

# **CHIP FERRITE BEADS**

### **Features**

- 1. Effective in suppressing noise at high frequencies.
- 2. Suited for preventing abnormal oscillation from high frequency amplifying circuits.
- 3. Excellent solder heat resistance for soldering.
- 4. High reliability in circuits of high-current,
- 5. Lead Free (RoHS Compliant)

# **Applications**

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

# Ordering Information

 $\frac{\text{H B}}{\text{(1)}}$  - 1  $\frac{\text{M}}{\text{(2)}}$   $\frac{1608}{\text{(3)}}$  -  $\frac{121}{\text{(4)}}$   $\frac{\text{J}}{\text{(5)}}$   $\frac{\text{T}}{\text{(6)}}$ 

### (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

M : For high impedance type

T : For Low speed

#### (3) Dimension

First two digits : length(mm) Last two digits : width(mm)

#### (4) Impedance(at 100MHz)

First two digits are impedance values. Last digit is the number of zeros.

#### (5) Termination

J: Nickel barrier

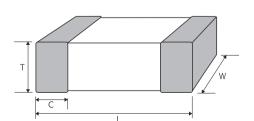
#### (6) Packaging

B : Bulk Package

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

# Shape and Dimensions

unit: mm[inches]



Type	L	W	Т	С
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]
	2.0±0.20	1.25±0.20	0.8±0.10	0.50±0.30
	[.079±.008]	[.049±.008]	[.031±.004]	[.020±.012]
H <u></u> -1 <u></u> 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 <u></u> -1 <u></u> 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 —

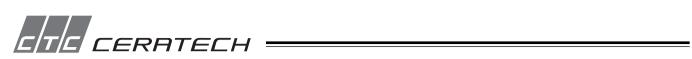
Part No.	IZI at 1	$OO_MHz(\mathcal{Q})$	DC Resistance R	
Tart No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1T0603-800□□	80	60	500	500
HB-1T0603-121□□	120	90	800	200
HB-1T0603-241□□	240	180	1000	200

## HB1005 —

Part No.	Z  at 1	00мhz(Ω)	DC Resistance	Rated Current
rait NO.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M1005-100□□	10	7.5	50	1000
HB-1M1005-400□□	40	30	150	900
HB-1M1005-600□□	60	45	200	650
HB-1M1005-800□□	80	60	200	650
HB-1M1005-121□□	120	90	300	500
HB-1M1005-221□□	220	165	350	500
HB-1M1005-301□□	300	225	450	400
HB-1M1005-471□□	470	355	550	300
HB-1M1005-601□□	600	450	600	300
HB-1M1005-102□□	1000	750	1300	250
HB-1T1005-100□□	10	7.5	50	1000
HB-1T1005-260□□	26	19.5	100	900
HB-1T1005-400□□	40	30	100	900
HB-1T1005-600□□	60	45	200	650
HB-1T1005-700□□	70	53	200	650
HB-1T1005-800□□	80	60	250	550
HB-1T1005-121□□	120	90	250	500
HB-1T1005-221□□	220	165	350	500
HB-1T1005-241□□	240	180	400	400
HB-1T1005-301□□	300	225	450	400
HB-1T1005-601□□	600	450	600	400
HB-1S1005-100□□	10	7.5	100	500
HB-1S1005-300□□	30	23	200	400
HB-1S1005-600□□	60	45	300	350
HB-1S1005-101□□	100	75	350	300
HB-1S1005-121□□	120	90	400	300

## HB1608 -

Part No.	Z  at 1	Z  at 100m⊬( <i>Q</i> )		Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M1608-300□□	30	22	80	500
HB-1M1608-600□□	60	45	90	200
HB-1M1608-800□□	80	60	100	200
HB-1M1608-121□□	120	90	120	200
HB-1M1608-221□□	220	165	200	200
HB-1M1608-301□□	300	225	300	200
HB-1M1608-501□□	500	375	400	200
HB-1M1608-601□□	600	450	400	200
HB-1M1608-801□□	800	600	600	200
HB-1M1608-102□□	1000	750	600	150
HB-1S1608-100□□	10	7.5	50	300
HB-1S1608-200□□	20	15	120	300
HB-1S1608-300□□	30	22	120	300
HB-1S1608-400□□	40	30	120	300
HB-1S1608-550□□	55	42	150	200



