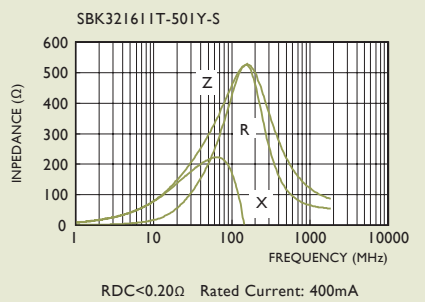
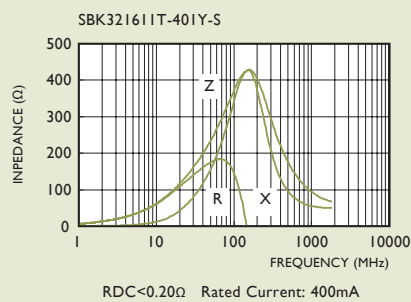
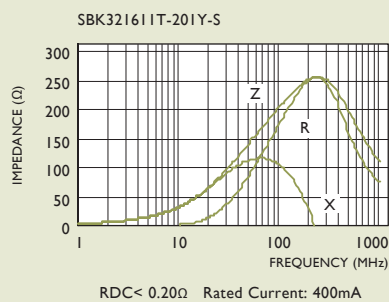
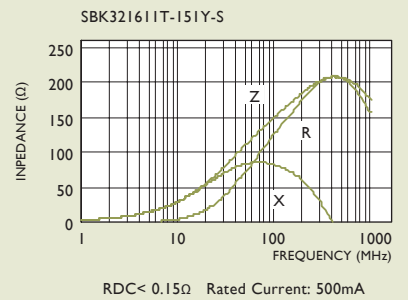
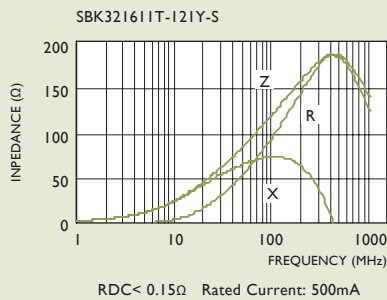
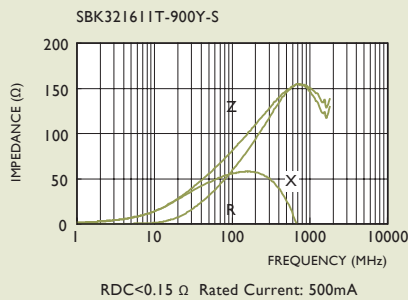
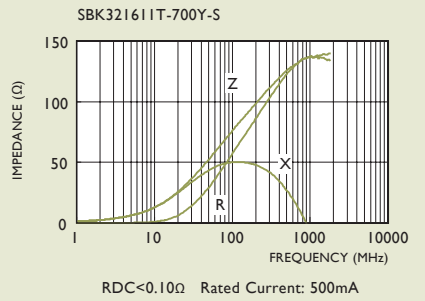
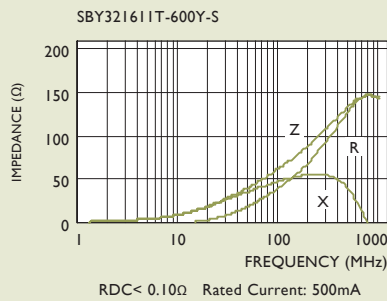
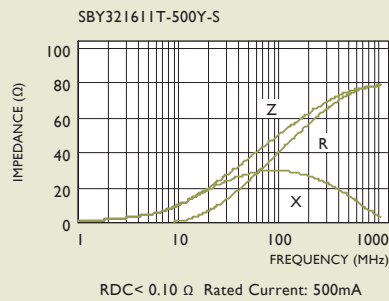
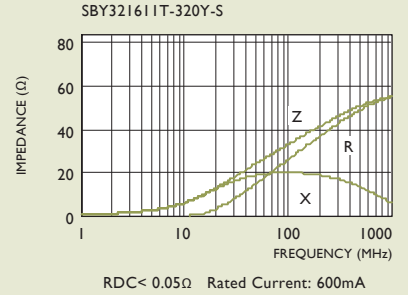
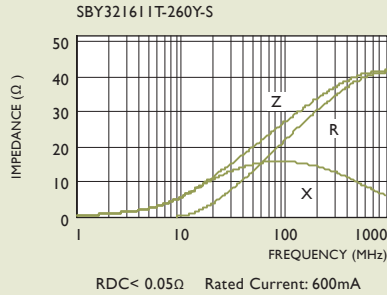
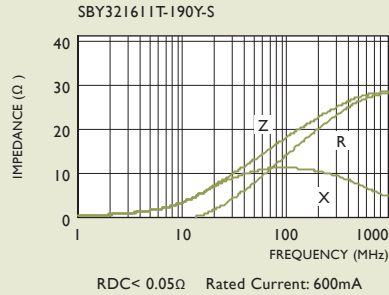


RDC < 1.50  $\Omega$  Rated Current: 600mA



## TYPICAL ELECTRICAL CHARACTERISTICS

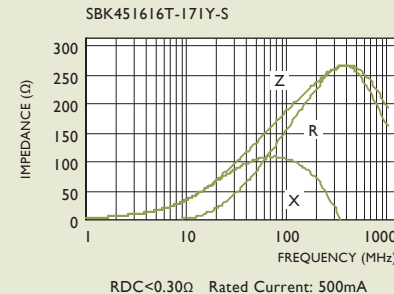
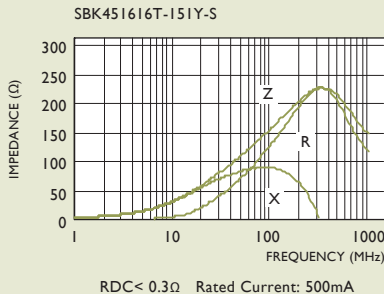
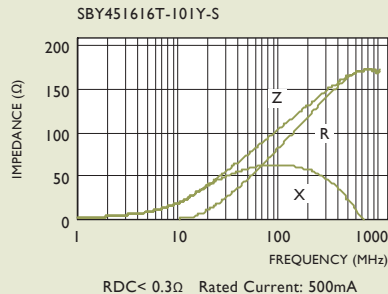
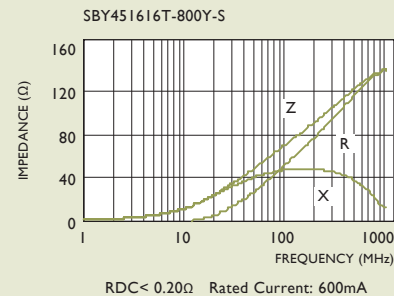
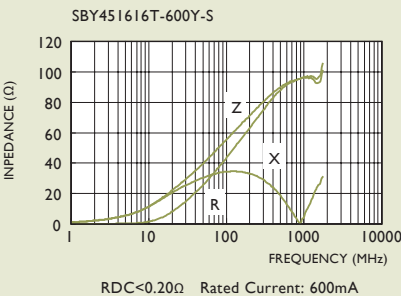
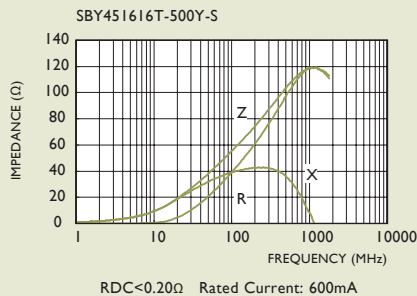
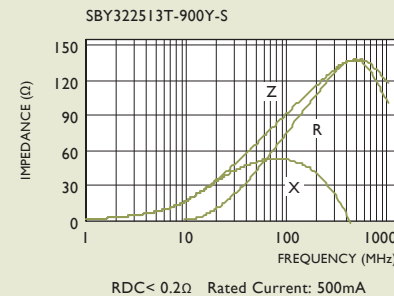
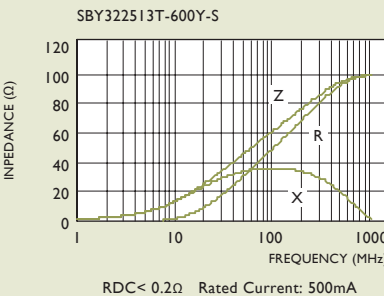
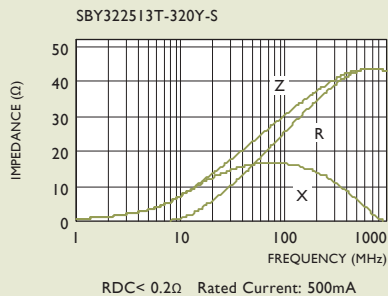
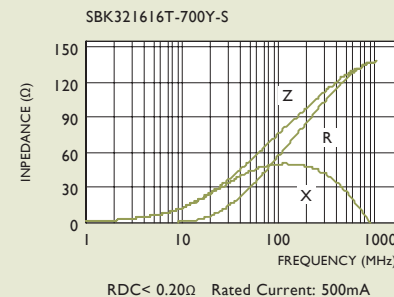
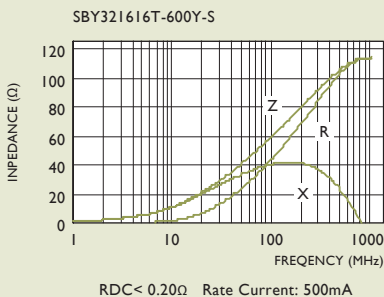
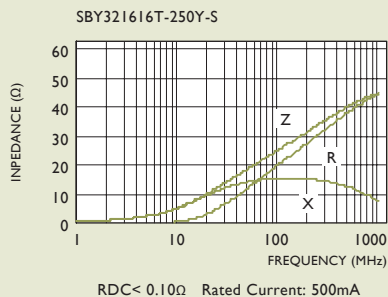
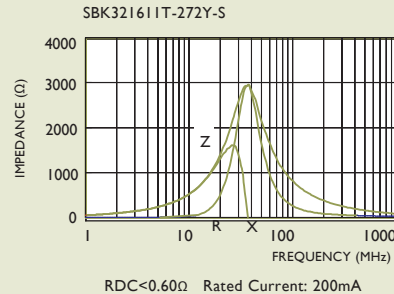
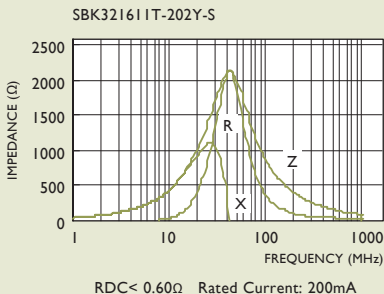
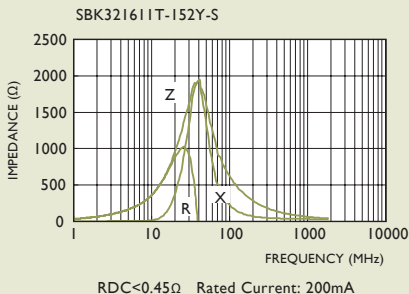
Test Instruments : HP4291A Impedance / Material Analyzer





# TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer

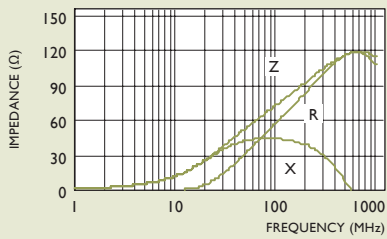




## TYPICAL ELECTRICAL CHARACTERISTICS

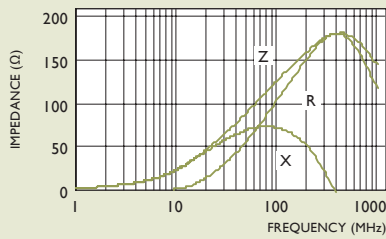
Test Instruments : HP4291A Impedance / Material Analyzer

SBY453215T-700Y-S



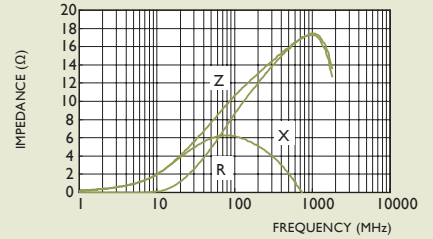
RDC < 0.3Ω Rated Current: 500mA

SBY453215T-121Y-S



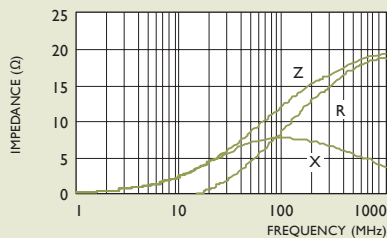
RDC < 0.3Ω Rated Current: 500mA

PBY100505T-100Y-S



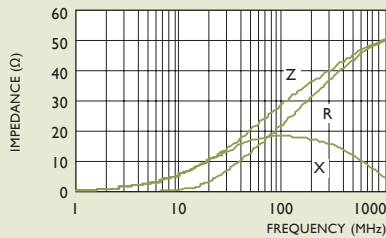
RDC < 0.03Ω Rated Current: 1000mA

PBY160808T-110Y-S



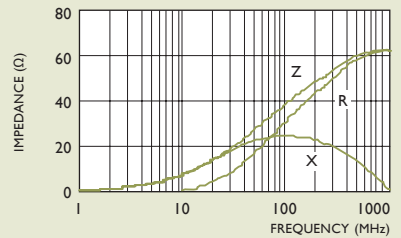
RDC < 0.020Ω Rated Current: 4000mA

PBY160808T-250Y-S



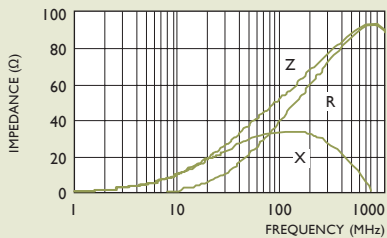
RDC < 0.03Ω Rated Current: 3000mA

PBY160808T-400Y-S



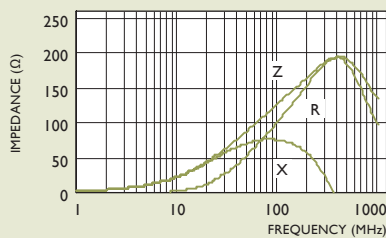
RDC < 0.035Ω Rated Current: 3000mA

PBY160808T-600Y-S



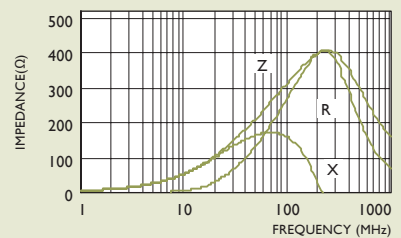
RDC < 0.04Ω Rated Current: 3000mA

PBY160808T-121Y-S



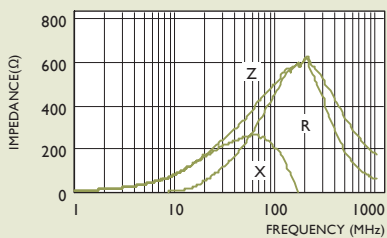
RDC < 0.08Ω Rated Current: 2500mA

PBY160808T-301Y-S



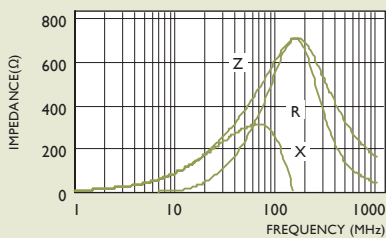
RDC < 0.10Ω Rated Current: 2000mA

PBY160808T-501Y-S



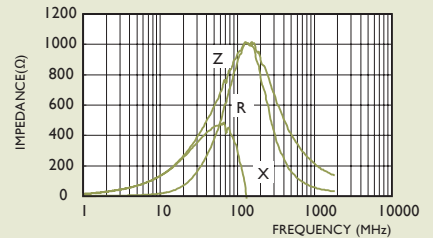
RDC < 0.15Ω Rated Current: 1500mA

PBY160808T-601Y-S



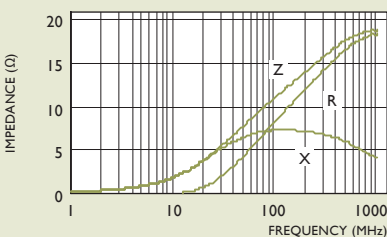
RDC < 0.20Ω Rated Current: 1000mA

PBY160808T-102Y-S



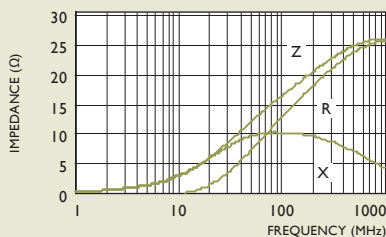
RDC < 0.25Ω Rated Current: 800mA

PBY201209T-110Y-S



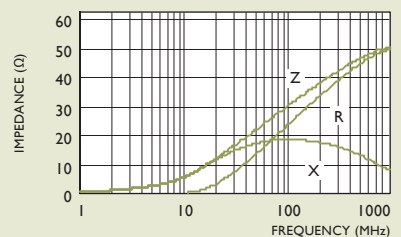
RDC < 0.01Ω Rated Current: 6000mA

PBY201209T-170Y-S



RDC < 0.02Ω Rated Current: 5000mA

PBY201209T-300Y-S

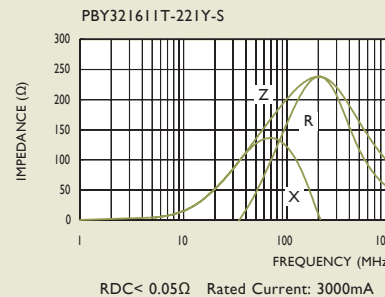
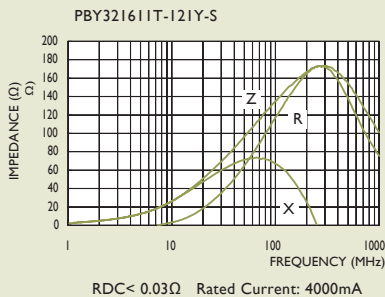
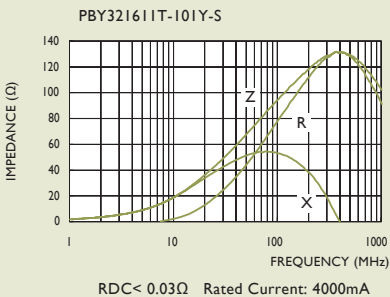
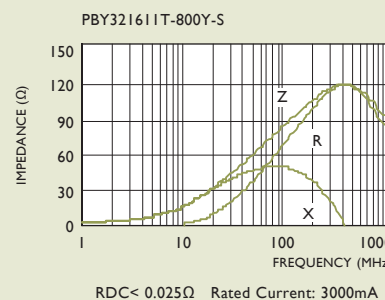
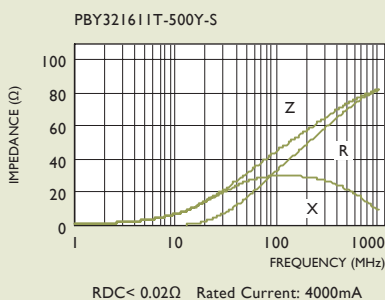
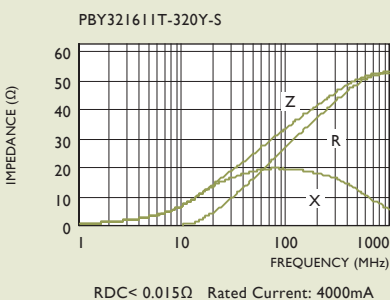
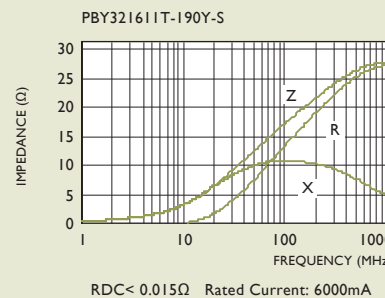
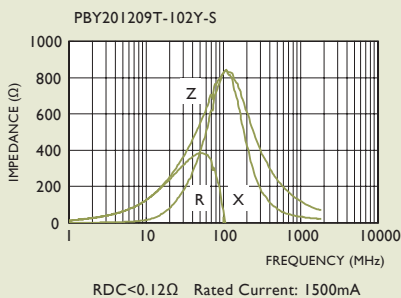
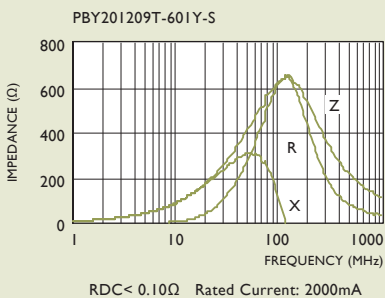
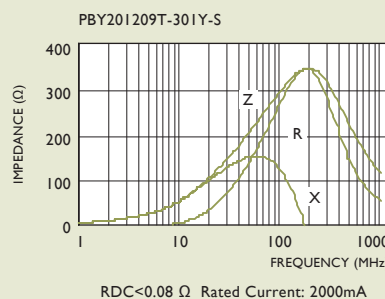
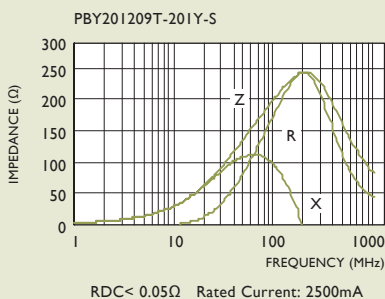
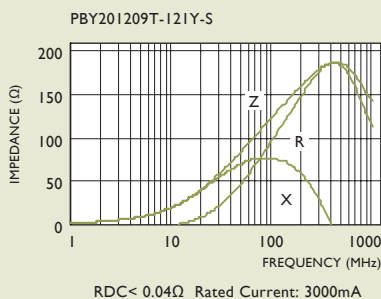
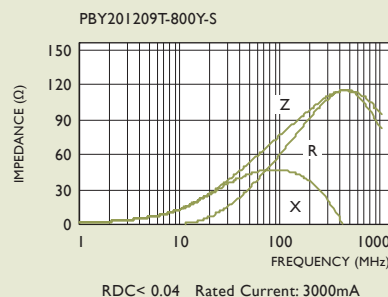
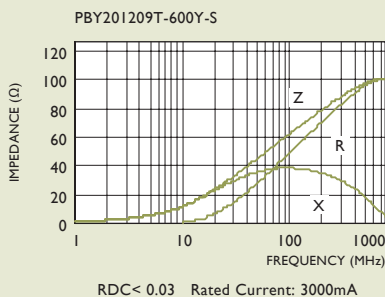
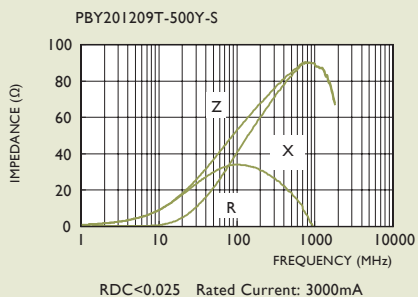


