

Features

1. Effective for suppressing noise at high frequency, from several MHz to several hundreds MHz.
2. Chip type is suited for preventing the abnormal oscillation from high frequency amplifying circuits.
3. Terminal electrode has excellent solder heat resistance.
4. Frequency characteristics of the high impedance products for high performance electronic systems.
5. Highly reliability in the circuits of high-current, because internal electrode has low resistivity.

Applications

1. Noise suppression in digital equipment.
2. Computers and it's peripheral devices, VCR and camera.
3. Noise suppression in automotive electronic equipment, car stereo, car engine controller.
4. Noise suppression for OA electronic instruments.

Ordering Information

HB - **1** **M** **1005** - **601** **J** **T**
 (1) (2) (3) (4) (5) (6)

(1) Series

HB : For Signal line
 HH : For high current(3.0A)
 HU : For ultra high current(6.0A)

(2) Material & Design

L, Y : For ultra high speed
 S, B : For high speed
 H, C : For general purpose
 M : For high impedance type
 T : For Low speed

(3) Dimension

The first two digits : length (mm)
 The last two digits : width (mm)

(4) Impedance (at 100MHz)

The first two digits are significant.
 The last digit is the number of zeros following.

(5) Termination

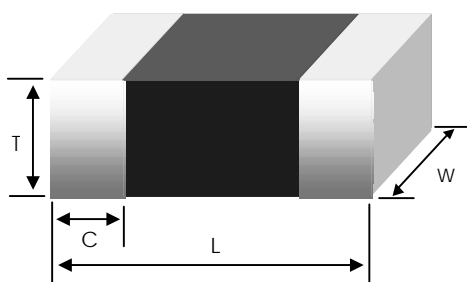
J : Nickel barrier

(6) Packing

B : Bulk pack
 T : Tape & Reel (178mm [7 inches])
 L : Tape & Reel (254mm [10 inches])

Shape and Dimensions

Unit : mm [inches]



Type	L	W	T	C
H -1 0603-	0.6±0.03	0.3±0.03	0.3±0.03	0.15±0.05
	[.024±.001]	[.012±.001]	[.012±.001]	[.006±.002]
H -1 1005-	1.0±0.05	0.5±0.05	0.5±0.05	0.20±0.10
	[.039±.002]	[.020±.002]	[.020±.002]	[.008±.004]
H -1 1608-	1.6±0.15	0.8±0.15	0.8±0.15	0.30±0.20
	[.063±.006]	[.031±.006]	[.031±.006]	[.012±.008]
H -1 2012-	2.0±0.20	1.25±0.20	1.0±0.20	0.50±0.30
	[.079±.008]	[.049±.008]	[.039±.008]	[.020±.012]
	2.0±0.20	1.25±0.20	*1.25±0.20	0.50±0.30
	[.079±.008]	[.049±.008]	(.049±.008)	[.020±.012]
H -1 3216-	3.2±0.20	1.6±0.20	1.3±0.20	0.50±0.30
	[.126±.008]	[.063±.008]	[.051±.008]	[.020±.012]
H -1 4516-	4.5±0.25	1.6±0.20	1.3±0.20	0.50±0.30
	[.177±.010]	[.063±.008]	[.051±.008]	[.020±.012]
H -1 4532-	4.5±0.25	3.2±0.25	1.3±0.25	0.70±0.40
	[.177±.010]	[.126±.010]	[.051±.010]	[.027±.016]
H -1 5750-	5.7±0.30	5.0±0.30	1.6±0.25	0.80±0.50
	[.225±.012]	[.198±.012]	[.063±.010]	[.031±.020]

* Only HU Series

Specifications

HB series (For signal line)

HB0603

Part No.	Z at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1T0603-800	80	60	0.5	500
HB-1T0603-121	120	90	0.8	200
HB-1T0603-241	240	180	1.0	200

HB1005

Part No.	Z at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1H1005-100	10	7.5	0.05	1000
HB-1M1005-400	40	30	0.15	900
HB-1M1005-600	60	45	0.20	650
HB-1M1005-800	80	60	0.20	650
HB-1M1005-121	120	90	0.30	500
HB-1M1005-221	220	165	0.35	500
HB-1M1005-301	300	225	0.45	400
HB-1M1005-471	470	355	0.55	300
HB-1M1005-601	600	450	0.60	300
HB-1M1005-102	1000	750	1.30	250
HB-1T1005-100	10	7.5	0.05	1000
HB-1T1005-400	40	30	0.10	900
HB-1T1005-600	60	45	0.20	650
HB-1T1005-700	70	53	0.20	650
HB-1T1005-800	80	60	0.25	550
HB-1T1005-121	120	90	0.25	500
HB-1T1005-221	220	165	0.35	500
HB-1T1005-241	240	180	0.40	400
HB-1T1005-301	300	225	0.45	400
HB-1T1005-601	600	450	0.60	400
HB-1S1005-100	10	7.5	0.10	500
HB-1S1005-300	30	23	0.20	400
HB-1S1005-600	60	45	0.30	350
HB-1S1005-101	100	75	0.35	300
HB-1S1005-121	120	90	0.40	300

HB1608

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1H1608-300	30	22	0.08	500
HB-1M1608-600	60	45	0.09	200
HB-1M1608-800	80	60	0.10	200
HB-1M1608-121	120	90	0.12	200
HB-1M1608-221	220	165	0.20	200
HB-1M1608-301	300	225	0.30	200
HB-1M1608-501	500	375	0.40	200
HB-1M1608-601	600	450	0.40	200
HB-1M1608-801	800	600	0.60	200
HB-1M1608-102	1000	750	0.60	150
HB-1S1608-100	10	7.5	0.05	300
HB-1S1608-200	20	15	0.12	300
HB-1S1608-300	30	22	0.12	300
HB-1S1608-400	40	30	0.12	300
HB-1S1608-550	55	42	0.15	200
HB-1S1608-800	80	60	0.25	200
HB-1S1608-121	120	90	0.25	200
HB-1S1608-221	220	165	0.40	200
HB-1T1608-260	26	20	0.05	500
HB-1T1608-300	30	22	0.05	500
HB-1T1608-600	60	45	0.10	400
HB-1T1608-800	80	60	0.10	300
HB-1T1608-121	120	90	0.20	250
HB-1T1608-221	220	165	0.30	200
HB-1T1608-301	300	225	0.35	200
HB-1T1608-331	330	250	0.35	200
HB-1T1608-601	600	450	0.50	200
HB-1T1608-102	1000(at 60MHz)	750	0.70	200
HB-1T1608-202	2000(at 70MHz)	1500	1.20	100
HB-1B1608-222	2200	1650	0.85	50

HB2012

HB-1H2012-150	15	12	0.02	600
HB-1H2012-260	26	20	0.02	600
HB-1H2012-300	30	23	0.02	600
HB-1H2012-320	32	24	0.03	600
HB-1M2012-800	80	60	0.08	300
HB-1M2012-121	120	90	0.10	300
HB-1M2012-151	150	115	0.12	300
HB-1M2012-221	220	165	0.12	300
HB-1M2012-301	300	225	0.15	300
HB-1M2012-451	450	338	0.25	300
HB-1M2012-601	600	450	0.25	300
HB-1M2012-102	1000	750	0.30	300
HB-1M2012-202	2000 (at 70MHz)	1500	0.50	300
HB-1M2012-252	2500 (at 50MHz)	1875	0.60	300
HB-1S2012-5R0	5	3.5	0.05	300
HB-1S2012-8R0	8	6	0.05	300
HB-1S2012-400	40	30	0.15	250
HB-1S2012-8R0	8	6	0.05	300
HB-1S2012-400	40	30	0.15	250
HB-1S2012-800	80	60	0.18	200
HB-1S2012-121	120	90	0.20	300
HB-1S2012-221	220	165	0.30	300
HB-1S2012-251	250	190	0.50	300
HB-1T2012-260	26	20	0.04	600
HB-1T2012-400	40	30	0.05	600

HB2012

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1T2012-800	80	60	0.08	300
HB-1T2012-121	120	90	0.08	300
HB-1T2012-151	150	115	0.08	300
HB-1T2012-221	220	170	0.12	200
HB-1T2012-301	300	225	0.15	200
HB-1T2012-331	330	250	0.15	200
HB-1T2012-401	400	300	0.15	200
HB-1T2012-601	600	450	0.25	200
HB-1T2012-102	1000 (at 60MHz)	750	0.30	200
HB-1T2012-202	2000 (at 40MHz)	1500	0.50	200
HB-1T2012-252	2500 (at 35MHz)	1875	0.60	200
HB-1B2012-222	2200	1650	0.60	300
HB-1B2012-272	2700	2025	0.70	300

HB3216

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1C3216-350	35	26	0.02	600
HB-1H3216-500	50	37	0.03	600
HB-1H3216-700	70	52	0.05	600
HB-1M3216-121	120	90	0.05	300
HB-1M3216-151	150	115	0.05	300
HB-1M3216-201	200	150	0.08	300
HB-1M3216-301	300	225	0.09	200
HB-1M3216-601	600	450	0.20	200
HB-1M3216-601 A	600	450	1.00	200
HB-1M3216-102	1000	750	0.25	200
HB-1S3216-100	10	7.5	0.05	300
HB-1S3216-200	20	15	0.10	300
HB-1S3216-800	80	60	0.25	200
HB-1S3216-251	250	190	0.30	200
HB-1S3216-601	600	450	0.40	200
HB-1T3216-350	35	26	0.03	600
HB-1T3216-500	50	37	0.03	600
HB-1T3216-700	70	52	0.05	400
HB-1T3216-800	80	60	0.05	400
HB-1T3216-121	120	90	0.10	300
HB-1T3216-151	150	115	0.10	300
HB-1T3216-201	200	150	0.15	300
HB-1T3216-601	600	450	0.30	200
HB-1T3216-801	800	600	0.30	200
HB-1T3216-102	1000 (at 60MHz)	750	0.40	200
HB-1T3216-122	1200 (at 50MHz)	900	0.40	200
HB-1T3216-202	2000 (at 30MHz)	1500	0.40	200

HB4516

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1H4516-600	60	45	0.02	600
HB-1H4516-700	70	52	0.03	600
HB-1M4516-151	150	115	0.05	300
HB-1T4516-700	70	52	0.05	600

HB4532

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1H4532-121	120	90	0.04	600
HB-1H4532-151	150	115	0.04	600
HB-1T4532-800	120	60	0.04	600
HB-1T4532-121	120	90	0.04	600

HB5750

Part No.	IZI at 100MHz ()		DC Resistance () max.	Rated current (mA) max.
	typ.	min.		
HB-1M5750-181	180	135	0.08	600

HB series – L Type (For ultra high frequency signal line)

Part No.	IZI at 100MHz ()	IZI at 1 GHz ()	DC Resistance () max.	Rated current (mA) max.
	typ.	typ.		
HB-1L1608-2R0	2.0	20	0.20	300
HB-1L1608-4R0	4.0	40	0.25	300
HB-1L1608-5R5	5.5	55	0.30	300
HB-1L1608-7R0	7.0	80	0.30	300
HB-1L1608-9R0	9.0	40 (at 500MHz)	0.40	300
HB-1L1608-110	11.0	55 (at 500MHz)	0.40	300
HB-1L1608-130	13.0	70 (at 500MHz)	0.50	300
HB-1L1608-150	15.0	80 (at 500MHz)	0.50	300
HB-1L2012-3R5	3.5	30	0.15	500
HB-1L2012-6R5	6.5	30 (at 500MHz)	0.20	500
HB-1L2012-100	10.0	50 (at 500MHz)	0.25	500

HB series – Y Type (For ultra high frequency signal line)

Part No.	IZI at 100MHz ()	IZI at 1 GHz ()	DC Resistance () max.	Rated current (mA) max.
	typ.	typ.		
HB-1Y1608-4R0	4.0	40	0.20	300
HB-1Y1608-8R0	8.0	80	0.25	300
HB-1Y1608-100	10.0	100	0.30	300
HB-1Y1608-150	15.0	75(at 500MHz)	0.35	300
HB-1Y1608-200	20.0	120(at 500MHz)	0.40	300

HH series (For high current ~ 3A)

HH1005

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H1005-100	10	7.5	0.05	1300
HH-1M1005-221	220	165	0.35	800
HH-1M1005-471	470	355	0.56	500
HH-1M1005-601	600	450	0.60	500
HH-1M1005-102	1000	750	0.80	400
HH-1S1005-100	10	7.5	0.08	1300
HH-1T1005-100	10	7.5	0.05	1300
HH-1T1005-121	120	90	0.25	800
HH-1T1005-241	240	180	0.31	650
HH-1T1005-601	600	450	0.58	500

HH1608

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H1608-300	30	22	0.06	2000
HH-1M1608-600 A	60	45	0.10	500
HH-1M1608-600	60	45	0.09	1600
HH-1M1608-121 A	120	90	0.15	500
HH-1M1608-121	120	90	0.14	1100
HH-1M1608-221	221	165	0.20	1000
HH-1M1608-301	300	225	0.30	900
HH-1M1608-501	500	375	0.35	800
HH-1M1608-601	600	450	0.35	750
HH-1M1608-801	800	600	0.50	650
HH-1M1608-102	1000	750	0.50	550
HH-1S1608-100	10	7.5	0.05	1500
HH-1S1608-200	20	15	0.06	1400
HH-1S1608-300	30	22	0.10	1300
HH-1S1608-400	40	30	0.12	1300
HH-1S1608-550	55	42	0.15	1100
HH-1S1608-800	80	60	0.18	1000
HH-1S1608-121	120	90	0.20	1000
HH-1S1608-221	220	165	0.35	800
HH-1T1608-260	26	20	0.05	2000
HH-1T1608-300	30	22	0.05	2000
HH-1T1608-800	80	60	0.10	1600
HH-1T1608-121	120	90	0.15	1100
HH-1T1608-221	220	165	0.20	1000
HH-1T1608-301	300	225	0.30	900
HH-1T1608-331	330	250	0.30	800
HH-1T1608-601	600	450	0.40	650
HH-1T1608-102	1000	750	0.50	550

HH2012

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H2012-150	15	12	0.02	2500
HH-1M2012-260	26	20	0.02	3000
HH-1H2012-300	30	23	0.02	2500
HH-1H2012-320	32	24	0.03	2500
HH-1M2012-600	60	45	0.03	3800
HH-1M2012-800	80	60	0.08	1500
HH-1M2012-121	120	90	0.05	2500
HH-1M2012-151	150	115	0.10	1500

HH2012

Part No.	Z at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1M2012-221	220	165	0.05	2200
HH-1M2012-301	300	225	0.07	2000
HH-1M2012-451	450	338	0.20	1000
HH-1M2012-601	600	450	0.10	2000
HH-1M2012-102	1000	750	0.30	800
HH-1S2012-5R0	5.0	3.5	0.05	3000
HH-1S2012-8R0	8.0	6.0	0.03	3000
HH-1S2012-400	40	30	0.10	1800
HH-1S2012-800	80	60	0.15	1500
HH-1S2012-121	120	90	0.20	900
HH-1S2012-221	220	165	0.20	900
HH-1S2012-251	250	190	0.30	1000
HH-1T2012-260	26	20	0.03	3500
HH-1T2012-400	40	30	0.05	2000
HH-1T2012-800	80	60	0.08	1000
HH-1T2012-121	120	90	0.03	3000
HH-1T2012-151	150	115	0.08	1000
HH-1T2012-221	220	165	0.12	1000
HH-1T2012-251	250	190	0.05	2800
HH-1T2012-301	300	225	0.15	800
HH-1T2012-331	330	250	0.15	800
HH-1T2012-401	400	300	0.15	800
HH-1T2012-601	600	450	0.13	2500
HH-1T2012-102	1000	750	0.30	600

HH3216

Part No.	Z at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H3216-500	50	37	0.02	4000
HH-1H3216-700	70	52	0.02	4000
HH-1M3216-900	90	68	0.02	4000
HH-1M3216-121	120	90	0.03	4000
HH-1M3216-151	150	115	0.05	2000
HH-1M3216-201	200	150	0.08	2000
HH-1M3216-301	300	225	0.09	2000
HH-1M3216-501	500	375	0.06	3000
HH-1M3216-601	600	450	0.06	3000
HH-1M3216-102	1000	750	0.25	1000
HH-1S3216-100	10	7.5	0.05	3000
HH-1S3216-200	20	15	0.10	3000
HH-1S3216-800	80	60	0.25	2000
HH-1S3216-251	250	190	0.30	2000
HH-1T3216-260	26	20	0.03	4000
HH-1T3216-350	35	26	0.03	4000
HH-1T3216-500	50	37	0.04	3000
HH-1T3216-700	70	52	0.05	2500
HH-1T3216-800	80	60	0.05	2500
HH-1T3216-121	120	90	0.10	2000
HH-1T3216-151	150	115	0.10	2000
HH-1T3216-201	200	150	0.15	1800
HH-1T3216-601	600	450	0.30	1000
HH-1T3216-801	800	600	0.30	1000
HH-1T3216-102	1000	750	0.30	1000
HH-1T3216-122	1200	900	0.40	1000
HH-1T3216-202	2000	1500	0.40	1000