#### HB1608 ———

Part No.	Z  at 1	$OO_MH_2\!(\mathit{\Omega})$	DC Resistance	Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1S1608-800□□	80	60	250	200
HB-1S1608-121□□	120	90	250	200
HB-1S1608-221□□	220	165	400	200
HB-1T1608-260□□	26	20	50	500
HB-1T1608-300□□	30	22	50	500
HB-1T1608-600□□	60	45	100	400
HB-1T1608-800□□	80	60	100	300
HB-1T1608-121 □ □	120	90	200	250
HB-1T1608-221 □ □	220	165	300	200
HB-1T1608-301□□	300	225	350	200
HB-1T1608-331 □ □	330	250	350	200
HB-1T1608-601 □□	600	450	500	200
HB-1T1608-102□□	1000(at 60MHz)	750	700	200
HB-1T1608-202□□	2000(at 70MHz)	1500	1200	100
HB-1B1608-222□□	2200	1650	850	200

# HB2012 ----

Part No.	IZI at 10	Z  at 100μμ(Ω)		Rated Current
Part No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M2012-150□□	15	12	20	600
HB-1M2012-260□□	26	20	20	600
HB-1M2012-300□□	30	23	20	600
HB-1M2012-320□□	32	24	30	600
HB-1M2012-800□□	80	60	80	300
HB-1M2012-121□□	120	90	100	300
HB-1M2012-151□□	150	115	120	300
HB-1M2012-221 □ □	220	165	120	300
HB-1M2012-301 □ □	300	225	150	300
HB-1M2012-451□□	450	338	250	300
HB-1M2012-601 □ □	600	450	250	300
HB-1M2012-102□□	1000	750	300	300
HB-1M2012-202□□	2000(at 70MHz)	1500	500	300
HB-1M2012-252□□	2500(at 50MHz)	1875	600	300
HB-1S2012-5R0□□	5	3.5	50	300
HB-1S2012-8R0□□	8	6	50	300
HB-1S2012-400□□	40	30	150	250
HB-1S2012-800□□	80	60	180	200
HB-1S2012-121□□	120	90	200	300
HB-1S2012-221□□	220	165	300	300
HB-1S2012-251□□	250	190	500	300
HB-1T2012-260□□	26	20	40	600
HB-1T2012-400□□	40	30	50	600
HB-1T2012-800□□	80	60	80	300
HB-1T2012-121□□	120	90	80	300
HB-1T2012-151□□	150	115	80	300
HB-1T2012-221□□	220	170	120	200
HB-1T2012-251□□	250	188	120	200
HB-1T2012-301□□	300	225	150	200
HB-1T2012-331□□	330	250	150	200
HB-1T2012-401□□	400	300	150	200
HB-1T2012-601□□	600	450	250	200
HB-1T2012-102□□	1000(at 60MHz)	750	300	200
HB-1T2012-202□□	2000(at 40MHz)	1500	500	200
HB-1T2012-252□□	2500(at 35MHz)	1875	600	200
HB-1B2012-222□□	2200	1650	600	300
HB-1B2012-272□□	2700	2025	700	300

## HB3216 ----

Part No.	IZI at 1	00мн <sub>z</sub> (Ω)	DC Resistance	Rated Current
Part No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M3216-350□□	35	26	20	600
HB-1M3216-500□□	50	37	30	600
HB-1M3216-700□□	70	52	50	600
HB-1M3216-121□□	120	90	50	300
HB-1M3216-151□□	150	115	50	300
HB-1M3216-201□□	200	150	80	300
HB-1M3216-301□□	300	225	90	200
HB-1M3216-601□□	600	450	200	200
HB-1M3216-102□□	1000	750	250	200
HB-1S3216-100□□	10	7.5	50	300
HB-1S3216-200□□	20	15	100	300
HB-1S3216-800□□	80	60	250	200
HB-1S3216-251□□	250	190	300	200
HB-1S3216-601□□	600	450	400	200
HB-1T3216-350□□	35	26	30	600
HB-1T3216-500□□	50	37	30	600
HB-1T3216-700□□	70	52	50	400
HB-1T3216-800□□	80	60	50	400
HB-1T3216-121 □ □	120	90	100	300
HB-1T3216-151 □ □	150	115	100	300
HB-1T3216-201 □ □	200	150	150	300
HB-1T3216-601 □ □	600	450	300	200
HB-1T3216-801 □ □	800	600	300	200
HB-1T3216-102□□	1000(at 60MHz)	750	400	200
HB-1T3216-122□□	1200(at 50MHz)	900	400	200
HB-1T3216-202□□	2000(at 30MHz)	1500	500	200