RDC < 0.15Ω Rated Current: 4000mA



# TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer

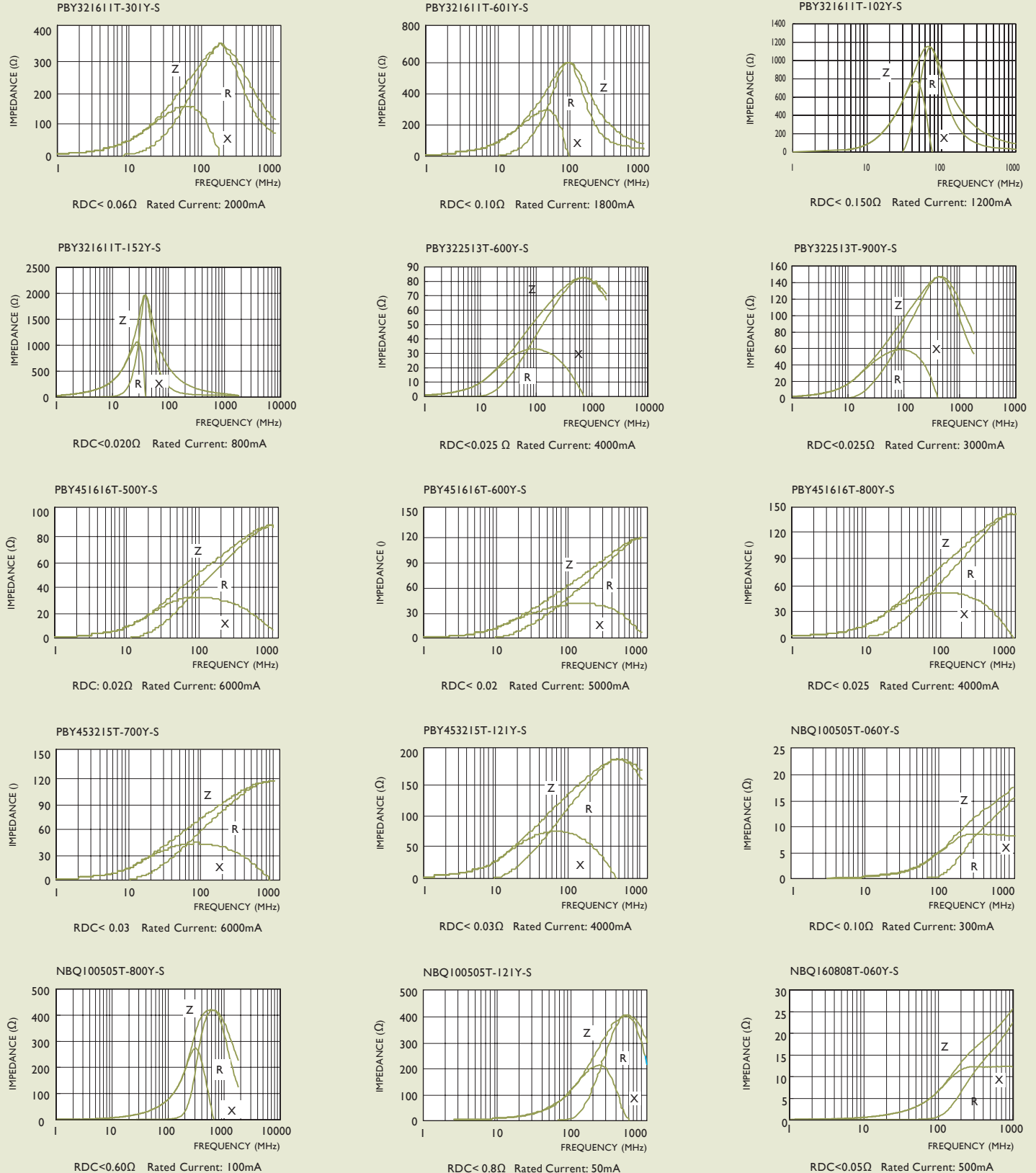






## TYPICAL ELECTRICAL CHARACTERISTICS

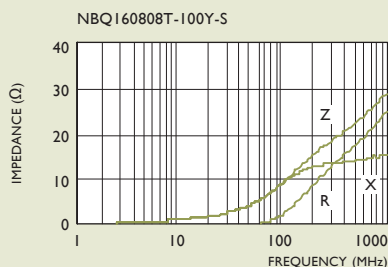
Test Instruments : HP4291A Impedance / Material Analyzer



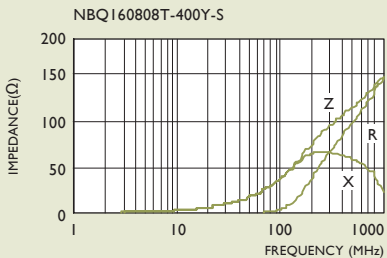


# TYPICAL ELECTRICAL CHARACTERISTICS

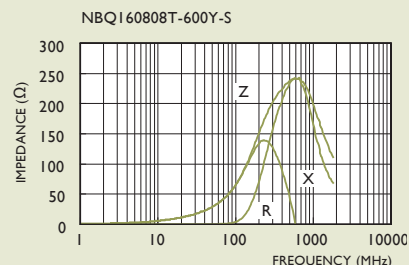
Test Instruments : HP4291A Impedance / Material Analyzer