HH4516

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H4516-600	60	45	0.02	4000
HH-1H4516-111	110	83	0.02	4000

HH4532

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1H4532-121	60	45	0.03	3000
HH-1T4532-121	120	90	0.03	3000
HH-1M4532-601	600	450	0.04	3000
HH-1M4532-132	1300	980	0.05	2700
HH-1B4532-132	1300	980	0.05	2700

HH5750

Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HH-1M5750-401	400	300	0.05	2500
HH-1M5750-501	500	375	0.08	2500
HH-1T5750-151	150	115	0.05	4000

HU series (For ultra high current ~ 6A)

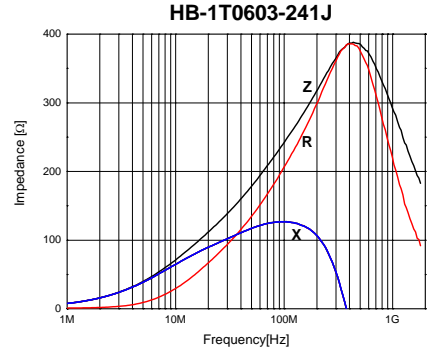
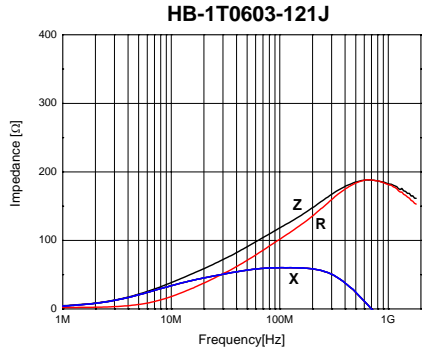
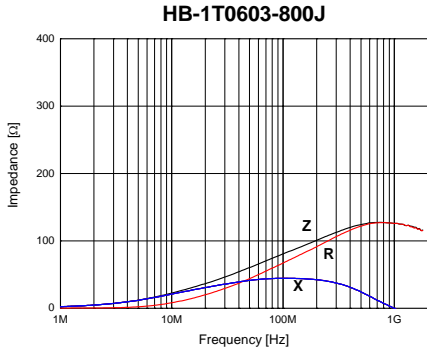
Part No.	IZI at 100MHz()		DC Resistance () max.	Rated current (mA) max.
	Typ.	min.		
HU-1M2012-400	40	30	0.02	5000
HU-1M2012-600	50	37	0.02	4800
HU-1M2012-800	80	60	0.02	4500
HU-1M2012-121	120	90	0.03	4200
HU-1T2012-500	50	37	0.015	5000
HU-1H3216-500	50	37	0.01	4800
HU-1H3216-121	120	90	0.02	4600
HU-1H4516-600	60	45	0.015	5400
HU-1B4532-681	680	510	0.03	3800
HU-1H4532-121	120	90	0.02	4600
HU-1M5750-401	400	300	0.03	5500

Parts with other electrical characteristics can be provided upon customer's Request.

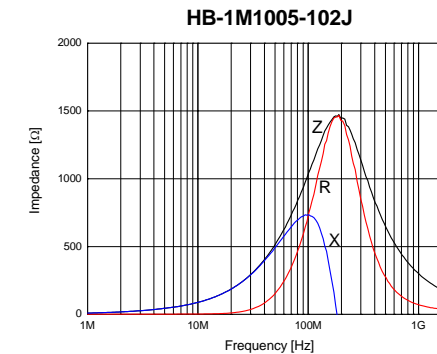
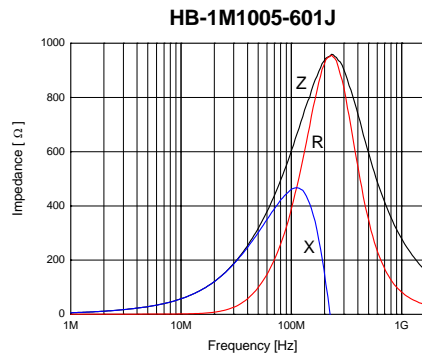
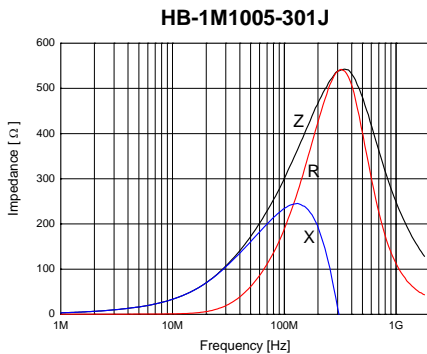
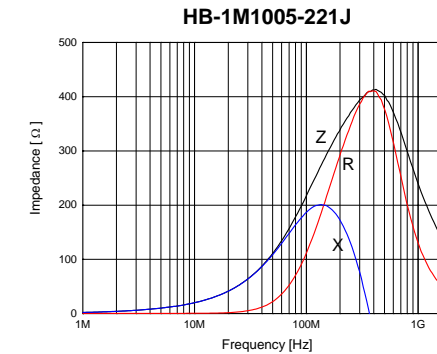
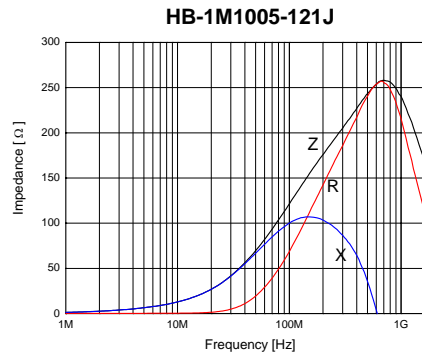
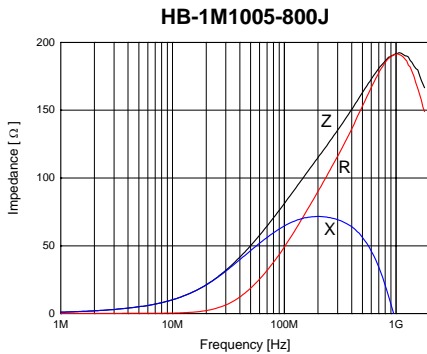
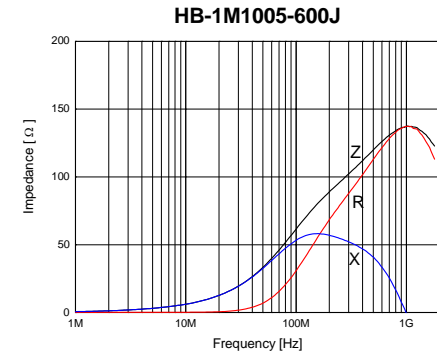
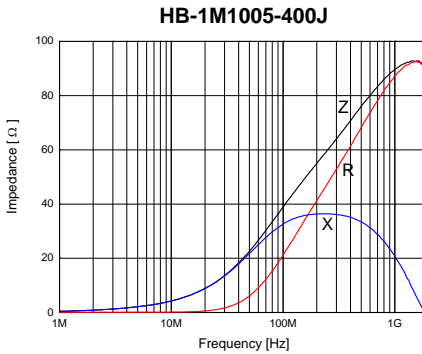
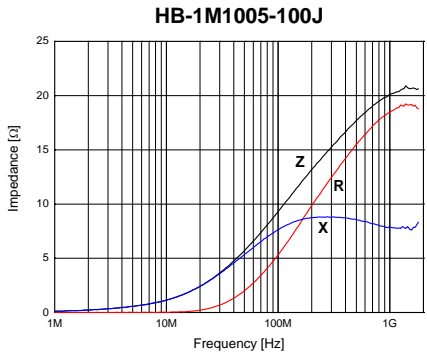
Test equipment : HP4291A + HP16192A

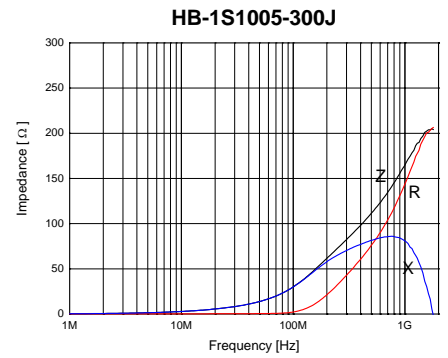
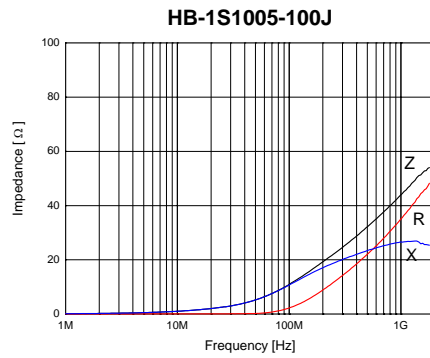
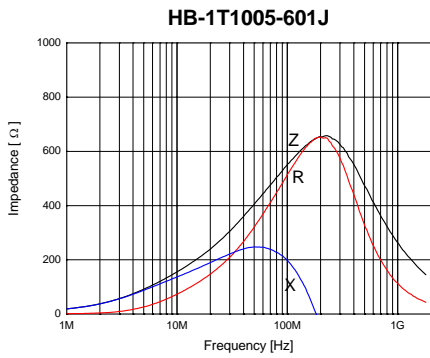
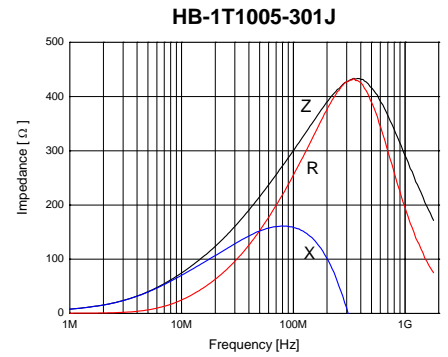
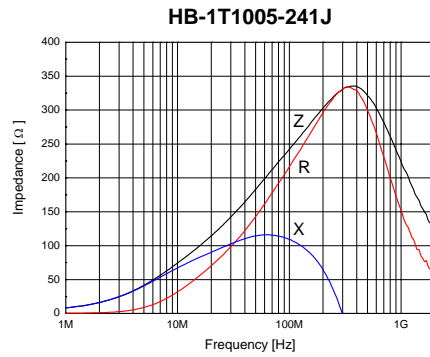
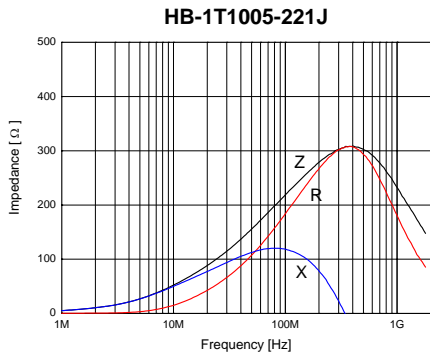
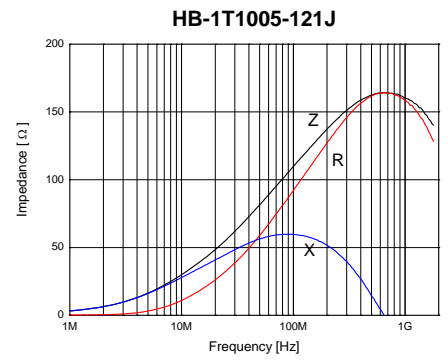
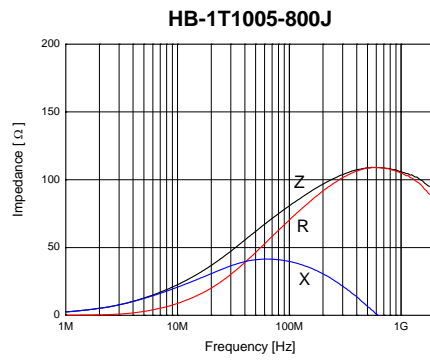
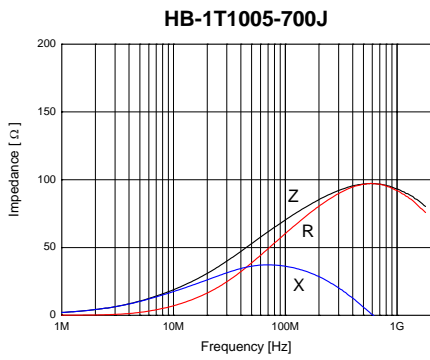
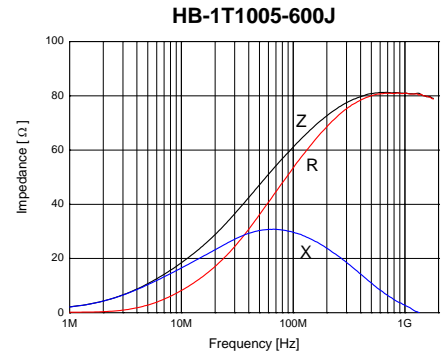
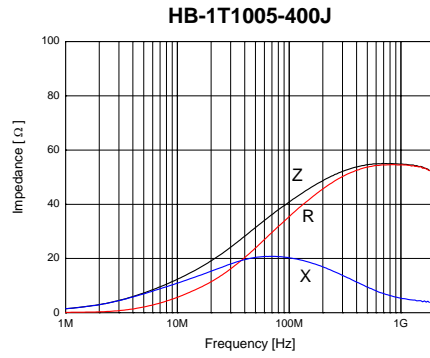
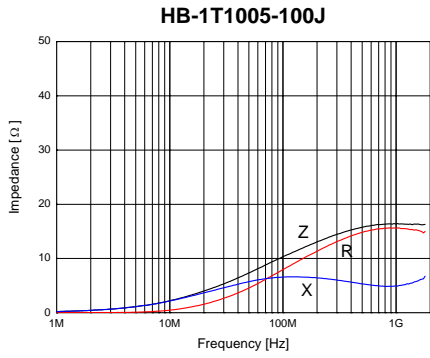
Electrical Characteristics

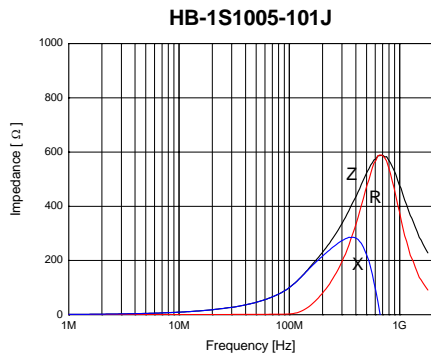
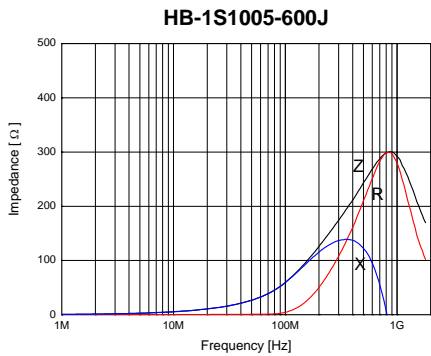
HB0603