## HB4516 -

Part No.	Z  at 100mb(Ω)		DC Resistance	Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M4516-600□□	60	45	20	600
HB-1M4516-700□□	70	52	30	600
HB-1M4516-151□□	150	115	50	300
HB-1T4516-700□□	70	52	50	600

### HB4532 -

Part No.	Z  at 1	Z  at 100 <sub>Mt₂</sub> (Ω)		Rated Current
Tare No.	typ.	min.	(mΩ) max.	(mA) max.
HB-1M4532-121□□	120	90	40	600
HB-1M4532-151□□	150	115	40	600
HB-1T4532-800□□	80	60	40	600
HB-1T4532-121□□	120	90	40	600

## HB5750 —

Part No.	Z  at 1	$OO_MHz(\mathcal{Q})$	DC Resistance	Rated Current
	typ.	min.	(mΩ) max.	(mA) max.
HB-1M5750-181 □ □	180	135	80	600



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

Part No.	Z  at 100 <sub>MH₂</sub> (Ω)	$ Z $ at $1_{GH}\!(\mathcal{Q})$	DC Resistance	Rated Current
Tart No.	typ.	typ.	(mΩ) max.	(mA) max.
HB-1L1608-2R0□□	2.0	20	200	300
HB-1L1608-4R0□□	4.0	40	250	300
HB-1L1608-5R5□□	5.5	55	300	300
HB-1L1608-7R0□□	7.0	80	300	300
HB-1L1608-9R0□□	9.0	40(at 500MHz)	400	300
HB-1L1608-110□□	11.0	55(at 500MHz)	400	300
HB-1L1608-130□□	13.0	70(at 500MHz)	500	300
HB-1L1608-150□□	15 <sub>.</sub> 0	80(at 500MHz)	500	300
HB-1L2012-3R5□□	3.5	30	150	500
HB-1L2012-6R5□□	6.5	30(at 500MHz)	200	500
HB-1L2012-100□□	10.0	50(at 500MHz)	250	500

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

Part No.	Z  at 100m½(Ω)	$ Z $ at $1_{GH}\!(\varOmega)$	DC Resistance	Rated Current
rait ivo.	typ.	typ.	(mΩ) max.	(mA) max.
HB-1Y1608-4R0□□	4.0	40	200	300
HB-1Y1608-8R0□□	8.0	90	250	300
HB-1Y1608-100□□	10.0	170	300	300
HB-1Y1608-150□□	15.0	75(at 500MHz)	350	300
HB-1Y1608-200□□	20.0	120(at 500MHz)	400	300

# HH series (For high current)

### HH1005 -

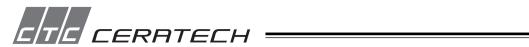
Part No.	Z  at 100mt₂(Ω)		DC Resistance	Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M1005-100□□	10	7.5	50	1300
HH-1M1005-221□□	220	165	350	800
HH-1M1005-471□□	470	355	560	500
HH-1M1005-601□□	600	450	600	500
HH-1M1005-102□□	1000	750	800	400
HH-1S1005-100□□	10	7.5	80	1300
HH-1T1005-100□□	10	7.5	50	1300
HH-1T1005-121□□	120	90	250	800
HH-1T1005-241□□	240	180	310	650
HH-1T1005-601 □□	600	450	580	500