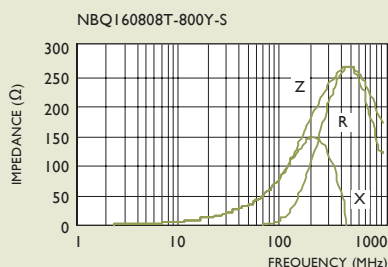
RDC < 0.07Ω Rated Current: 400mA



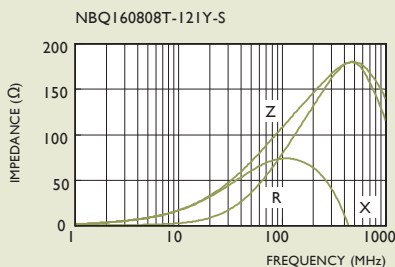
RDC < 0.2Ω Rate Current: 300mA



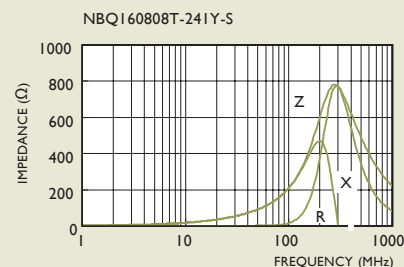
RDC < 0.25Ω Rated Current: 300mA



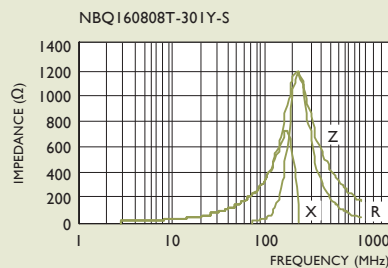
RDC < 0.25Ω Rated Current: 300mA



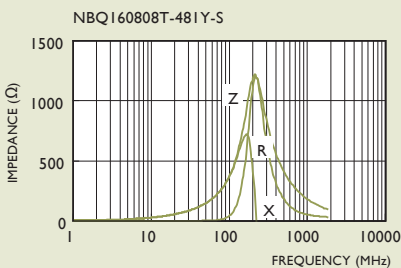
RDC < 0.30Ω Rated Current: 300mA



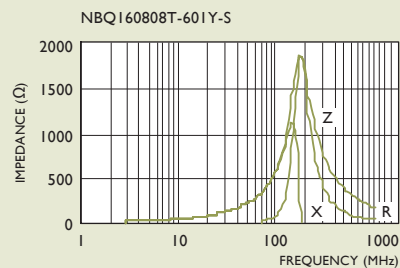
RDC < 0.35Ω Rated Current: 200mA



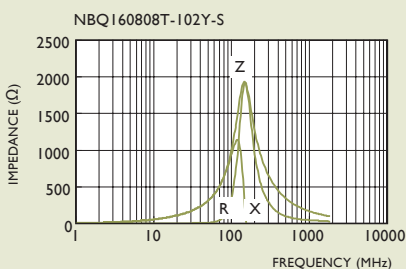
RDC < 0.4Ω Rated Current: 200mA



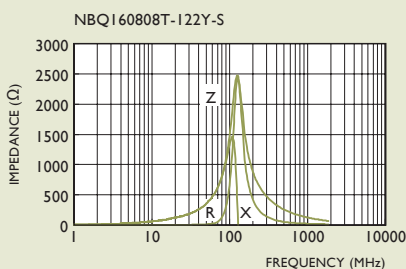
RDC < 0.50Ω Rated Current: 200mA



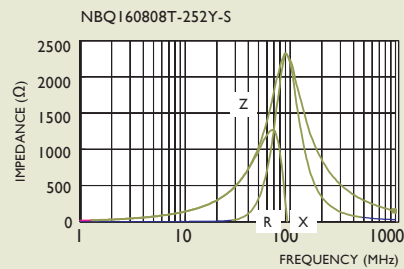
RDC < 0.5Ω Rated Current: 200mA



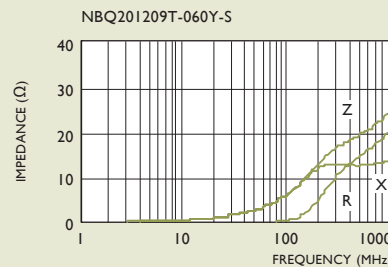
RDC < 0.6Ω Rated Current: 100mA



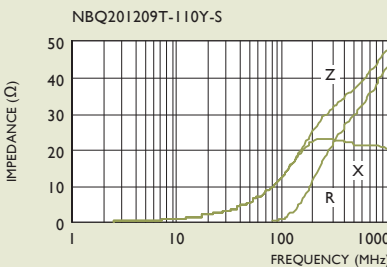
RDC < 0.60Ω Rated Current: 100mA



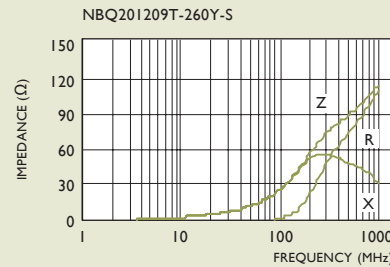
RDC < 0.10Ω Rated Current: 50mA



RDC < 0.07Ω Rated Current: 800mA



RDC < 0.1Ω Rated Current: 700mA

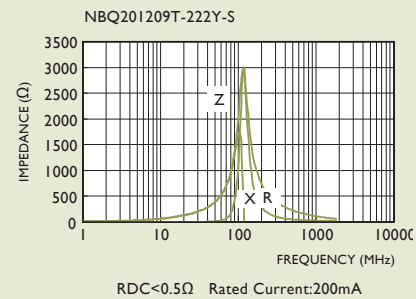
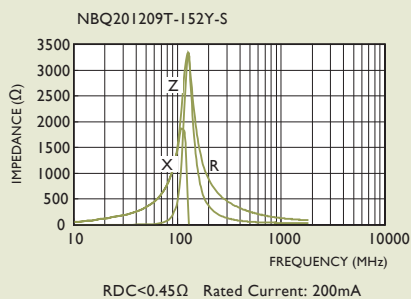
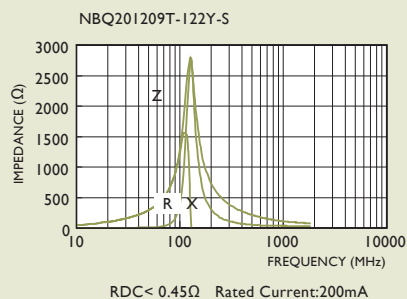
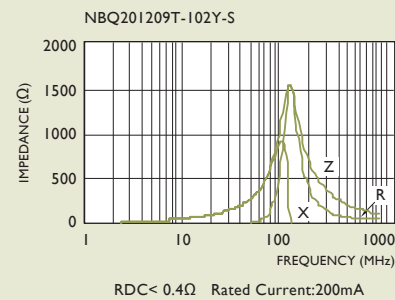
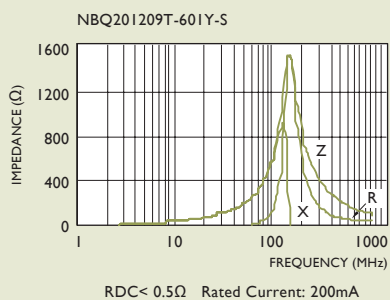
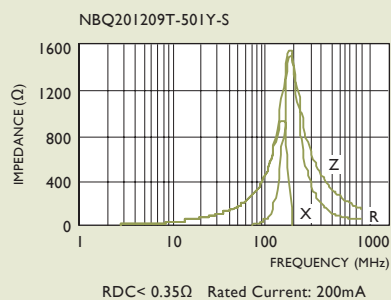
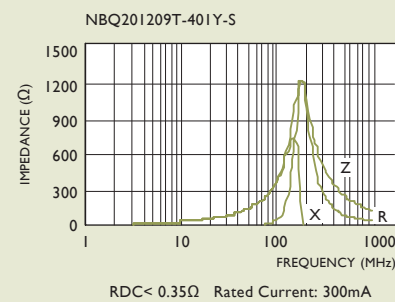
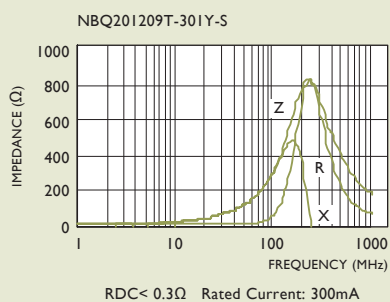
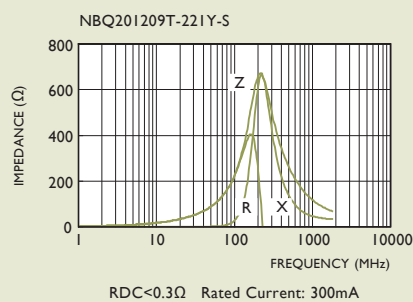
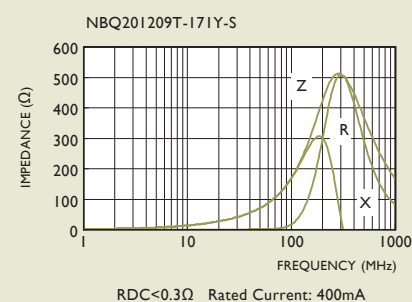
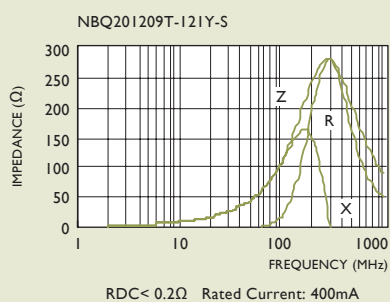
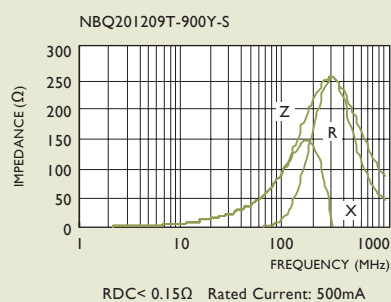
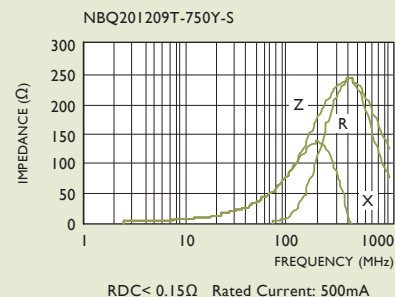
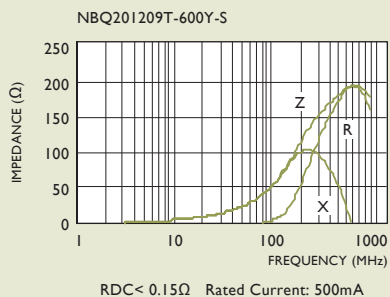
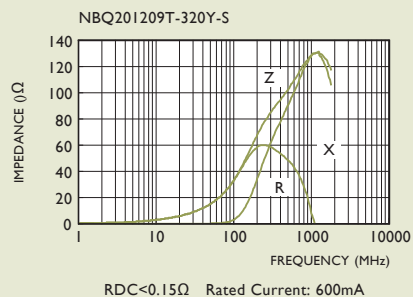