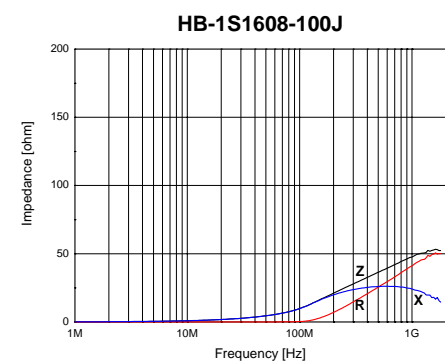
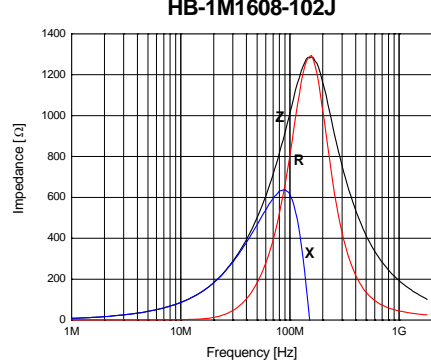
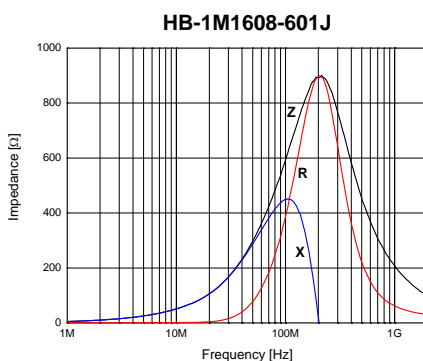
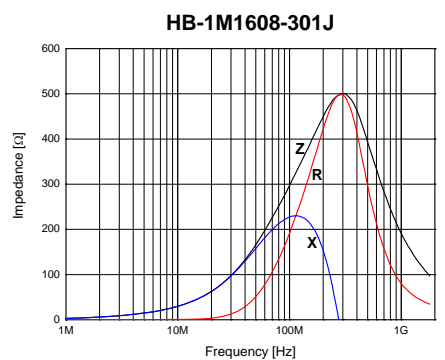
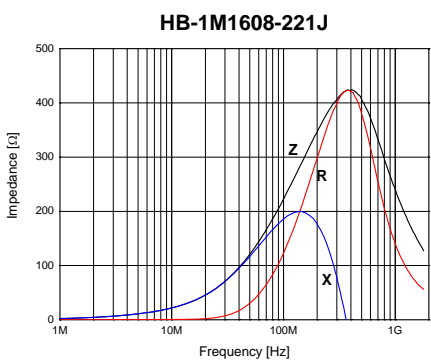
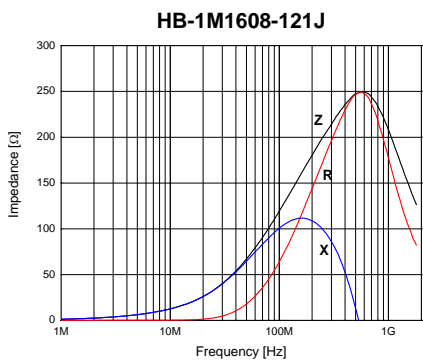
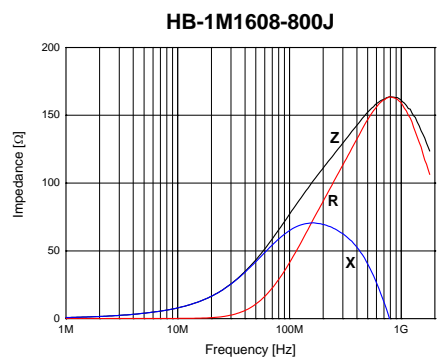
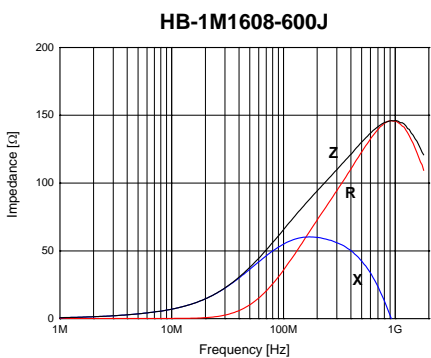
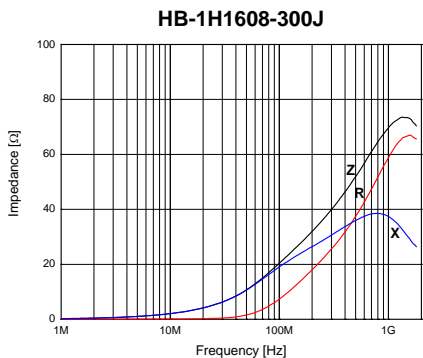
HB1005



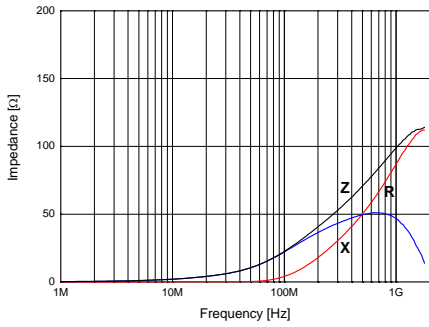




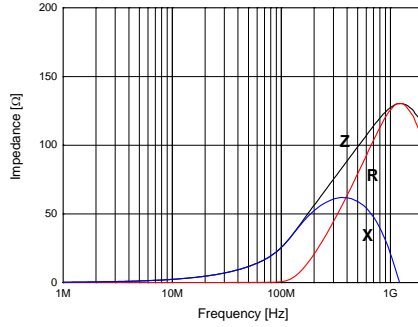
HB1608



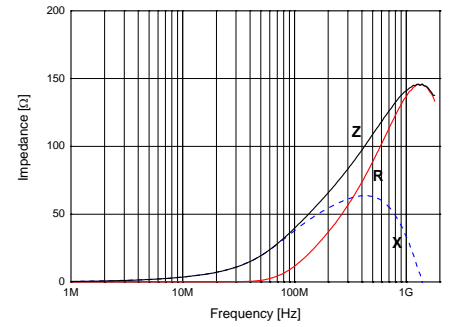
HB-1S1608-200J



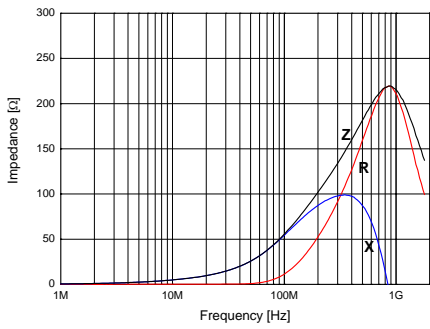
HB-1S1608-300J



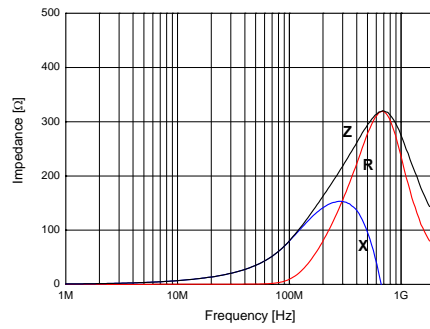
HB-1S1608-400J



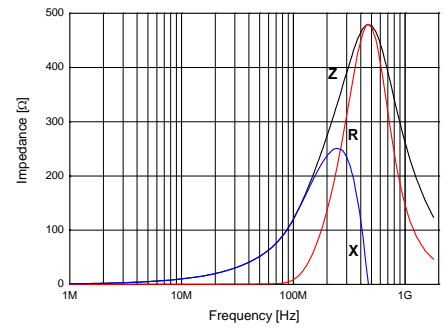
HB-1S1608-550J



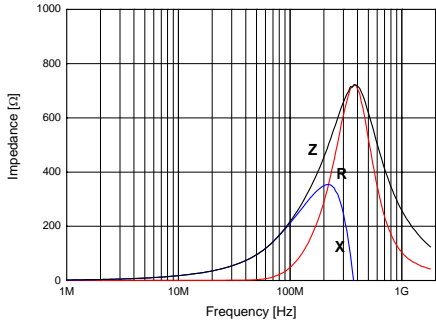
HB-1S1608-800J



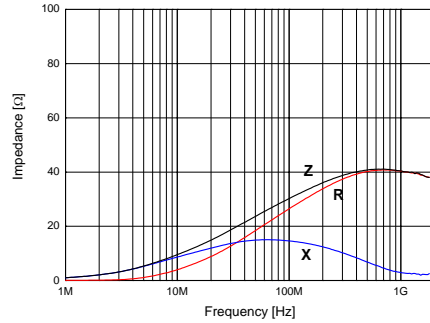
HB-1S1608-121J



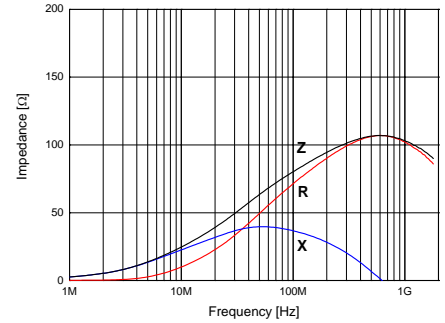
HB-1S1608-221J



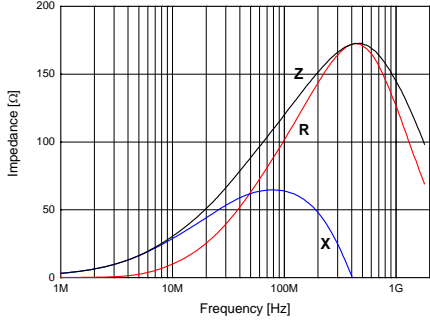
HB-1T1608-300J



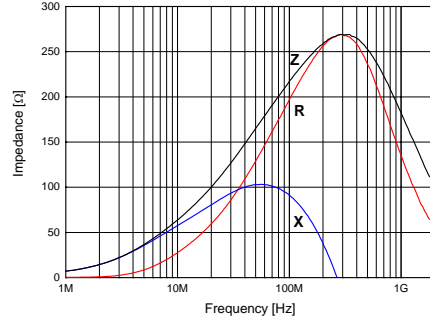
HB-1T1608-800J



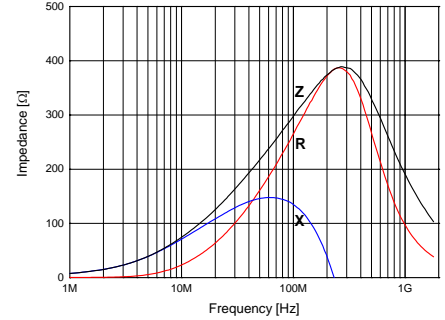
HB-1T1608-121J

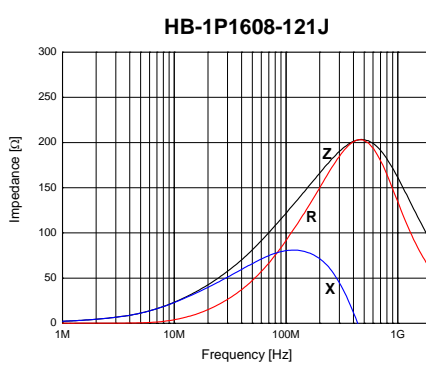
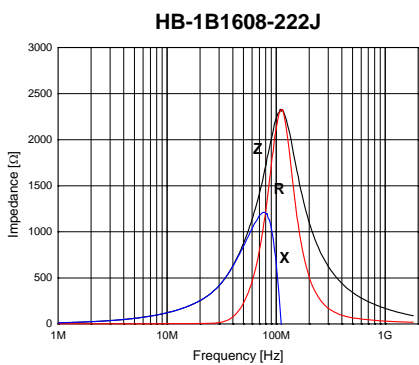
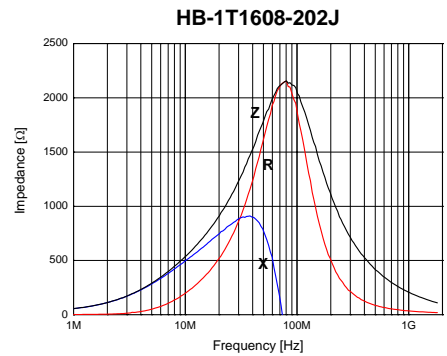
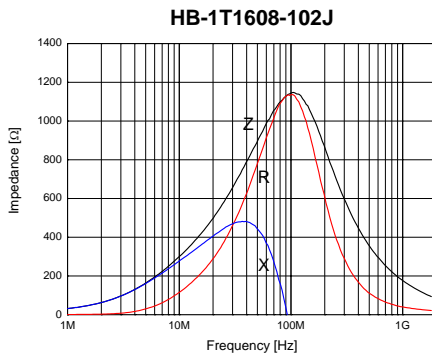
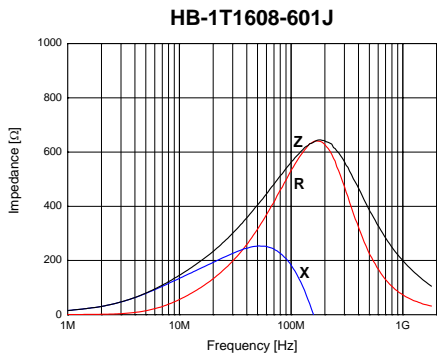


HB-1T1608-221J

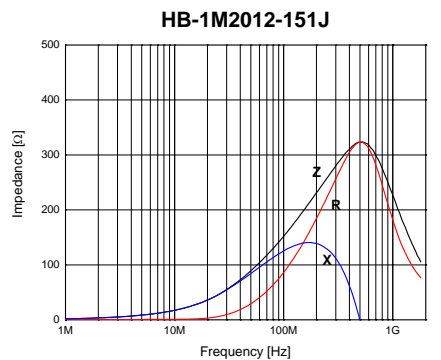
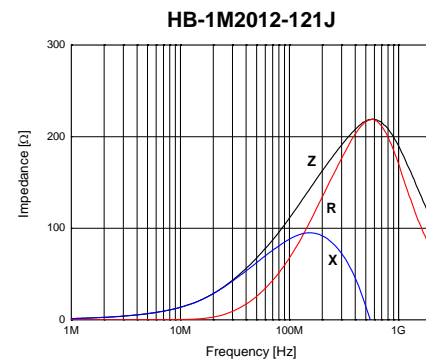
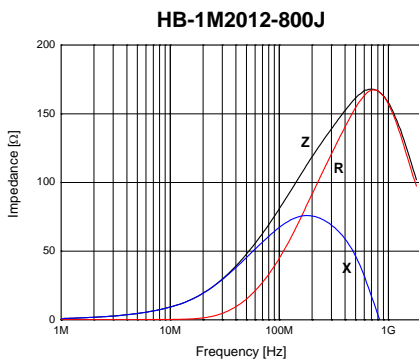
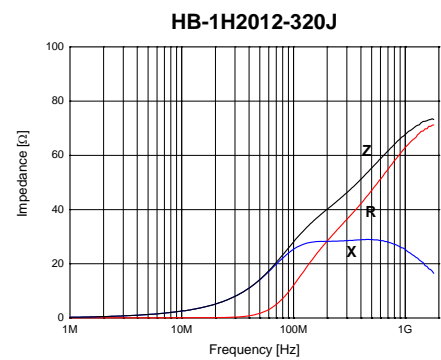
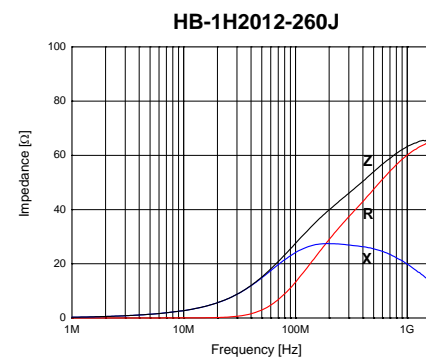
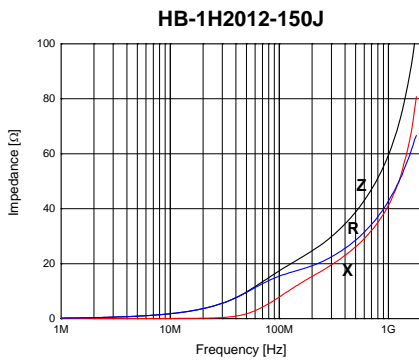