## HH1608 ————

Part No.	IZI at 1	Z  at 100mb(Ω)		Rated Current
Part NO.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M1608-300□□	30	22	60	2000
HH-1M1608-600□□	60	45	90	1600
HH-1M1608-121□□	120	90	140	1100
HH-1M1608-221□□	220	165	200	1000
HH-1M1608-301□□	300	225	300	900
HH-1M1608-501□□	500	375	350	800
HH-1M1608-601□□	600	450	350	750
HH-1M1608-801□□	800	600	500	650
HH-1M1608-102□□	1000	750	500	550
HH-1S1608-100□□	10	7.5	50	1500
HH-1S1608-200□□	20	15	60	1400
HH-1S1608-300□□	30	22	100	1300
HH-1S1608-400□□	40	30	120	1300
HH-1S1608-550□□	55	42	150	1100
HH-1S1608-800□□	80	60	180	1000
HH-1S1608-121□□	120	90	200	1000
HH-1S1608-221□□	220	165	350	800
HH-1T1608-260□□	26	20	50	2000
HH-1T1608-300□□	30	22	50	2000
HH-1T1608-800□□	80	60	100	1600
HH-1T1608-121□□	120	90	150	1100
HH-1T1608-221□□	220	165	200	1000
HH-1T1608-301□□	300	225	300	900
HH-1T1608-331□□	330	250	300	800
HH-1T1608-601□□	600	450	400	650
HH-1T1608-102□□	1000	750	500	550

# HH2012 —

Part No.	Z  at 1	$ Z $ at $100 MHz(\mathcal{Q})$		Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M2012-150□□	15	12	20	2500
HH-1M2012-260□□	26	20	20	3000
HH-1M2012-300□□	30	23	20	2500
HH-1M2012-320□□	32	24	30	2500
HH-1M2012-600□□	60	45	30	3800
HH-1M2012-800□□	80	60	80	1500
HH-1M2012-121□□	120	90	50	2500
HH-1M2012-151□□	150	115	100	1500
HH-1M2012-221□□	220	165	50	2200
HH-1M2012-301□□	300	225	70	2000
HH-1M2012-451□□	450	338	200	1000
HH-1M2012-601□□	600	450	100	2000
HH-1M2012-102□□	1000	750	300	800
HH-1S2012-5R0□□	5.0	3,5	50	3000
HH-1S2012-8R0□□	8.0	6.0	30	3000
HH-1S2012-400□□	40	30	100	1800
HH-1S2012-800□□	80	60	150	1500
HH-1S2012-121□□	120	90	200	900
HH-1S2012-221 □ □	220	165	200	900
HH-1S2012-251□□	250	190	300	1000
HH-1T2012-260□□	26	20	30	3500
HH-1T2012-400□□	40	30	50	2000
HH-1T2012-600□□	60	45	60	1500
HH-1T2012-800□□	80	60	80	1000
HH-1T2012-121□□	120	90	30	3000
HH-1T2012-151□□	150	115	80	1000
HH-1T2012-221□□	220	165	120	1000
HH-1T2012-251□□	250	190	50	2800



### HH2012 ———

Part No.	Z  at 100 <sub>MH₂</sub> (Ω)		DC Resistance	Rated Current
rait No.	typ.	min.	(mΩ) max.	(mA) max.
HH-1T2012-301□□	300	225	150	800
HH-1T2012-331□□	330	250	150	800
HH-1T2012-401□□	400	300	150	800
HH-1T2012-601□□	600	450	250	600
HH-1T2012-102□□	1000(at 60MHz)	750	300	600

### HH3216 ———

Part No.	IZI at 1	$OO_MHz(\mathcal{Q})$	DC Resistance	Rated Current
rait NO.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M3216-500□□	50	37	20	4000
HH-1M3216-700□□	70	52	20	4000
HH-1M3216-900□□	90	68	20	4000
HH-1M3216-101□□	100	75	30	4000
HH-1M3216-121□□	120	90	30	4000
HH-1M3216-151□□	150	115	50	2000
HH-1M3216-201□□	200	150	80	2000
HH-1M3216-301□□	300	225	90	2000
HH-1M3216-501□□	500	375	60	3000
HH-1M3216-601□□	600	450	60	3000
HH-1M3216-102□□	1000	750	250	1000
HH-1S3216-100□□	10	7.5	50	3000
HH-1S3216-200□□	20	15	100	3000
HH-1S3216-800□□	80	60	250	2000
HH-1S3216-251□□	250	190	300	2000
HH-1T3216-260□□	26	20	30	4000
HH-1T3216-350□□	35	26	30	4000
HH-1T3216-500□□	50	37	40	3000
HH-1T3216-700□□	70	52	50	2500
HH-1T3216-800□□	80	60	50	2500
HH-1T3216-121□□	120	90	100	2000
HH-1T3216-151□□	150	115	100	2000
HH-1T3216-201□□	200	150	150	1800
HH-1T3216-601□□	600	450	300	1000
HH-1T3216-801□□	800	600	300	1000
HH-1T3216-102□□	1000 (at 60MHz)	750	300	1000
HH-1T3216-122□□	1200 (at 50MHz)	900	400	1000
HH-1T3216-202□□	2000 (at 30MHz)	1500	400	1000