RDC < 0.15Ω Rated Current: 600mA



## TYPICAL ELECTRICAL CHARACTERISTICS

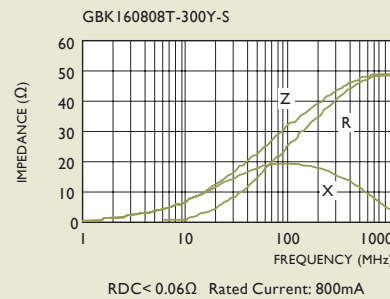
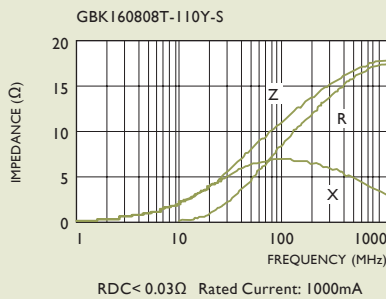
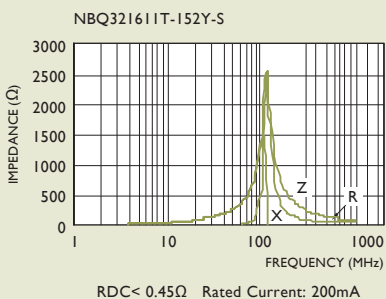
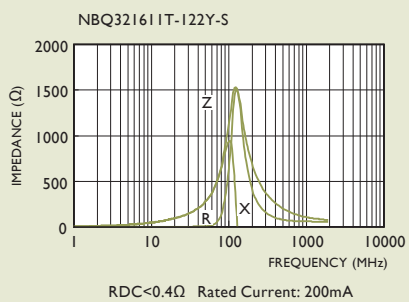
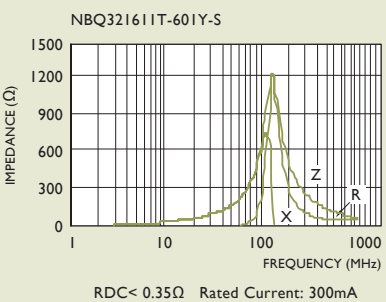
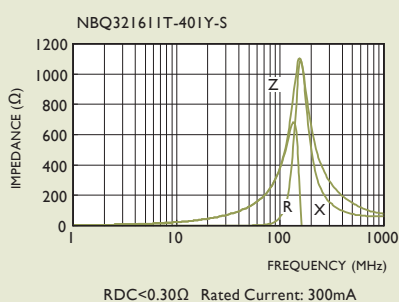
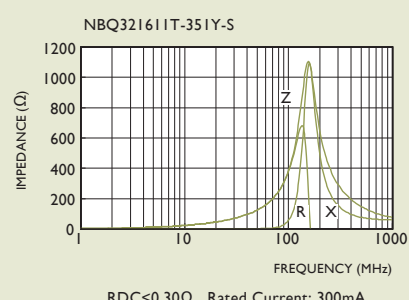
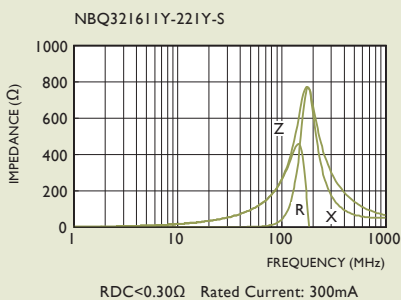
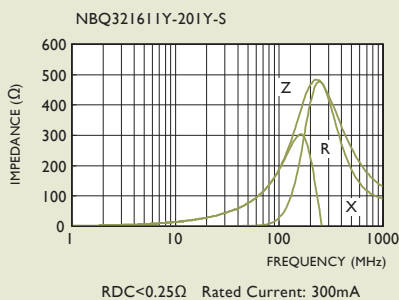
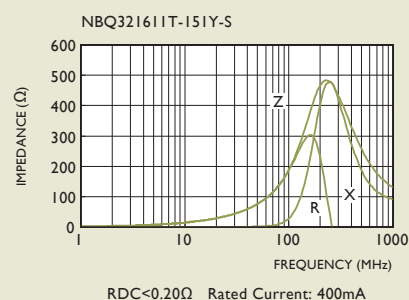
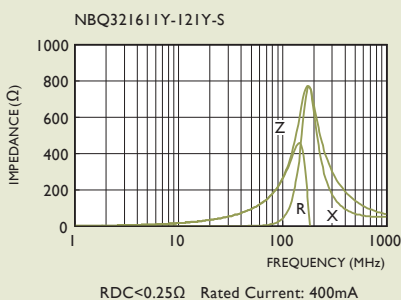
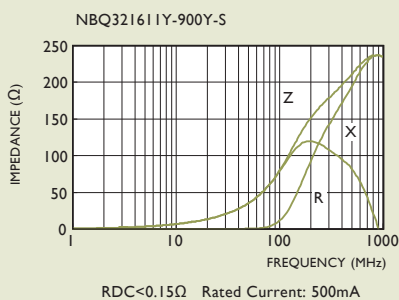
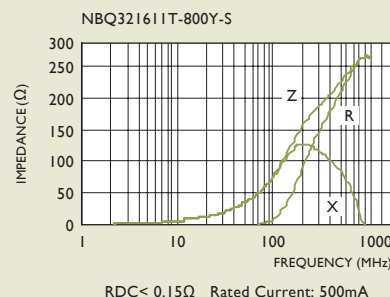
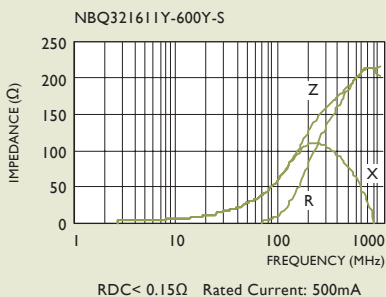
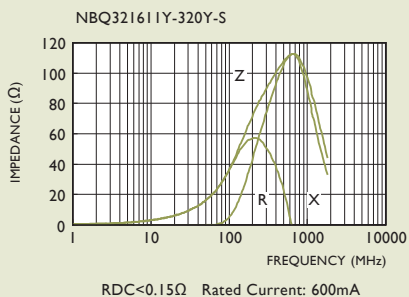
Test Instruments : HP4291A Impedance / Material Analyzer





## TYPICAL ELECTRICAL CHARACTERISTICS

Test Instruments : HP4291A Impedance / Material Analyzer

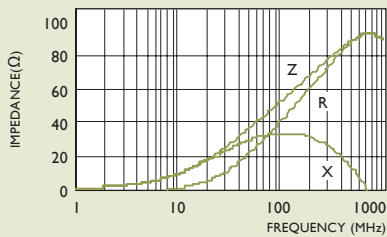




## TYPICAL ELECTRICAL CHARACTERISTICS

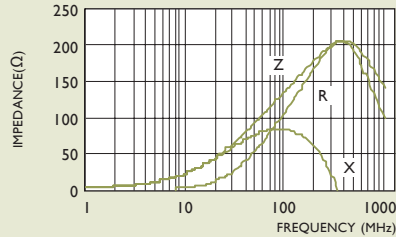
Test Instruments : HP4291A Impedance / Material Analyzer