HB-1T1608-301J

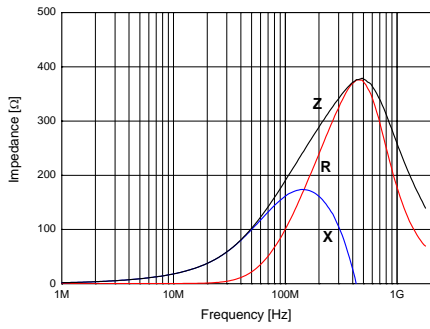




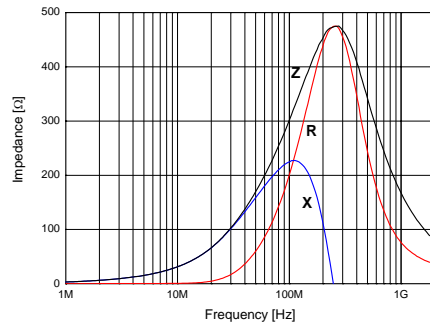
HB2012



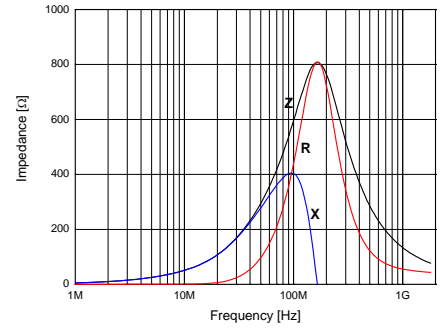
HB-1M2012-221J



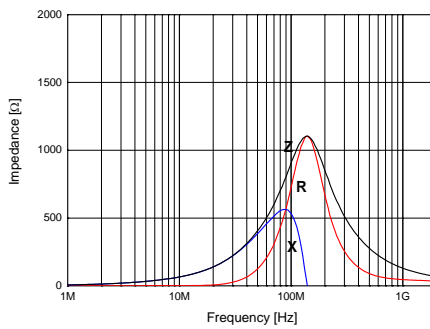
HB-1M2012-301J



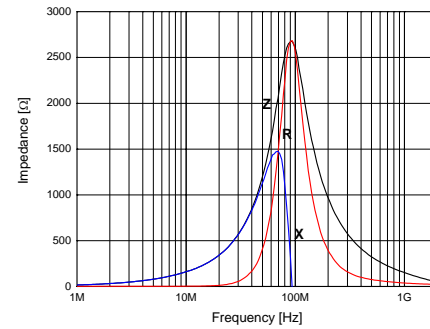
HB-1M2012-601J



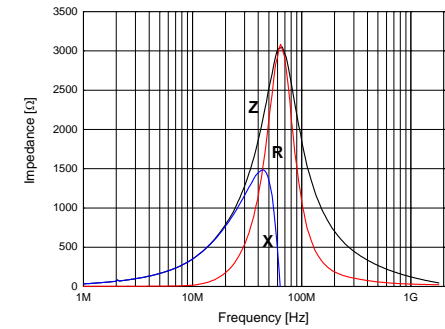
HB-1M2012-102J



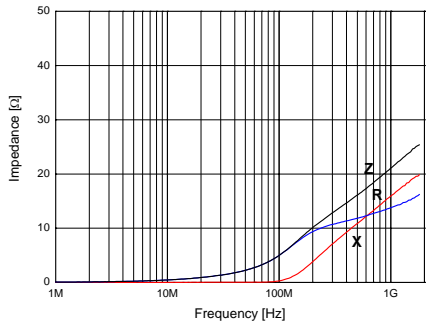
HB-1M2012-202J



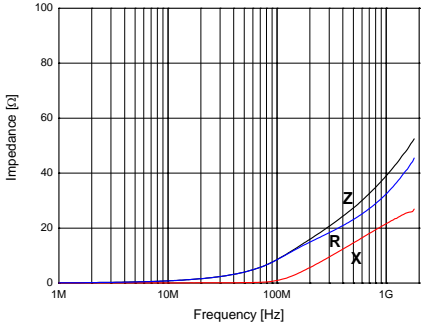
HB-1M2012-252J



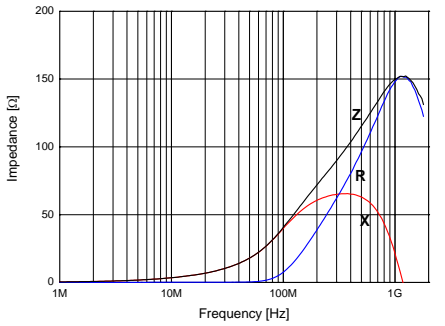
HB-1S2012-5R0J



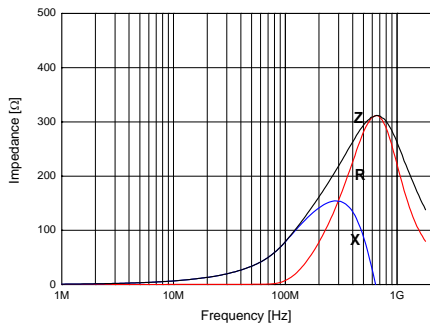
HB-1S2012-8R0J



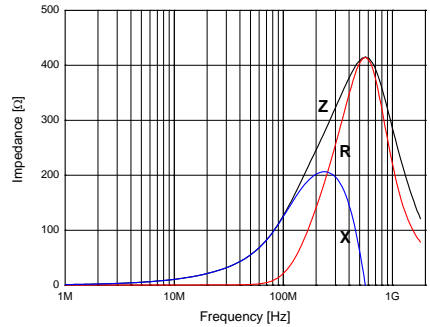
HB-1S2012-400J



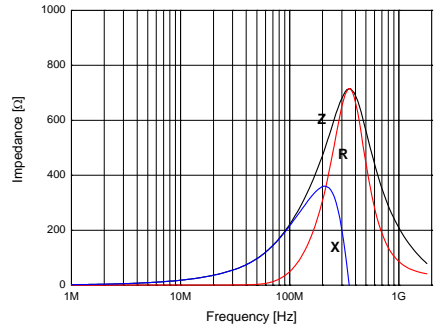
HB-1S2012-800J



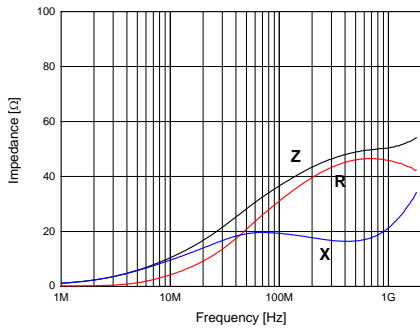
HB-1S2012-121J



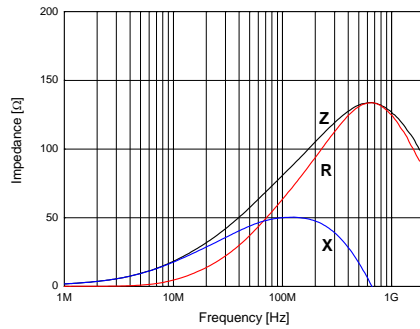
HB-1S2012-221J



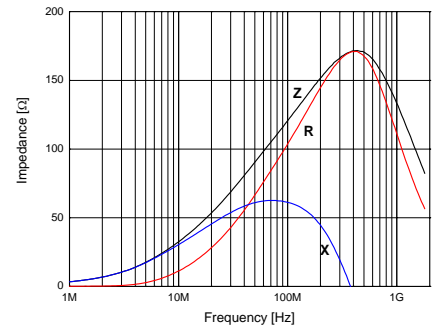
HB-1T2012-400J



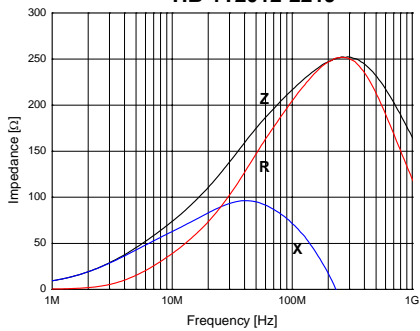
HB-1T2012-800J



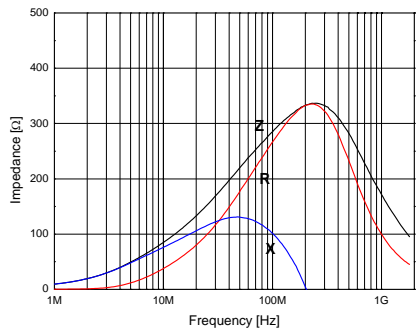
HB-1T2012-121J



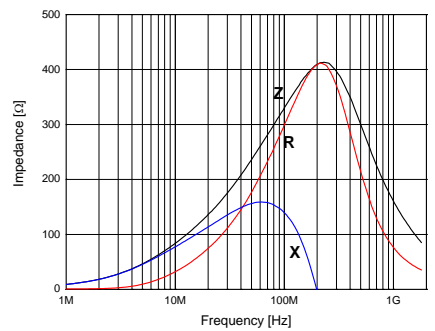
HB-1T2012-221J



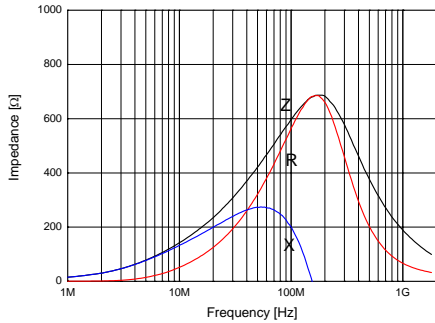
HB-1T2012-301J



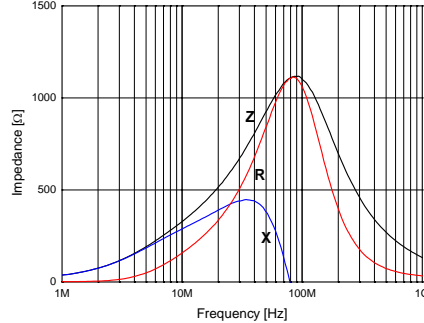
HB-1T2012-331J



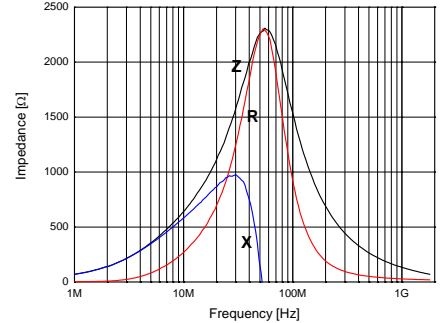
HB-1T2012-601J



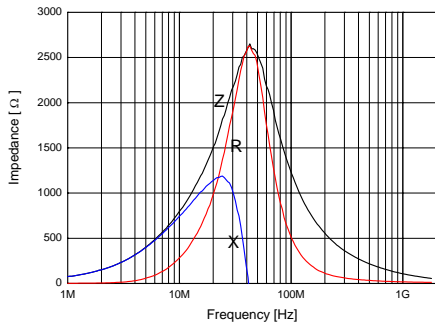
HB-1T2012-102J



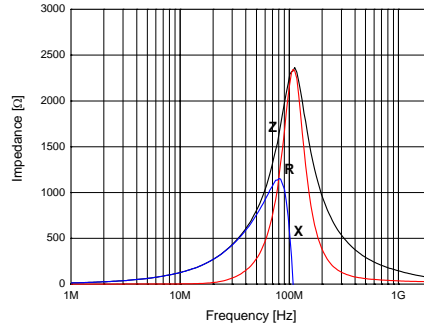
HB-1T2012-202J



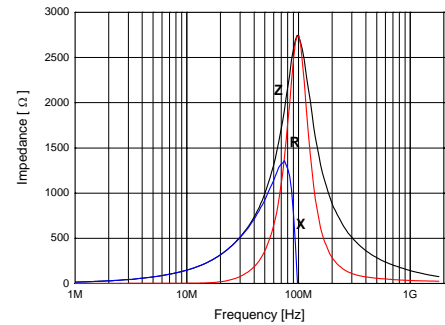
HB-1T2012-252J



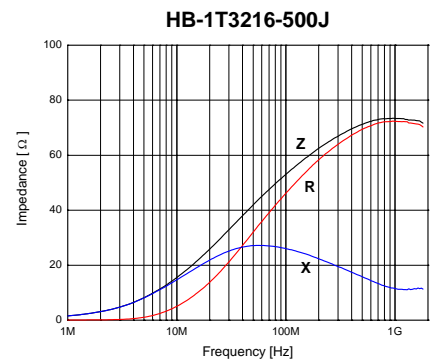
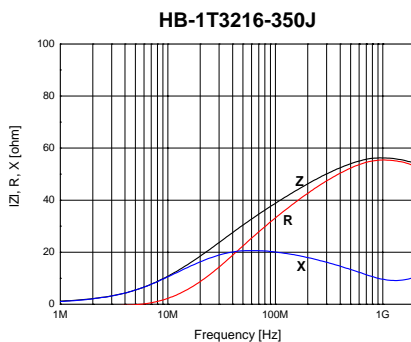
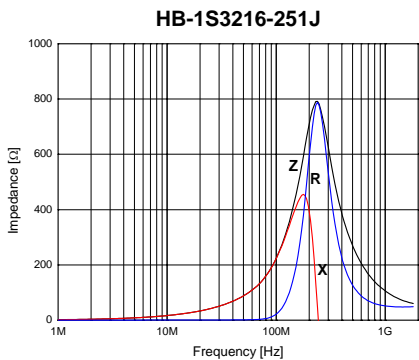
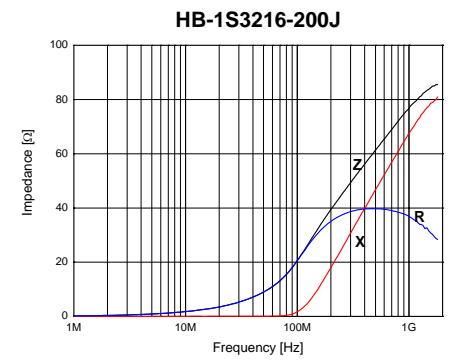
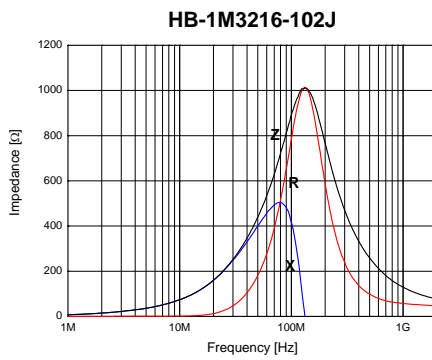
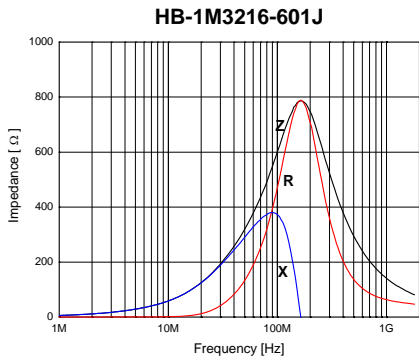
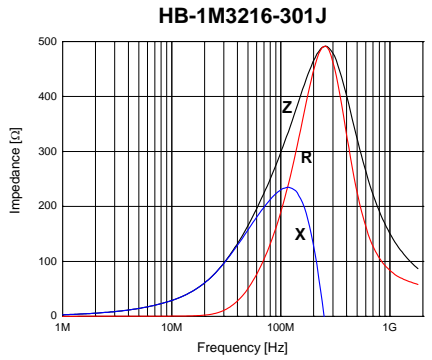
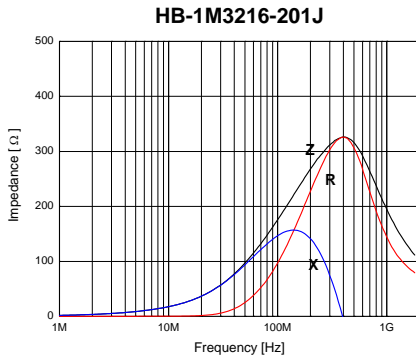
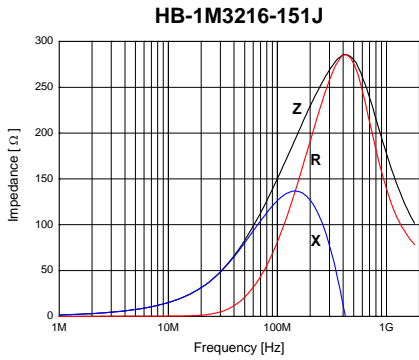
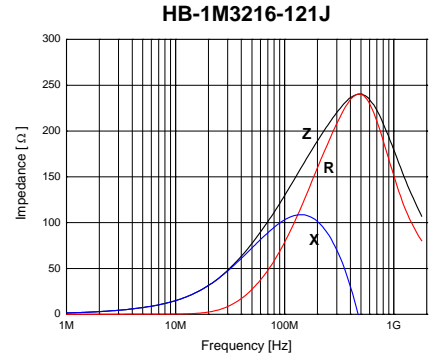
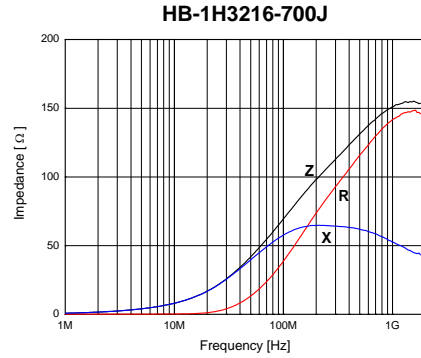
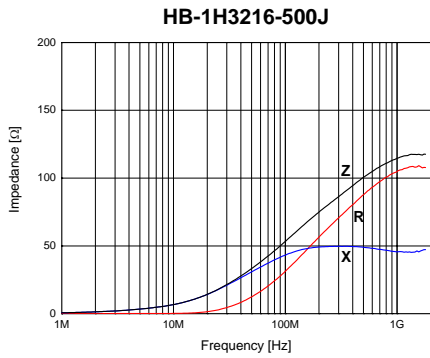
HB-1B2012-222J