### HH4516 ----

Part No.	Z  at 1	Z  at 100μ <sub>b</sub> (Ω)		Rated Current
Tart No.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M4516-600□□	60	45	20	4000
HH-1M4516-111□□	110	83	20	4000

### HH4532 ----

Part No.	Z  at 100μ <sub>k</sub> (Ω)		DC Resistance	Rated Current
rait ivo.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M4532-121□□	120	90	30	3000
HH-1T4532-121 □□	120	90	30	3000
HH-1M4532-601□□	600(at 50MHz)	450	40	3000
HH-1M4532-132□□	1300(at 60MHz)	980	50	2700
HH-1B4532-132□□	1300	980	50	2700

### HH5750 -

Part No.	Z  at 1	$OO_{MH_{\!2}}\!(\mathit{\Omega})$	DC Resistance	Rated Current
r art ivo.	typ.	min.	(mΩ) max.	(mA) max.
HH-1M5750-401 □□	400	300	50	2500
HH-1M5750-501 □□	500	375	80	2500
HH-1M5750-151 □□	150	115	50	4000

# HU series (For ultra high current)

Part No.	Z  at 100 <sub>MHz</sub> (Ω)		DC Resistance	Rated Current
Turc No.	typ.	min.	(mΩ) max.	(mA) max.
HU-1M2012-400□□	40	30	20	5000
HU-1M2012-600□□	60	45	20	4800
HU-1M2012-800□□	80	60	20	4500
HU-1M2012-121□□	120	90	30	4200
HU-1T2012-500□□	50	37	15	5000
HU-1M3216-500□□	50	37	10	4800
HU-1M3216-121□□	120	90	20	4600
HU-1M4516-600□□	60	45	15	5400
HU-1B4532-681□□	680	510	30	3800
HU-1M4532-121□□	120	90	20	4600
HU-1M5750-401□□	400	300	30	5500

<sup>\*</sup> Parts with other electrical characteristics available upon request,

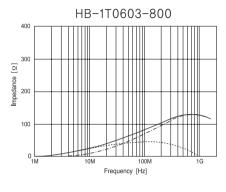
<sup>\*</sup> Test equipment: HP4291A + HP16192A

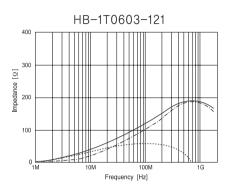


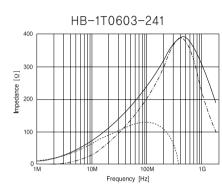
# **Electrical Characteristics**

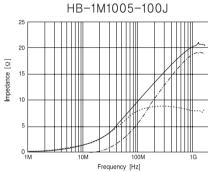
- · HB series (For Signal line)
- · HB0603, HB1005, HB1608, HB2012