GBK160808T-600Y-S



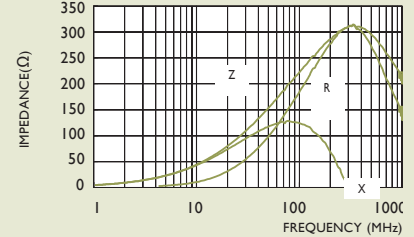
RDC < 0.06Ω Rated Current: 600mA

GBK160808T-121Y-S



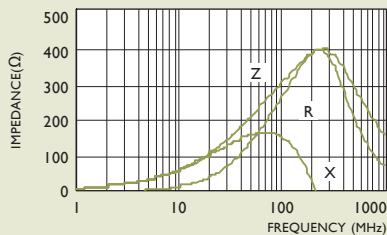
RDC < 0.15Ω Rated Current: 600mA

GBK160808T-221Y-S



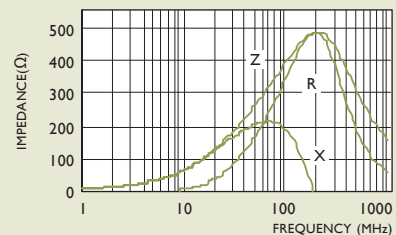
RDC < 0.18Ω Rated Current: 400mA

GBK160808T-301Y-S



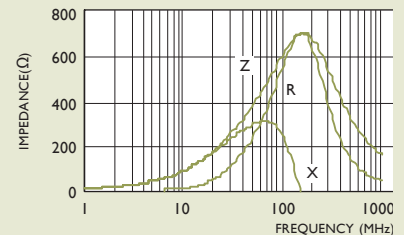
RDC < 0.25Ω Rated Current: 400mA

GBK160808T-451Y-S



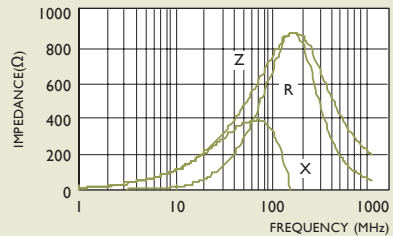
RDC < 0.3Ω Rated Current: 400mA

GBK160808T-601Y-S



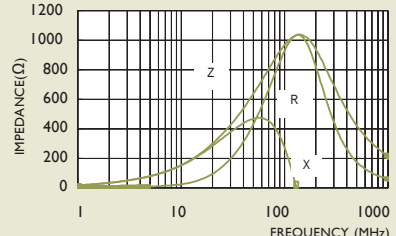
RDC < 0.30Ω Rated Current: 400mA

GBK160808Y-751Y-S



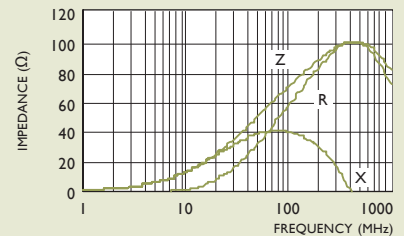
RDC < 0.45Ω Rated Current: 300mA

GBK160808T-102Y-S



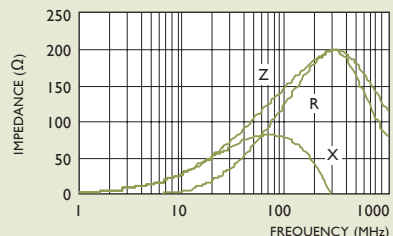
RDC < 0.15Ω Rated Current: 600mA

GBK201209T-700Y-S



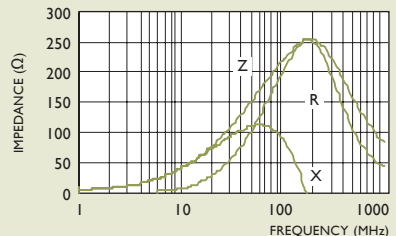
RDC < 0.10Ω Rated Current: 800mA

GBK201209T-151Y-S



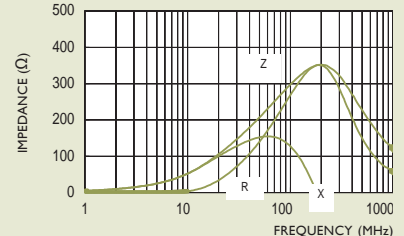
RDC < 0.15Ω Rated Current: 600mA

GBK201209T-221Y-S



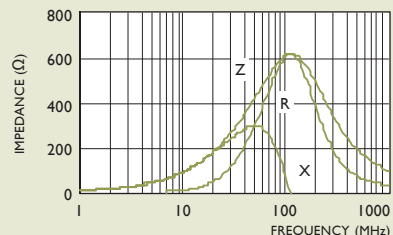
RDC < 0.18Ω Rated Current: 600mA

GBK201209T-301Y-S



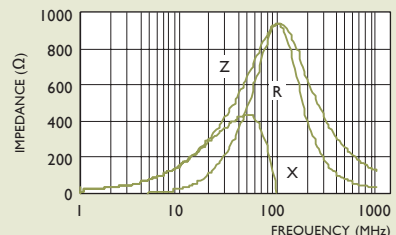
RDC < 0.18Ω Rated Current: 600mA

GBK201209T-601Y-S



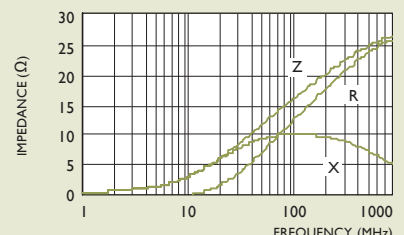
RDC < 0.25Ω Rated Current: 500mA

GBK201209T-102Y-S



RDC < 0.30Ω Rated Current: 400mA

GBY321611T-190Y-S

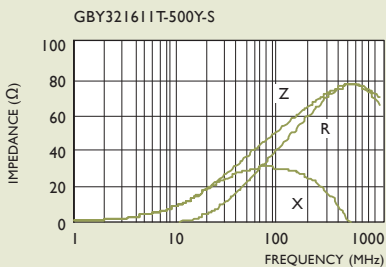


RDC < 0.03Ω Rated Current: 1000mA

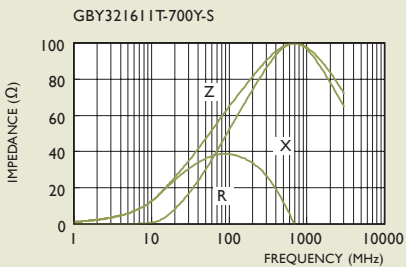


## TYPICAL ELECTRICAL CHARACTERISTICS

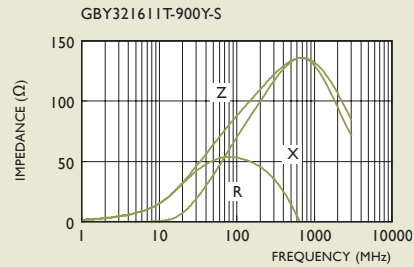
Test Instruments : HP4291A Impedance / Material Analyzer