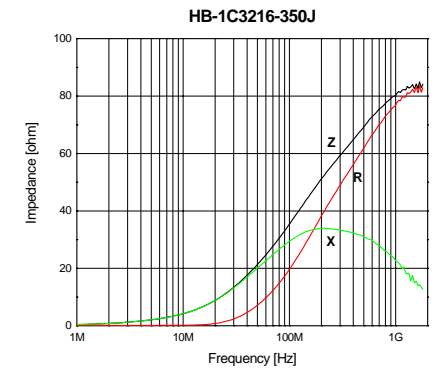
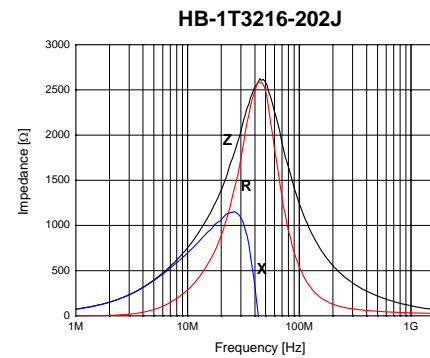
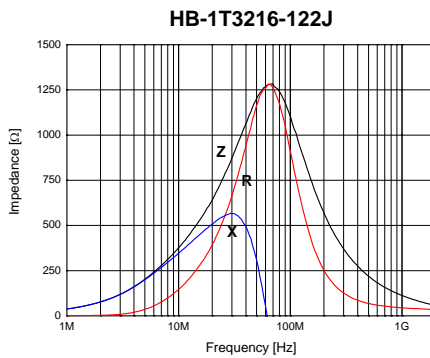
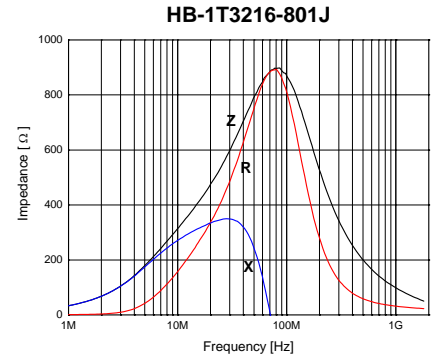
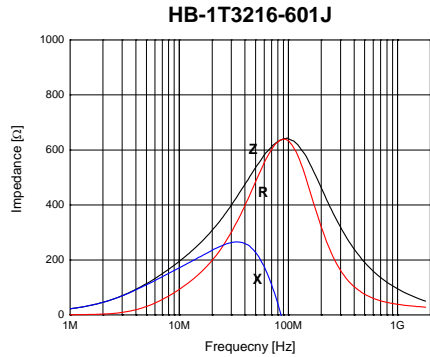
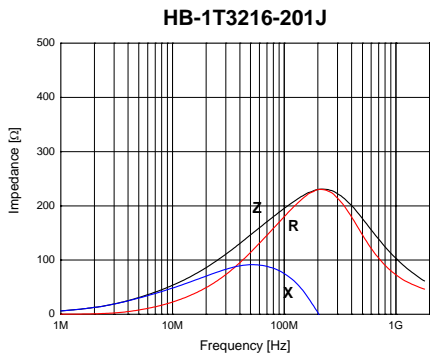
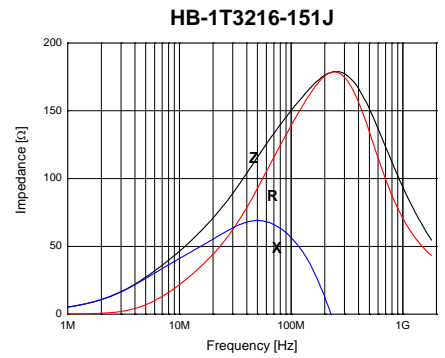
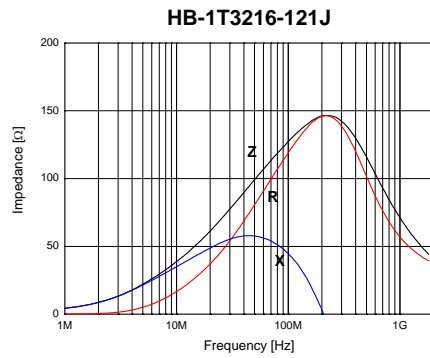
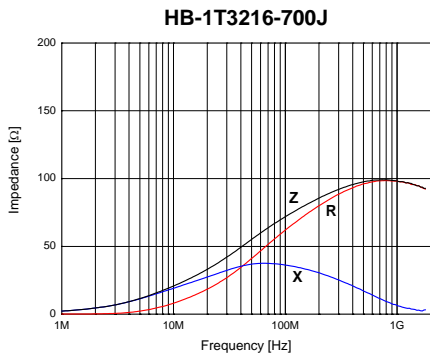


HB-1B2012-272J

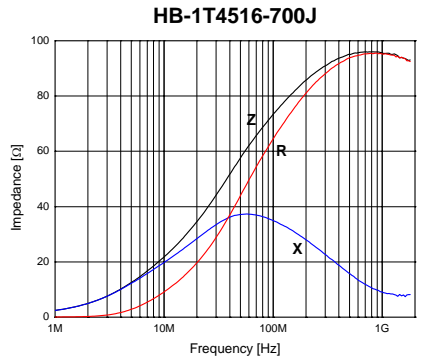
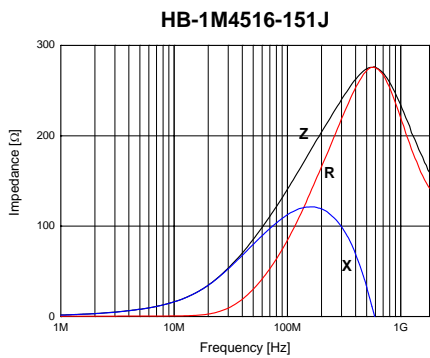


HB3216



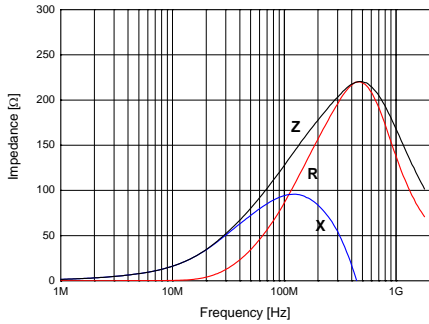


HB4516



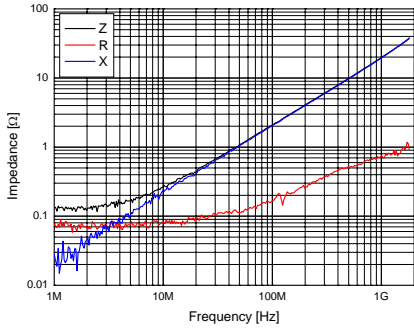
HB4532

HB-1H4532-121J

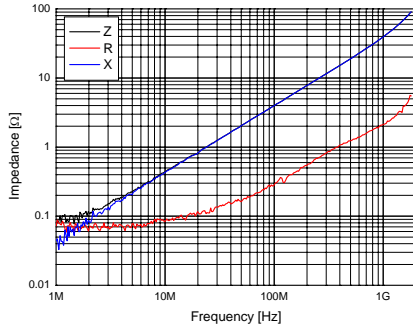


HB SERIES - L TYPE (For ultra high frequency signal line)

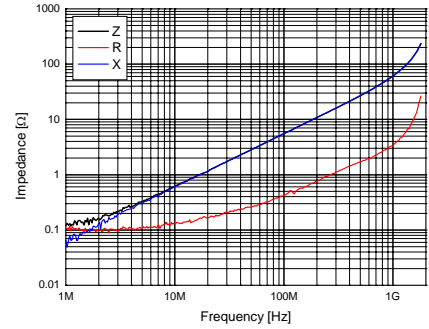
HB-1L1608-2R0J



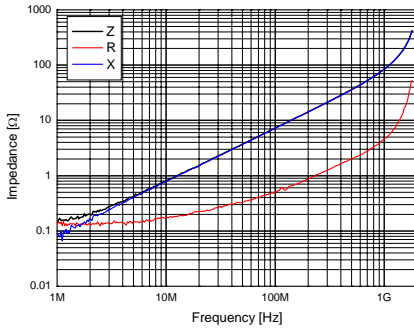
HB-1L1608-4R0J



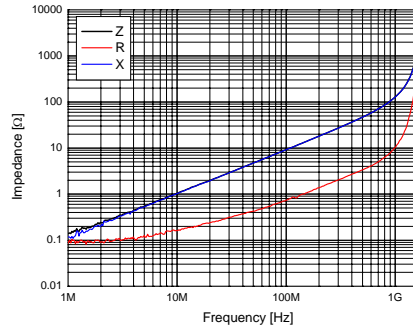
HB-1L1608-5R5J



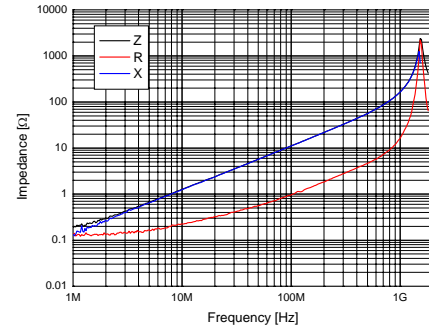
HB-1L1608-7R0J



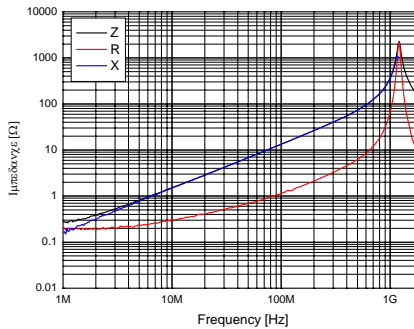
HB-1L1608-9R0J



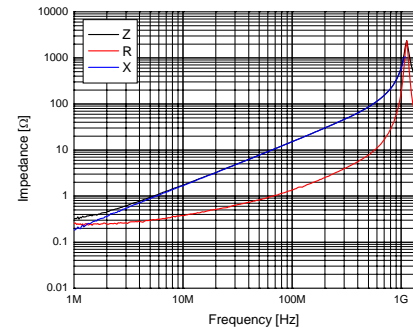
HB-1L1608-110J



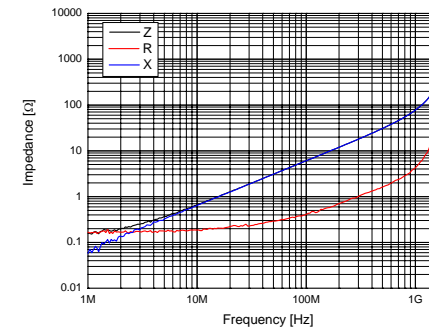
HB-1L1608-130J



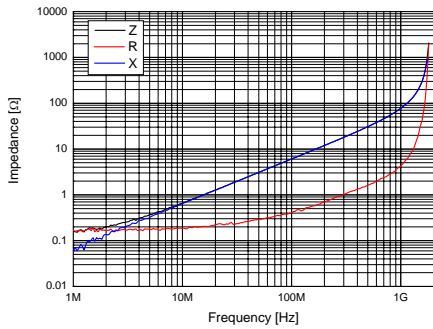
HB-1L1608-150J



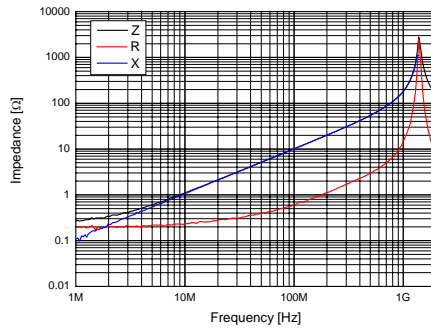
HB-1L2012-3R5J



HB-1L2012-6R5J

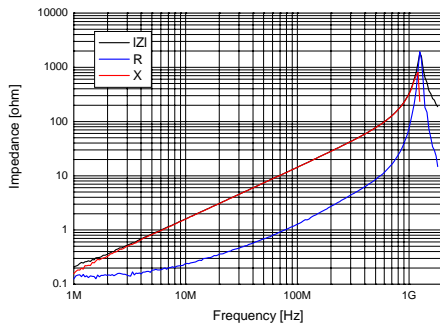


HB-1L2012-100J



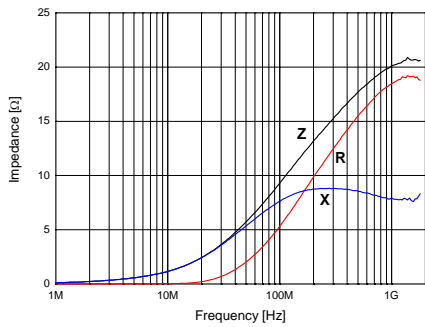
HB SERIES - Y TYPE (For ultra high frequency signal line)