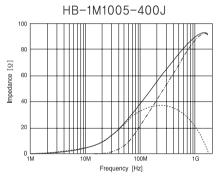


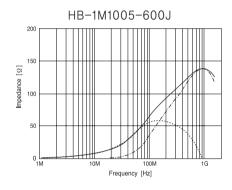


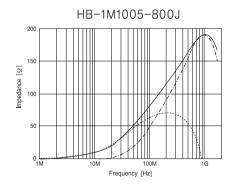


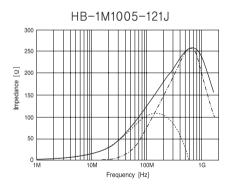


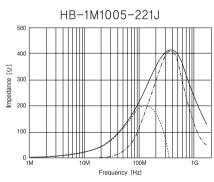


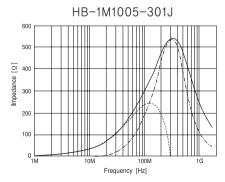


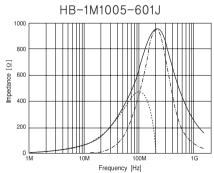


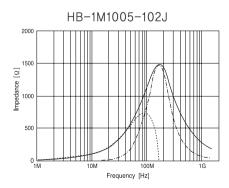


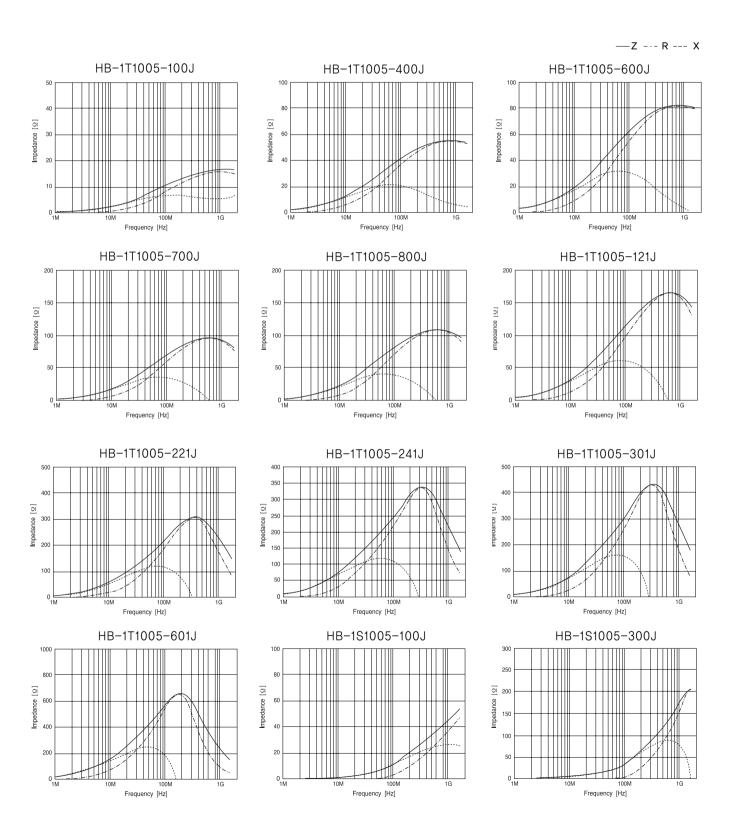






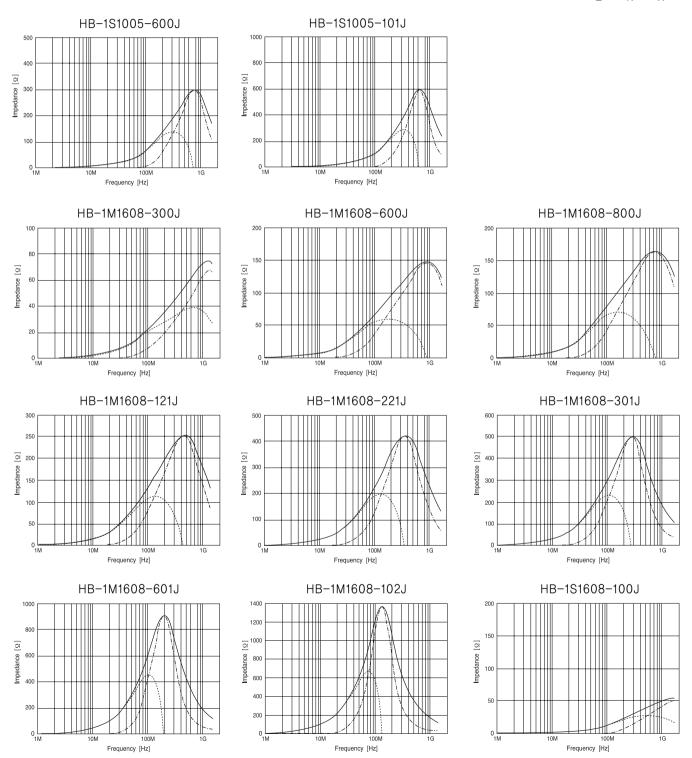


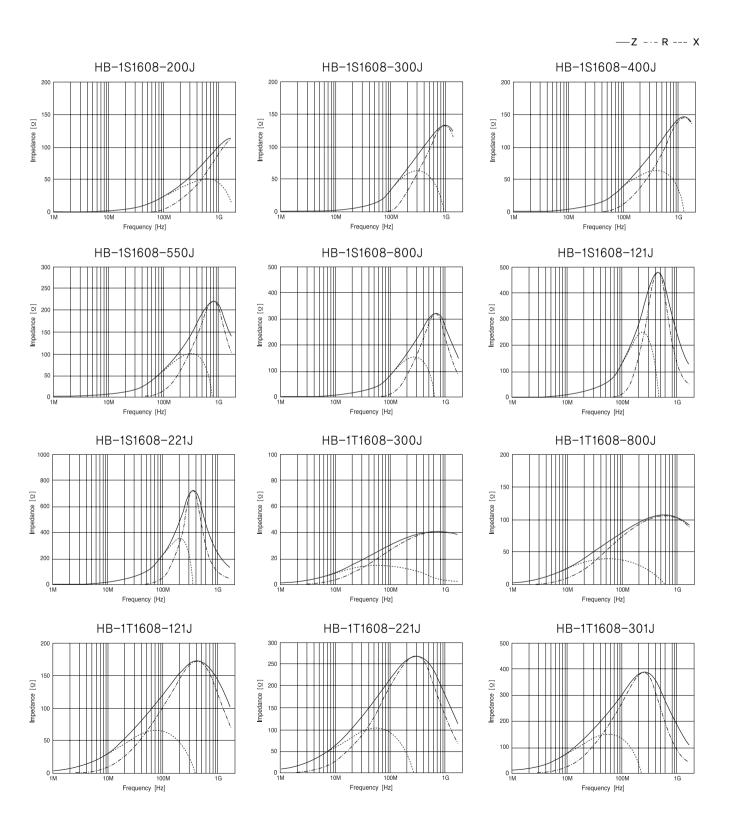