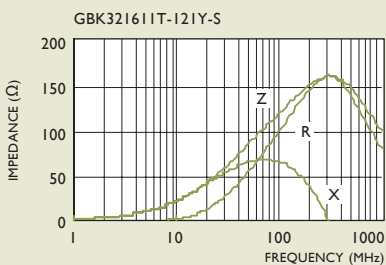
RDC < 0.06Ω Rated current: 800mA



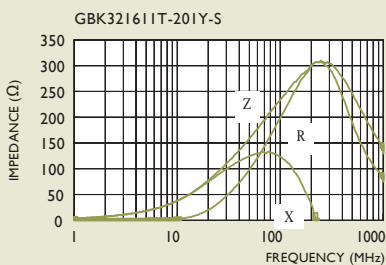
RDC < 0.06Ω Rated current: 800mA



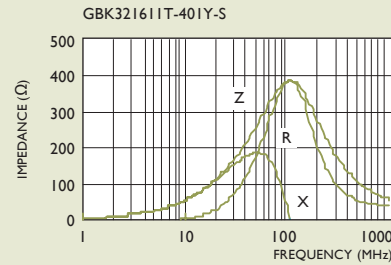
RDC < 0.10Ω Rated current: 800mA



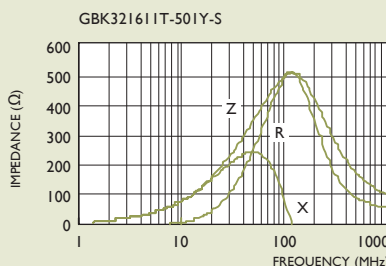
RDC < 0.10 Rated Current: 800mA



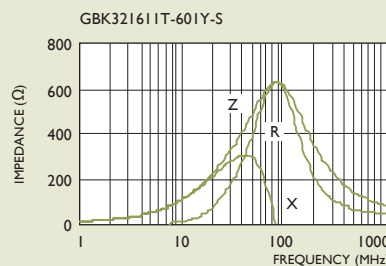
RDC < 0.15Ω Rated Current: 500mA



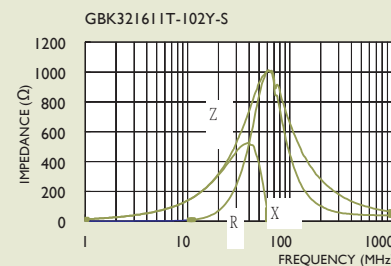
RDC < 0.15Ω Rated Current: 600mA



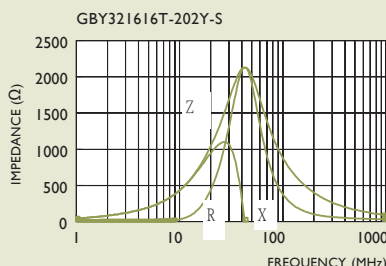
RDC < 0.15Ω Rated Current: 600mA



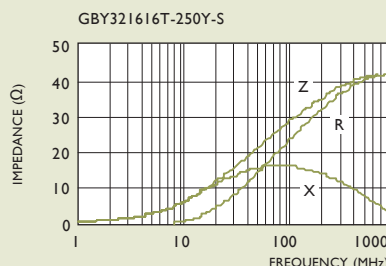
RDC < 0.20Ω Rated Current: 500mA



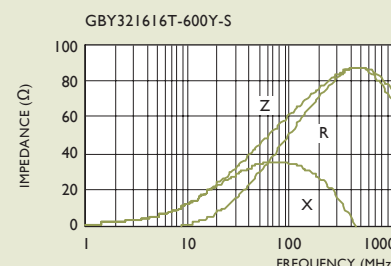
RDC < 0.25Ω Rated Current: 400mA



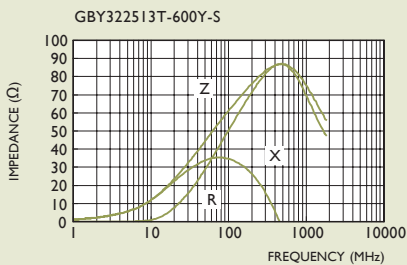
RDC < 0.35Ω Rated Current: 400mA



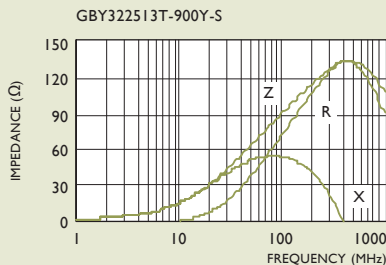
RDC < 0.10Ω Rated Current: 1000mA



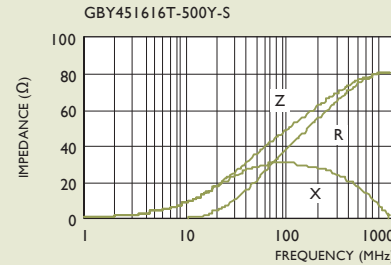
RDC < 0.10Ω Rated Current: 1000mA



RDC < 0.10Ω Rated Current: 1000mA



RDC < 0.10Ω Rated Current: 1000mA