HB-1Y1608-150J

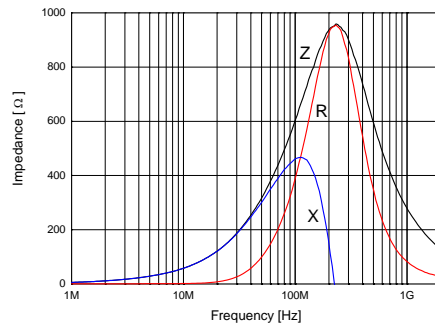


HH1005

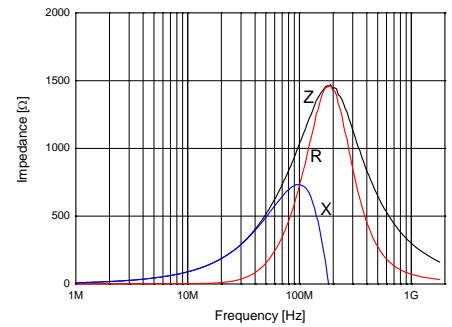
HH-1H1005-100J



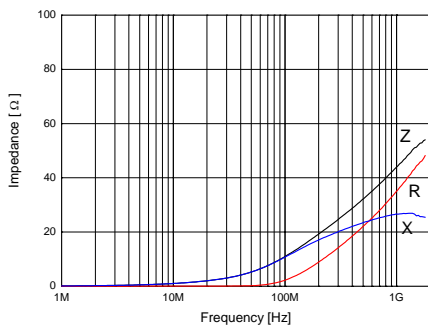
HH-1M1005-601J



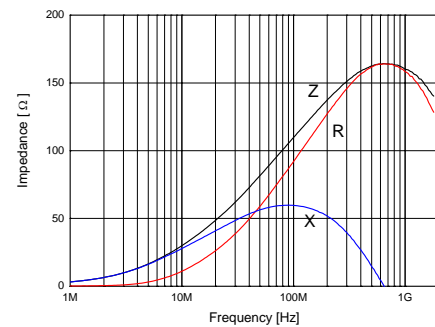
HH-1M1005-102J



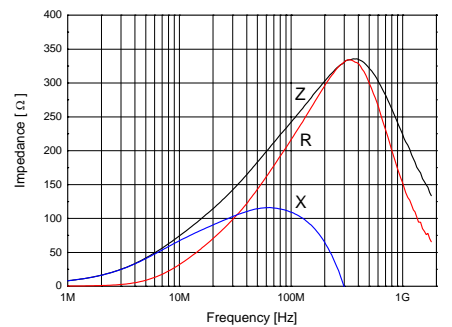
HH-1S1005-100J



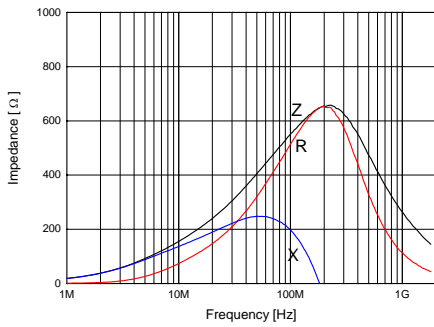
HH-1T1005-121J



HH-1T1005-241J

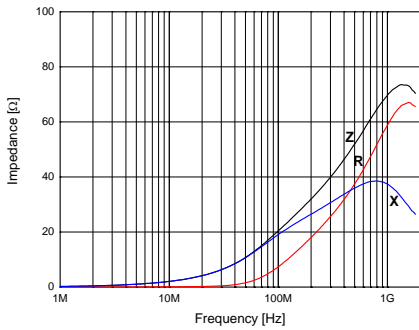


HH-1T1005-601J

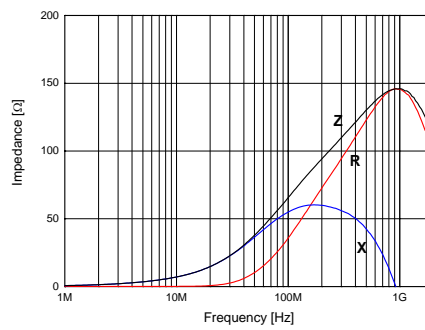


HH1608

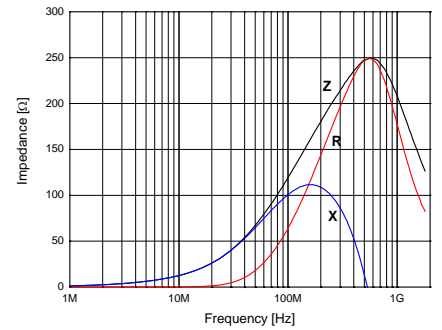
HH-1H1608-300J



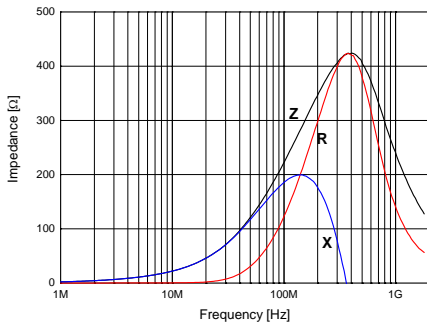
HH-1M1608-600J



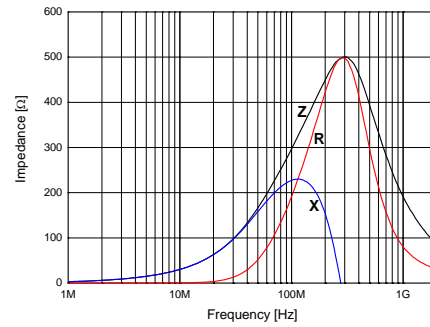
HH-1M1608-121J



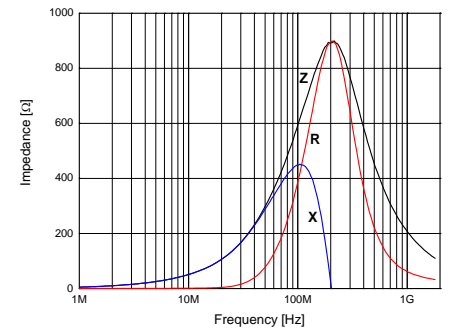
HH-1M1608-221J



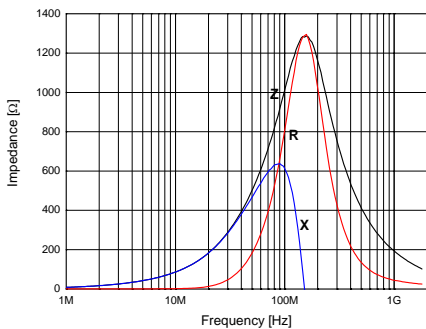
HH-1M1608-301J



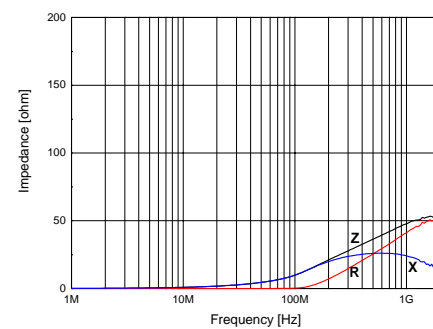
HH-1M1608-601J



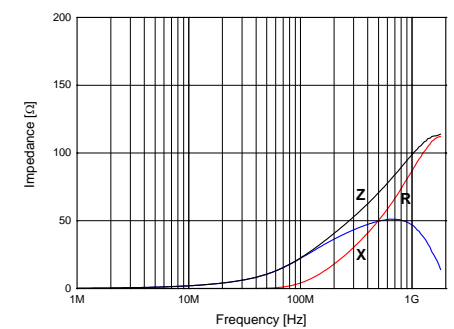
HH-1M1608-102J

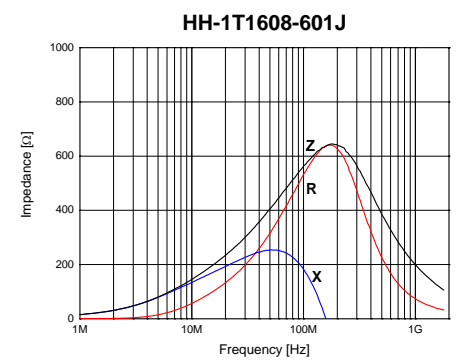
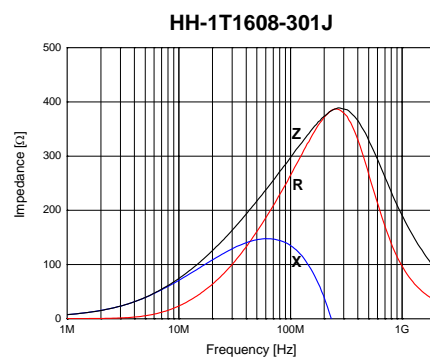
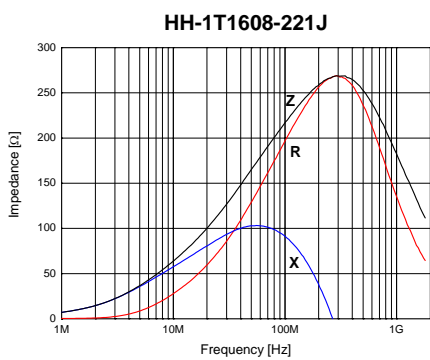
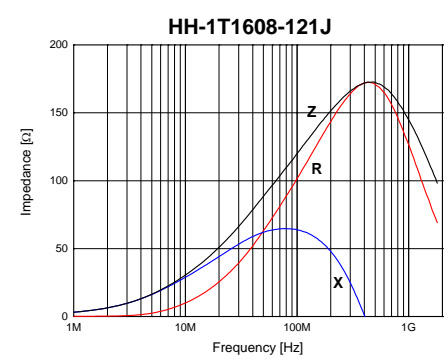
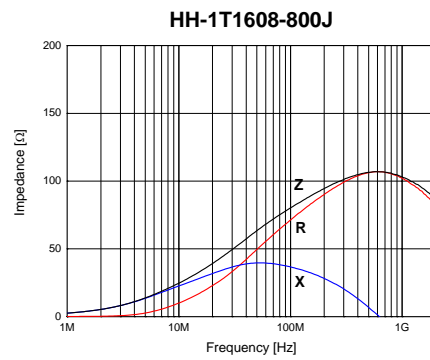
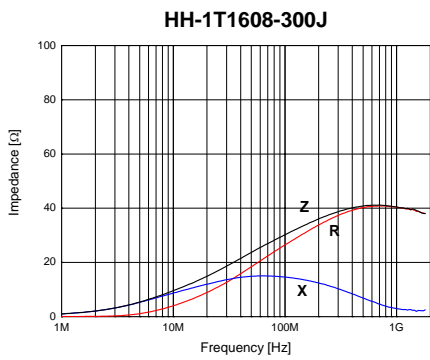
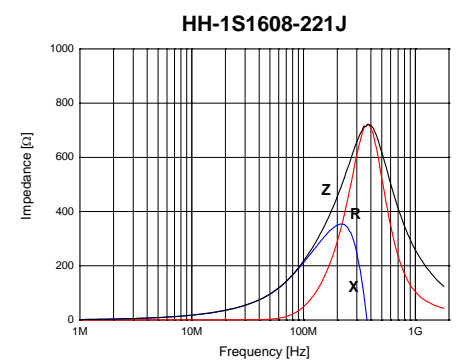
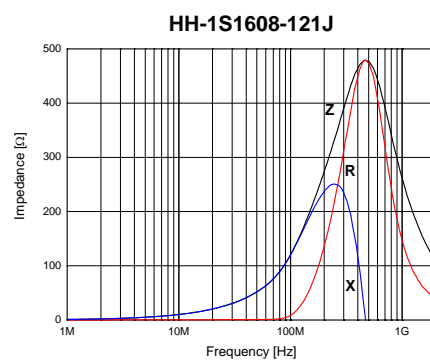
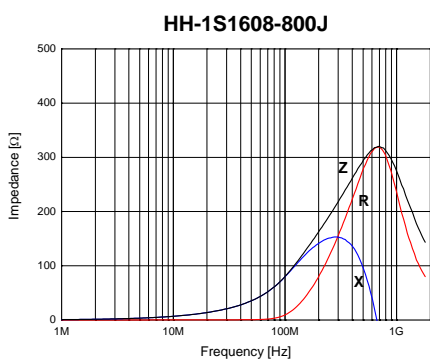
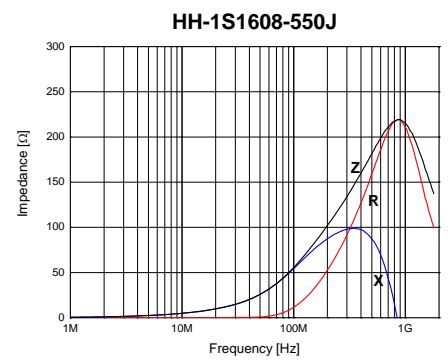
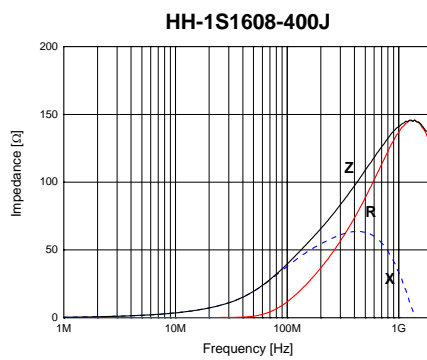
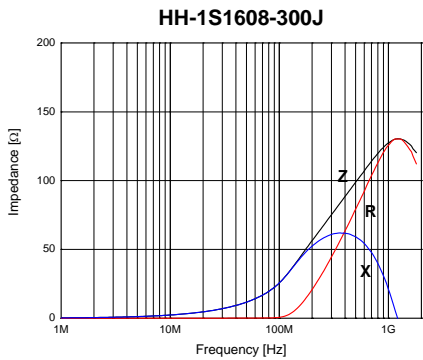


HH-1S1608-100J

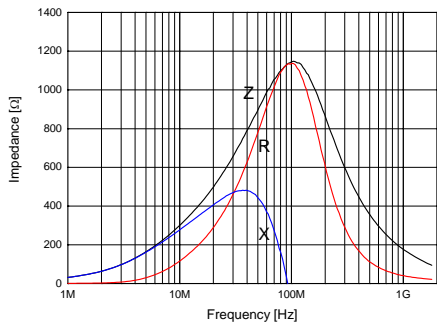


HH-1S1608-200J



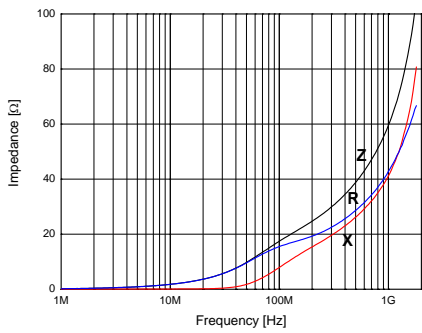


HH-1T1608-102J

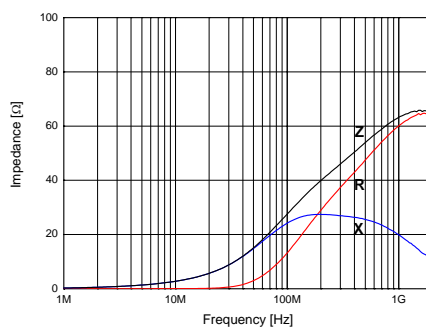


HH2012

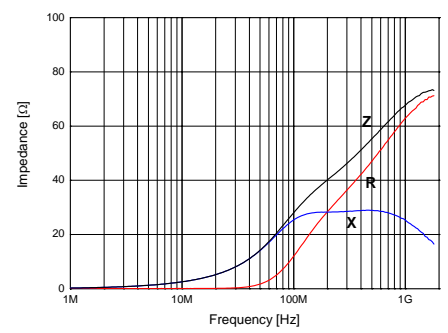
HH-1H2012-150J



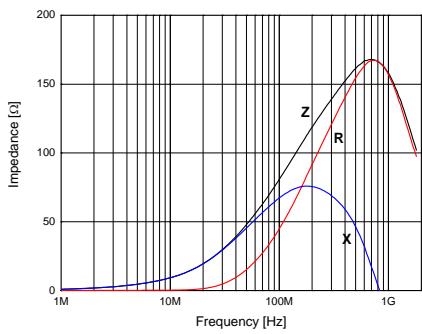
HH-1H2012-260J



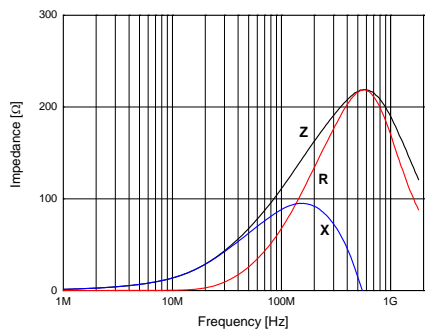
HH-1H2012-320J



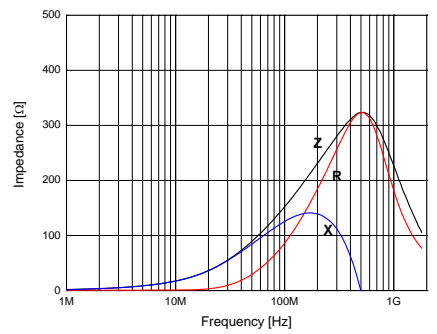
HH-1M2012-800J



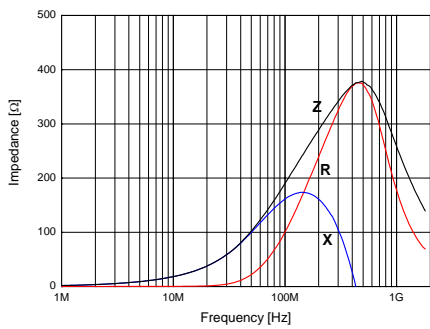
HH-1M2012-121J



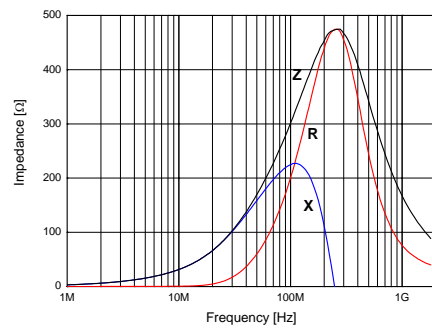
HH-1M2012-151J



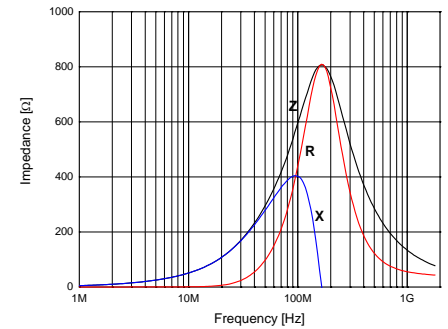
HH-1M2012-221J

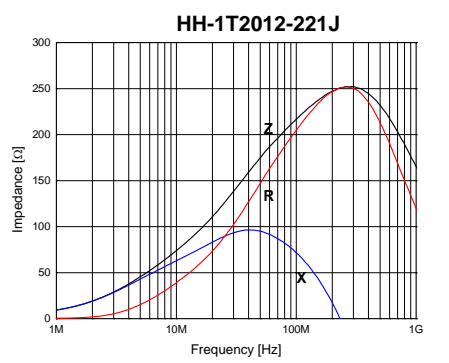
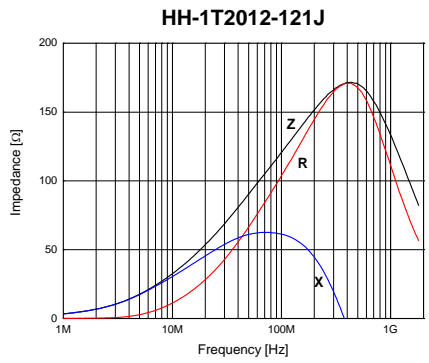
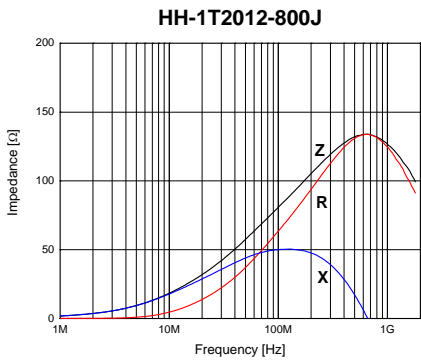
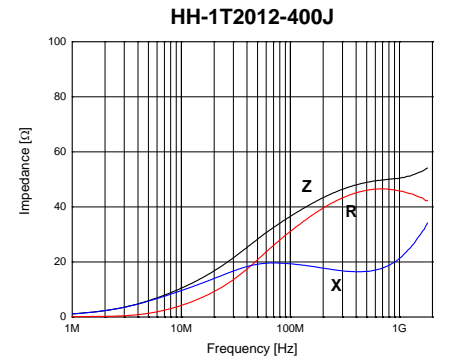
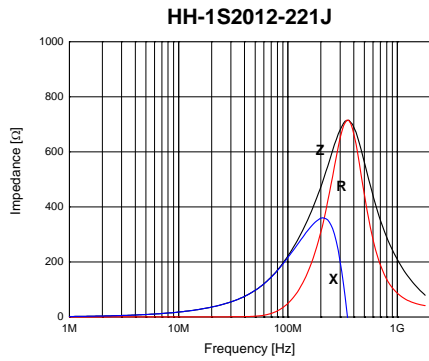
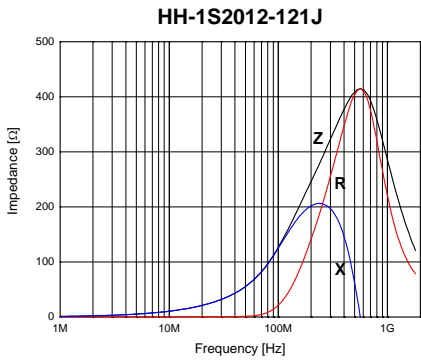
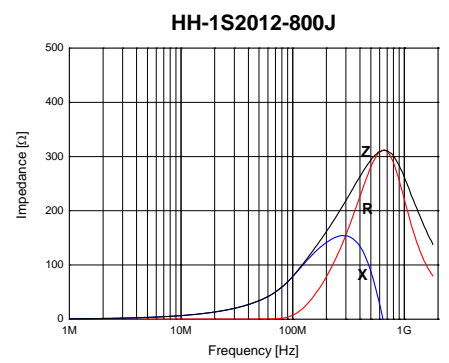
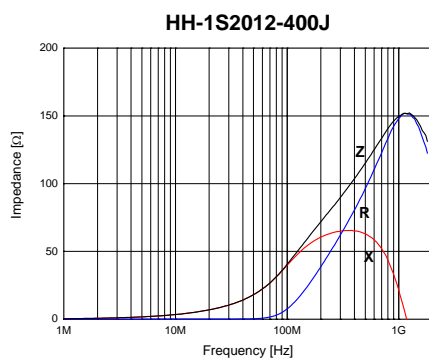
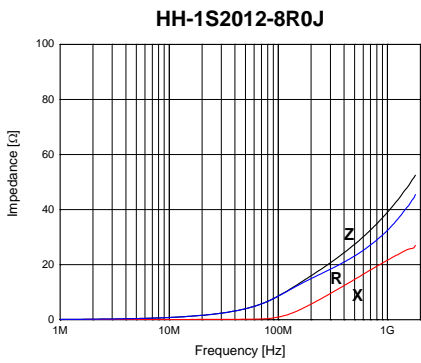
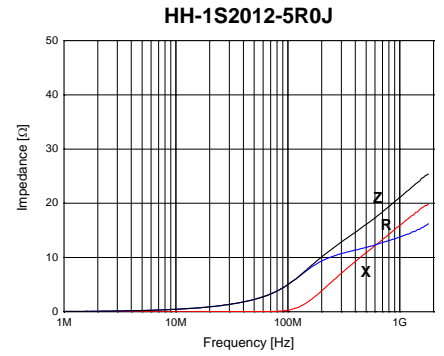
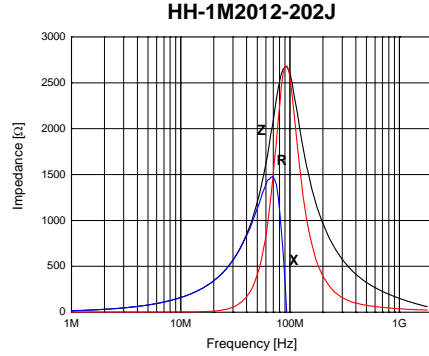
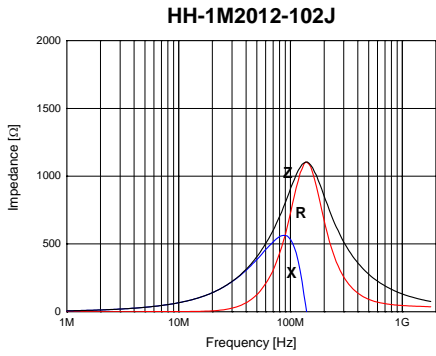


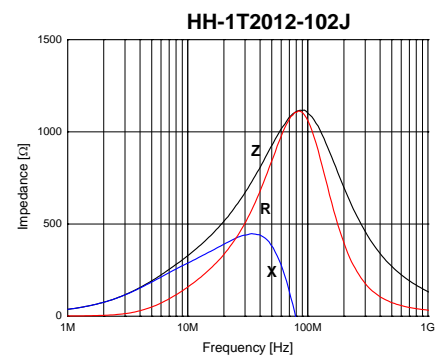
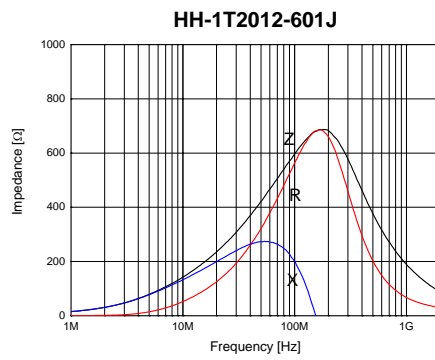
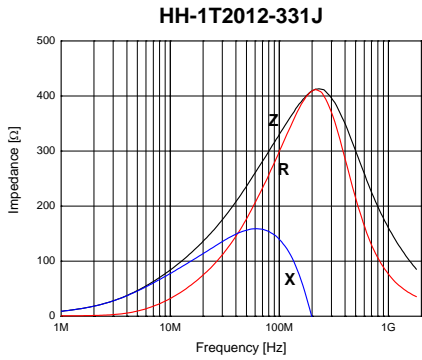
HH-1M2012-301J



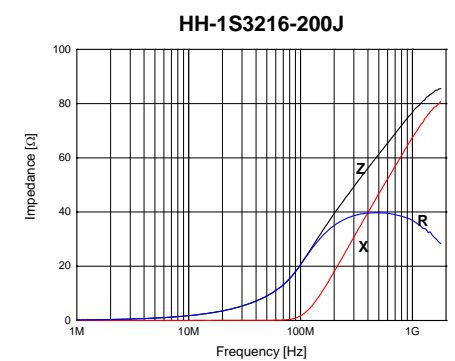
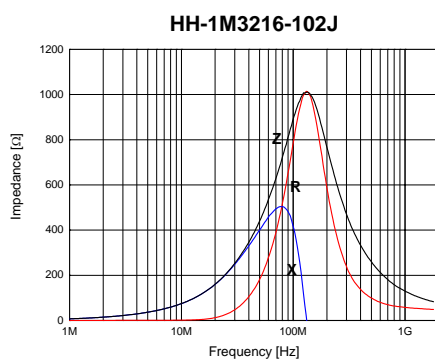
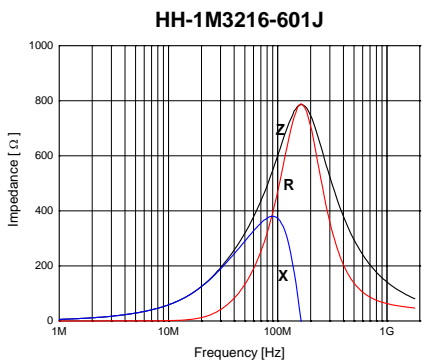
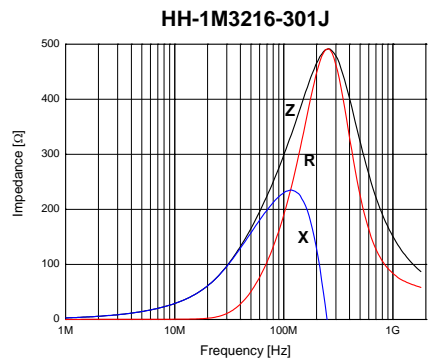
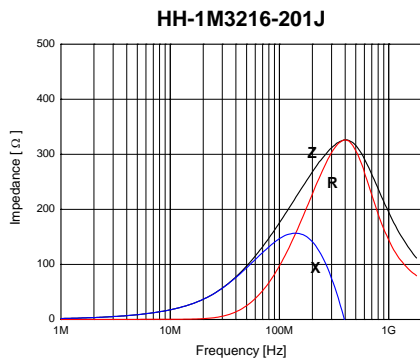
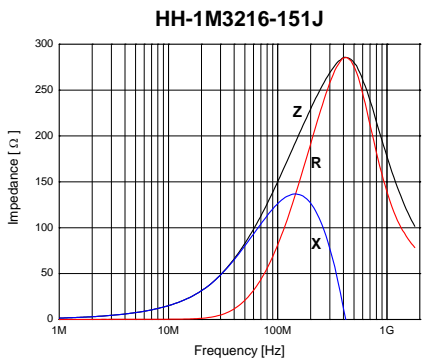
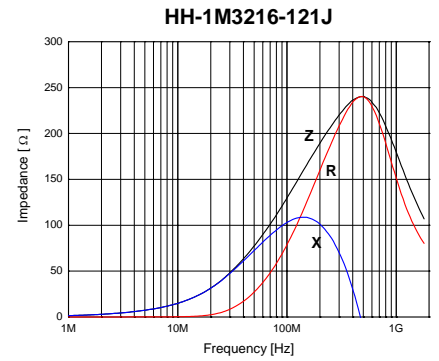
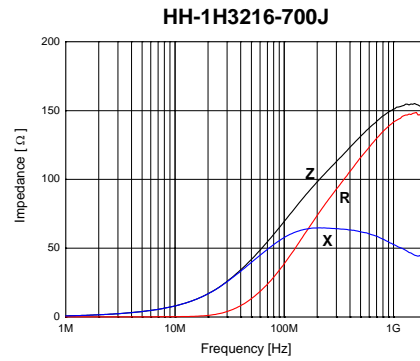
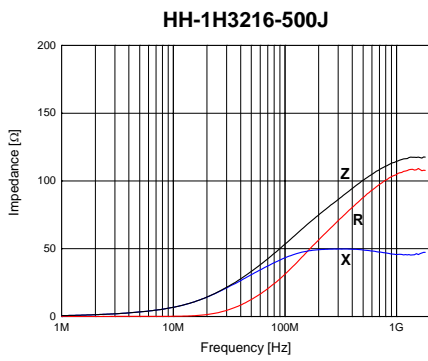
HH-1M2012-601J