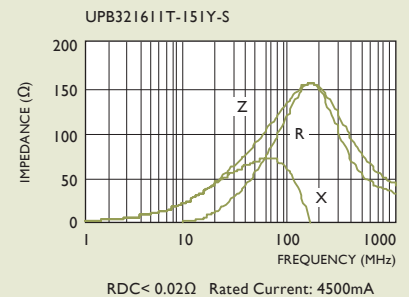
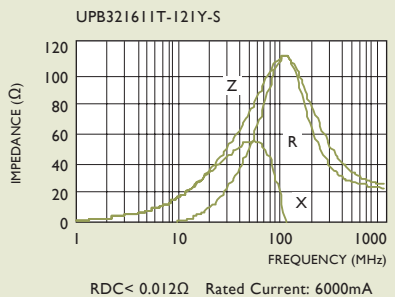
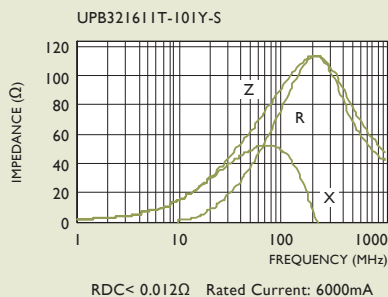
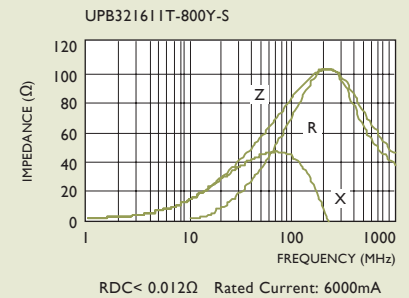
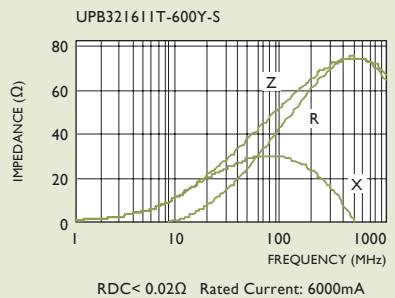
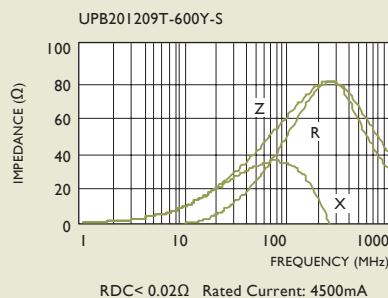
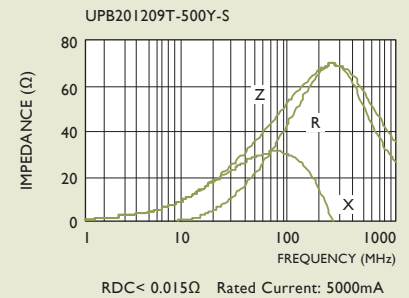
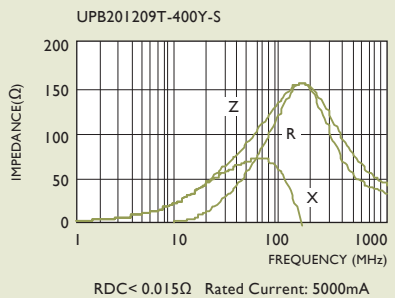
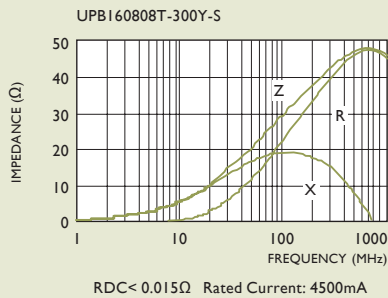
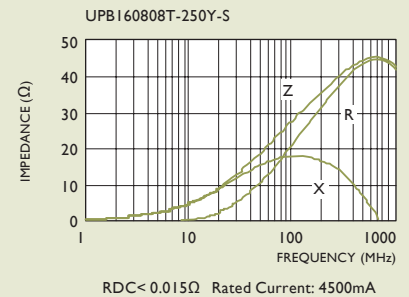
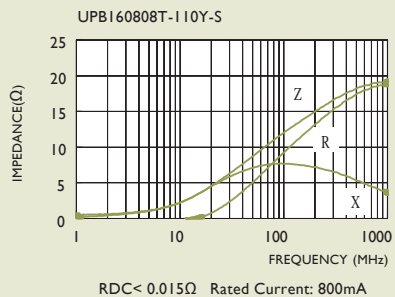
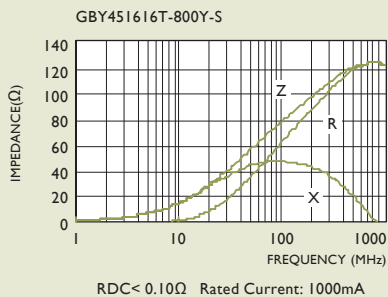
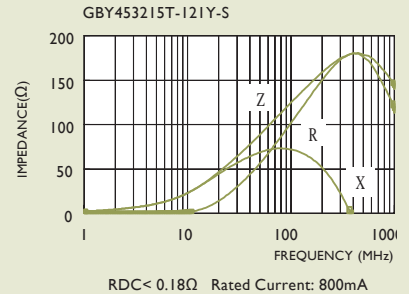
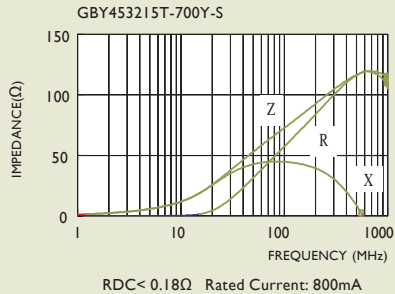
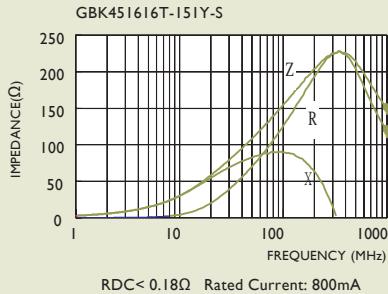


RDC < 0.10Ω Rated Current: 1000mA



## TYPICAL ELECTRICAL CHARACTERISTICS

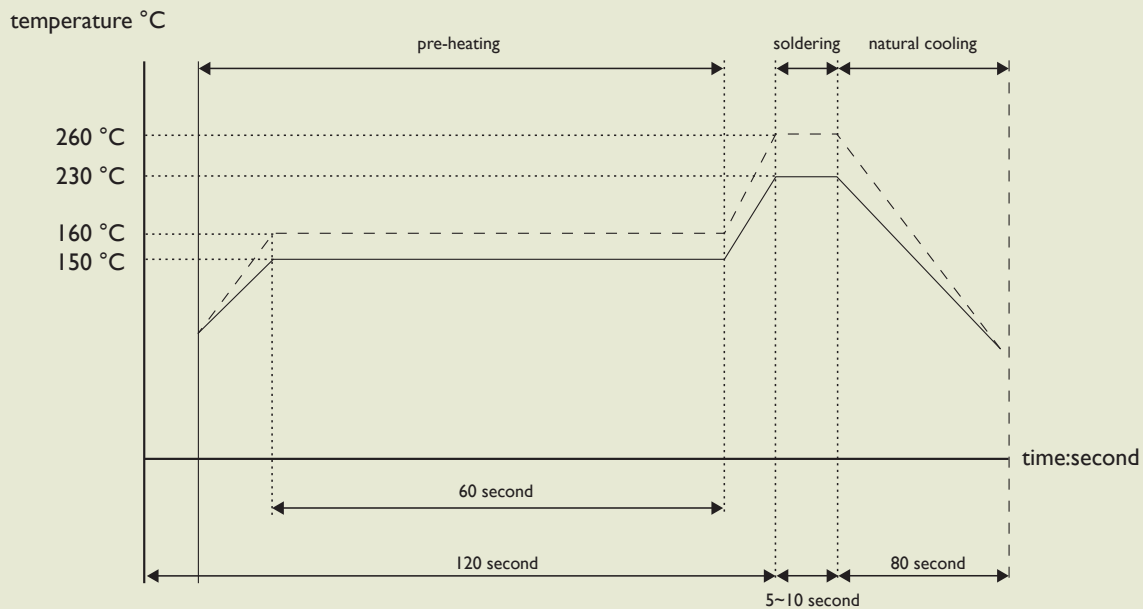
Test Instruments : HP4291A Impedance / Material Analyzer





## RECOMMEND SOLDERING CONDITIONS

for:CL/ CLH/ SQV/ SMD power inductors/ SMD Chip Beads/ SMD Filters, Transformers, Current Sensors



for: lead solder	———
for: lead-free solder	-----