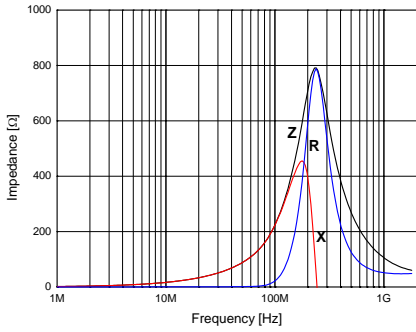




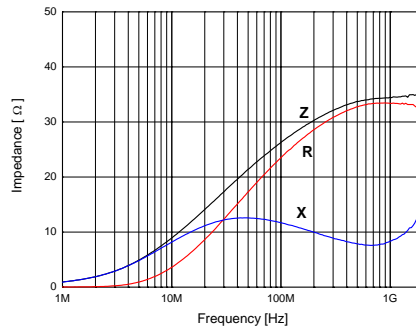
HH3216



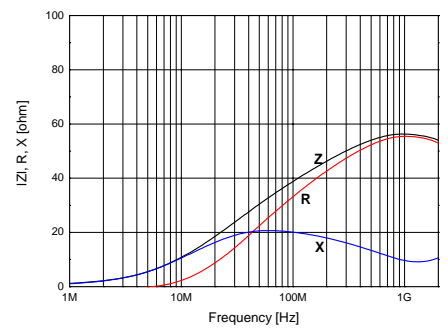
HH-1S3216-251J



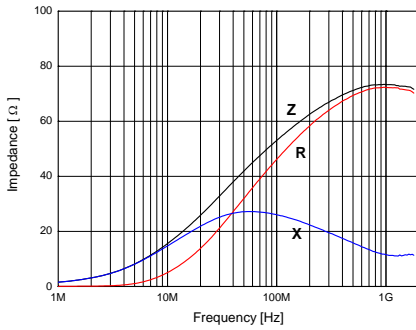
HH-1T3216-260J



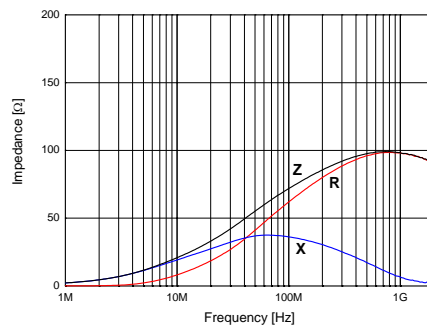
HH-1T3216-350J



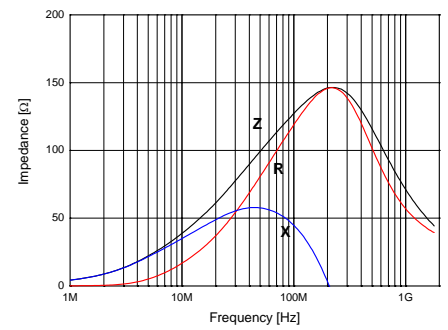
HH-1T3216-500J



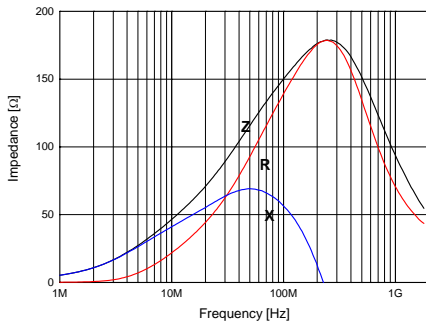
HH-1T3216-700J



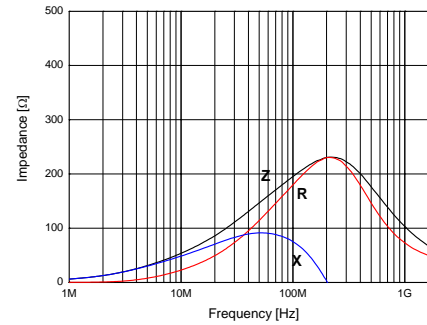
HH-1T3216-121J



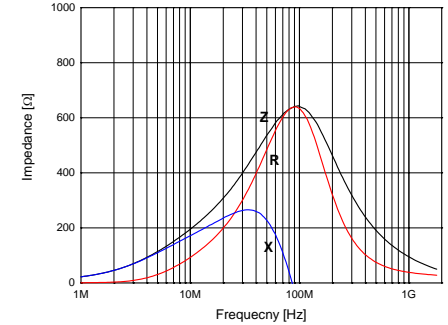
HH-1T3216-151J



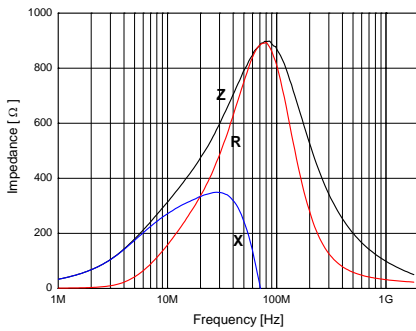
HH-1T3216-201J



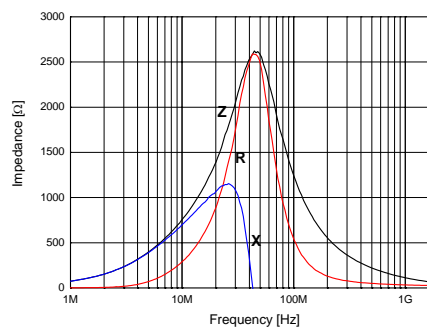
HH-1T3216-601J



HH-1T3216-801J

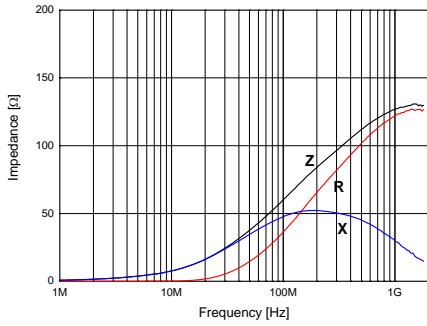


HH-1T3216-202J



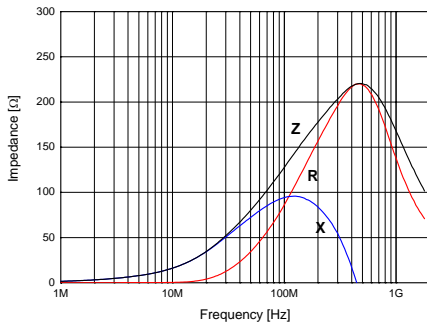
HH4516

HH-1H4516-600J

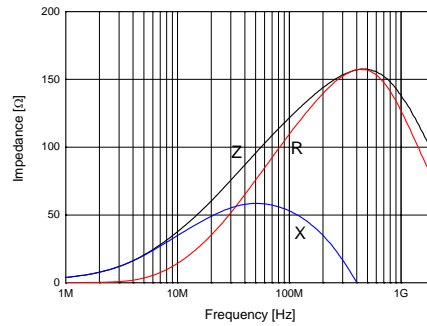


HH4532

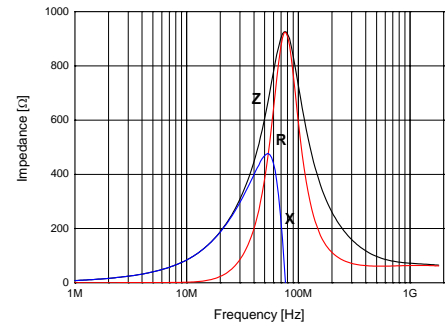
HH-1H4532-121J



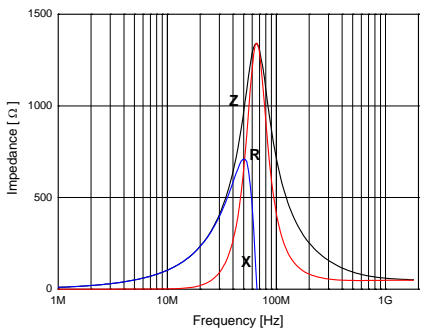
HH-1T4532-121J



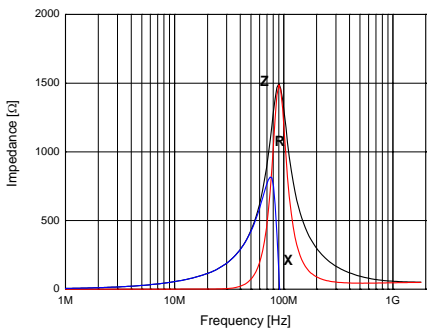
HH-1M4532-601J



HH-1M4532-132J

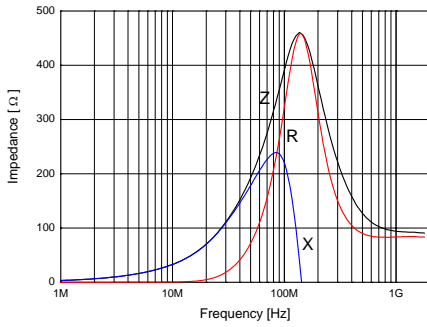


HH-1B4532-132J

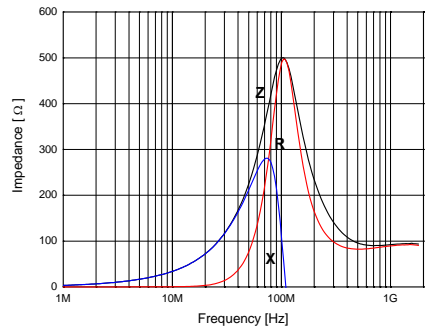


HH5750

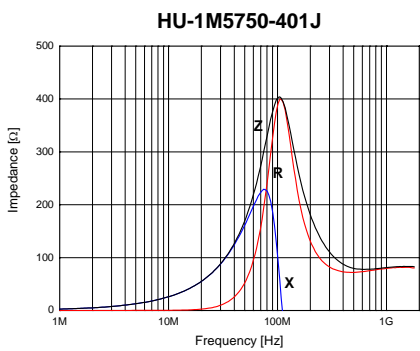
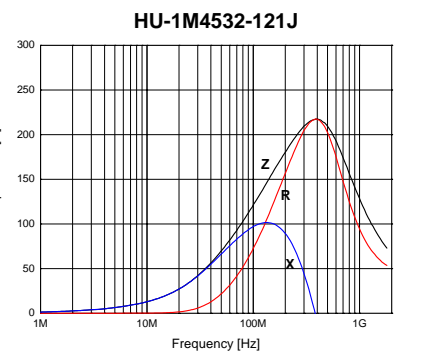
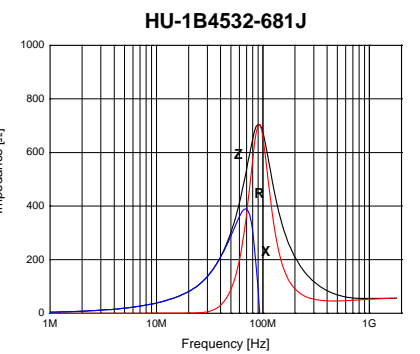
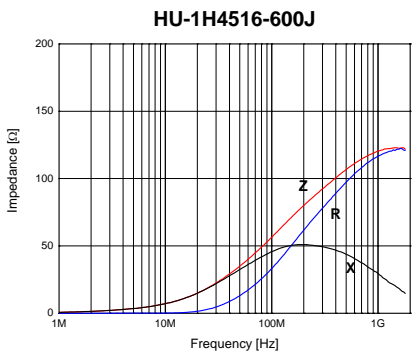
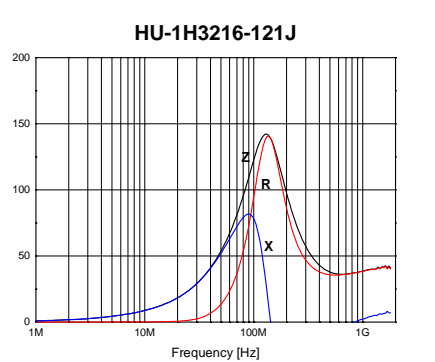
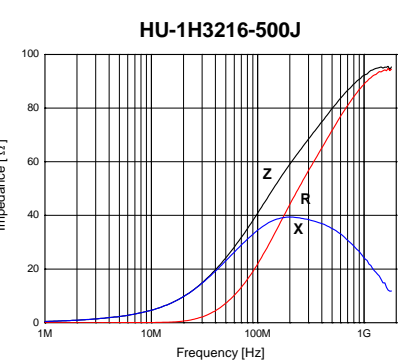
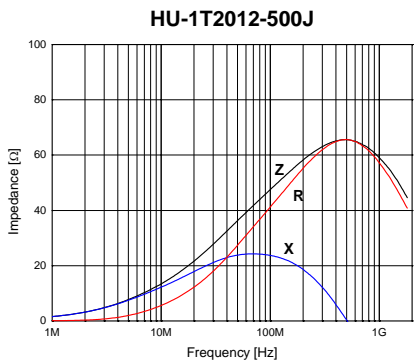
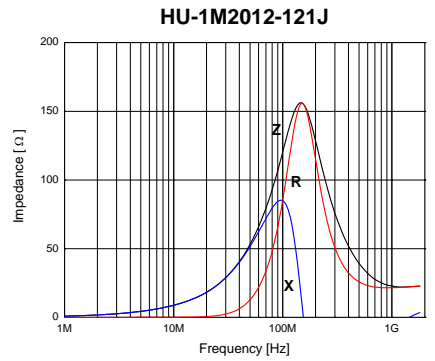
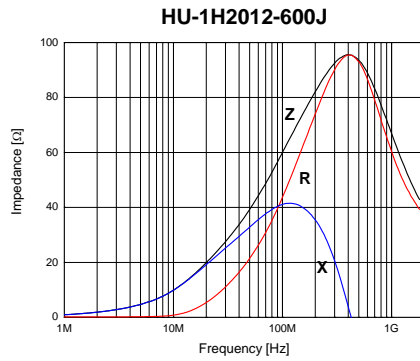
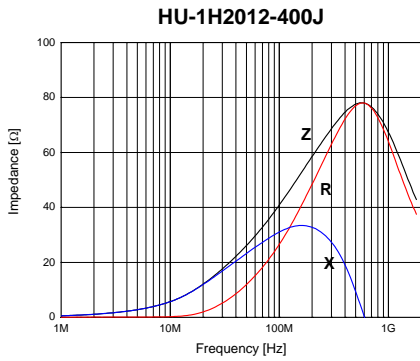
HH-1M5750-401J



HH-1M5750-501J

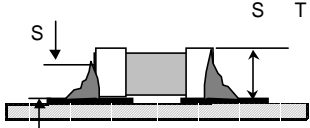
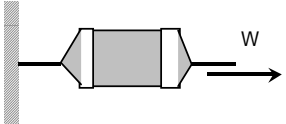
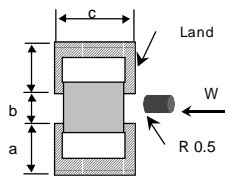
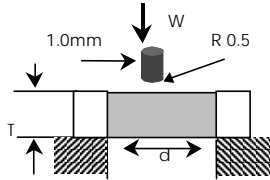


HU SERIES (For ultra high current 6A)



RELIABILITY AND TEST CONDITIONS

CHIP FERRITE BEADS

ITEM	REQUIREMENTS							TEST CONDITION
	1005	1608	2012	3216	4516	4532	5750	
Operating temp. range	-55 ~+125							-
Storage temp. & humidity range	40 max. , 70% RH max.							at packing condition
Resistance to solder heat	1.No damage such as cracks should be caused in chip element. 2.More than 75% of the terminal electrode shall be covered with new solder. 3.Impedance change : \pm within 30%							Preheat temperature : 100 to 150 Preheat time : 1min Solder temperature : 260 \pm 10 Dipping time : 10 \pm 0.5sec.
Solderability	1.More than 90% of the terminal electrode shall be covered with new solder. 2.Impedance change : \pm within 30%							Preheat temperature : 100 to 150 Preheat time : 1min Solder temperature : 230 \pm 10 Dipping time : 3 \pm 1sec.
Reflow soldering	1.More than 50% of the terminal electrode shall be covered with new solder. <div style="text-align: center;">  </div>							Preheat temperature : 150 Preheat time : 1min Solder temperature : 230 \pm 10 Soldering time : 10 sec. Max. (Reflow soldering profile)
Tensile strength (Terminal strength)	1.No mechanical damage <div style="text-align: right;">Unit : Kgf(W)</div>							
	W	-	1.0	2.0	2.5	2.5	3.0	3.0
Adhesion of Terminal electrode (Flexure strength)	1.No mechanical damage <div style="text-align: right;">Unit : mm (a,b,c), Kgf(W)</div>							
	a	0.7	1.0	1.0	1.3	1.5	1.5	1.8
	b	0.5	0.8	1.0	1.5	3.6	3.6	4.6
	c	0.7	1.3	1.3	3.0	3.0	3.8	5.8
	d	0.7	2.0	4.0	5.0	5.0	5.0	5.0
Body strength (Bending strength)	1.The body shall not be damaged by forces applied on the right. <div style="text-align: right;">Unit : mm (d), Kgf(W)</div>							
	d	-	1.3	1.3	2.0	3.0	3.8	4.8
	W	-	2.0	3.0	4.0	4.0	5.0	5.0

CHIP FERRITE BEADS

ITEM	REQUIREMENTS							TEST CONDITION
	1005	1608	2012	3216	4516	4532	5750	
Drop	1.No mechanical damae 2.Impedance change : \pm within 30%							Drop 10 times on a concrete Floor from a height of 91cm
Vibration	1.No mechanical damae 2.Impedance change : \pm within 30%							Frequency : 10-55-10Hz Amplitude : 1.52mm Direction and time : X,Y,Z directions for 2 hours
Thermal shock (Temperature cycle)	1.No mechanical damae 2.Impedance change : \pm within 30%							Step1. -40 \pm 3 30 \pm 3min. Step2. 85 \pm 3 30 \pm 3min. Number of cycle : 100 times
Heat load resistance	1.No mechanical damae 2.Impedance change : \pm within 30%							Temperature : 85 \pm 2 Applied current : rated current Time : 1,000 hours Measured at room ambient temperature after placing for 24 hours
Low temp. resistance	1.No mechanical damae 2.Impedance change : \pm within 30%							Temperature : -40 \pm 5 Time : 1,000 hours Measured at room ambient temperature after placing for 24 hours
Humidity resistance	1.No mechanical damae 2.Impedance change : \pm within 30%							Temperature : 40 \pm 2 Humidity : 90-95% RH Time : 500 hours Measured at room ambient temperature after placing for 24 hours
Humidity load resistance	1.No mechanical damae 2.Impedance change : \pm within 30%							Temperature : 40 \pm 2 Humidity : 90-95% RH Applied current : rated current Time : 500 hours Measured at room ambient temperature after placing for 24 hours

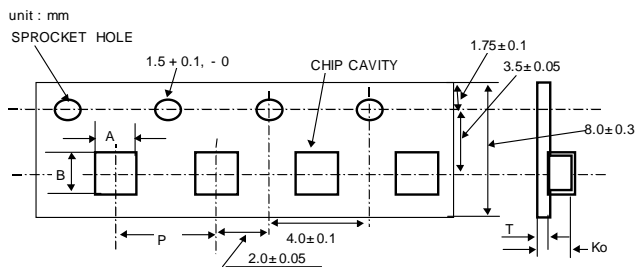
PACKING

1. Label
 - 1) Part name.
 - 2) Lot No.
 - 3) Quantity.
 - 4) Manufacturer.

2. Standard quantity for packing

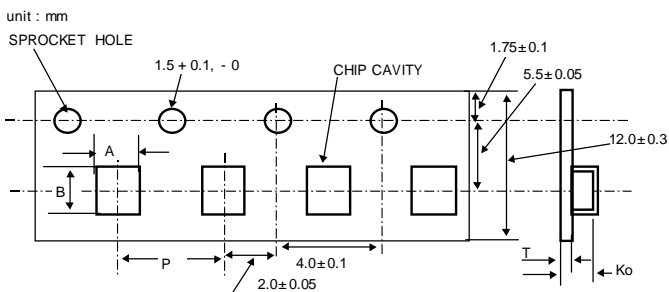
Type(EIA)	Packing	Tape & reel			PCS
		Reel	Inner box	Carton box	Vinyl or Cassette
1005		50,000	500,000	2,000,000	As wanted
		10,000	100,000	400,000	
1608		8,000	80,000	320,000	
		4,000	40,000	160,000	
2012		3,000	30,000	120,000	
3216		3,000	30,000	120,000	
		7,000	70,000	280,000	
4516		3,000	21,000	84,000	
4532		1,500	10,500	42,000	
5750		1,000	7,000	28,000	

TAPE DIMENSION/ Embossing 8mm



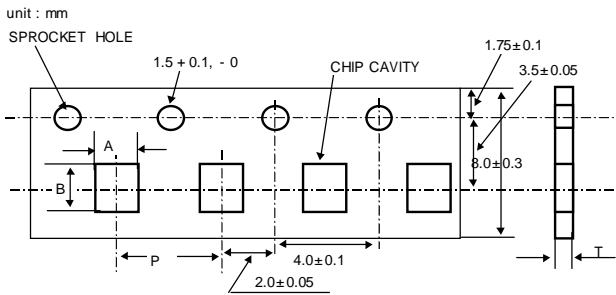
Type	A ± 0.1	B ± 0.1	P ± 0.1	K ₀ ± 0.1	T (max.)
1608	1.00	1.80	4.0	0.95	0.3
2012	1.45	2.25	4.0	1.00	0.3
2012	1.45	2.25	4.0	1.35	0.3
3216	1.90	3.60	4.0	1.00	0.3
3216	1.90	3.60	4.0	1.35	0.3

TAPE DIMENSION/ Embossing 12mm



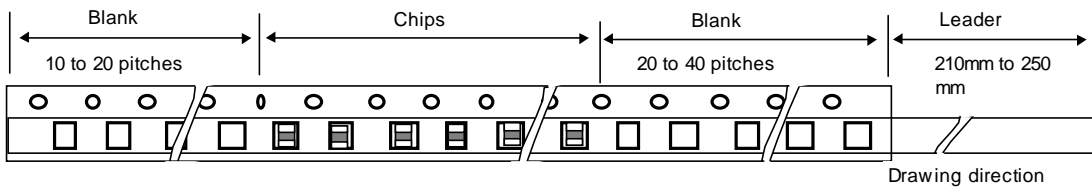
Type	A ± 0.1	B ± 0.1	P ± 0.1	K ₀ ± 0.1	T (max.)
4516	1.90	4.90	4.0	1.00	0.3
4516	1.90	4.90	4.0	1.35	0.3
4532	3.60	4.90	8.0	1.40	0.3
4532	3.60	5.10	8.0	0.90	0.3
5750	5.20	6.10	8.0	2.05	0.3

TAPE DIMENSION/ Paper



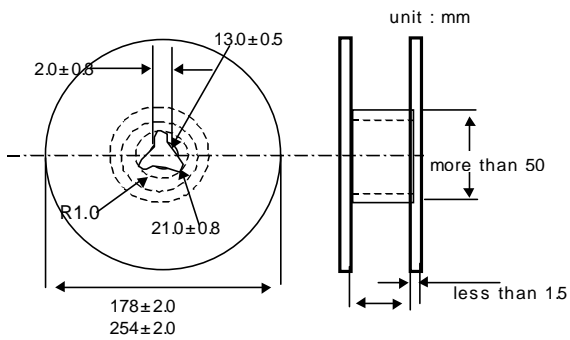
Type	A ± 0.1	B ± 0.1	P ± 0.1	T (max.)
1005	0.65	1.15	2.0	0.8
1608	1.00	1.80	2.0	1.1

LEADER AND BLANK PORTION



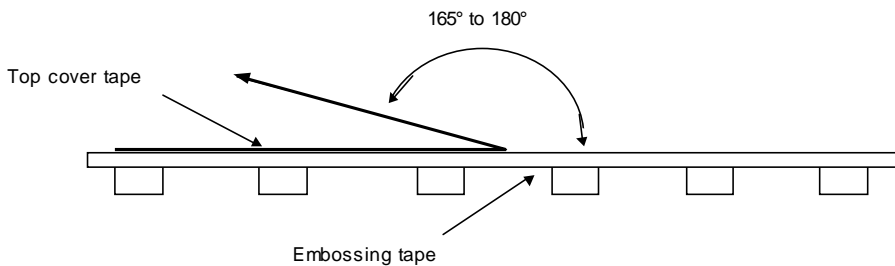
The pitch holes shift within ±0.3mm for cumulative 10 pitches

REEL DIMENSION



Type	W (mm)
1005, 1608, 2012, 3216	9.0 ± 0.3
4516, 4532, 5750	13.0 ± 0.3

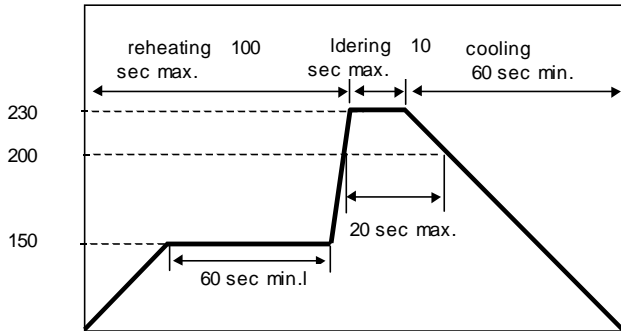
TOP COVER TAPE STRENGTH



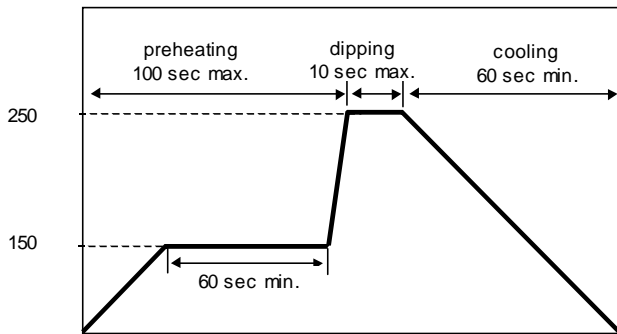
The force for tearing off top cover tape is 20 to 70 grams in the arrow direction

SOLDERING PROFILE

1. REFLOW SOLDERING



2. FLOW SOLDERING



3. MANUAL SOLDERING