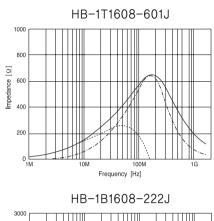


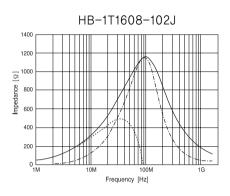


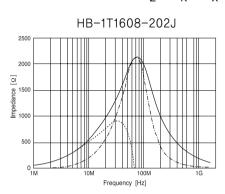


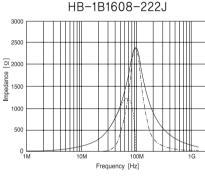


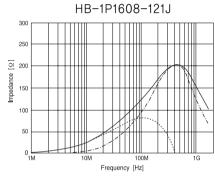


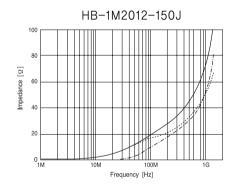


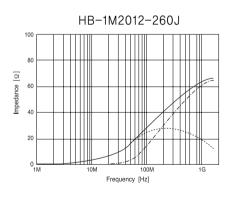


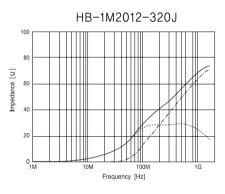


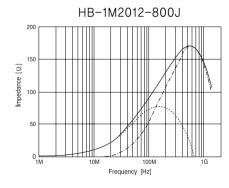


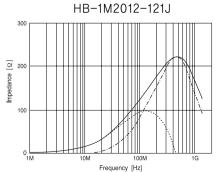


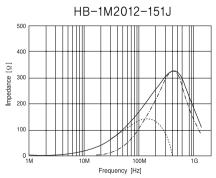


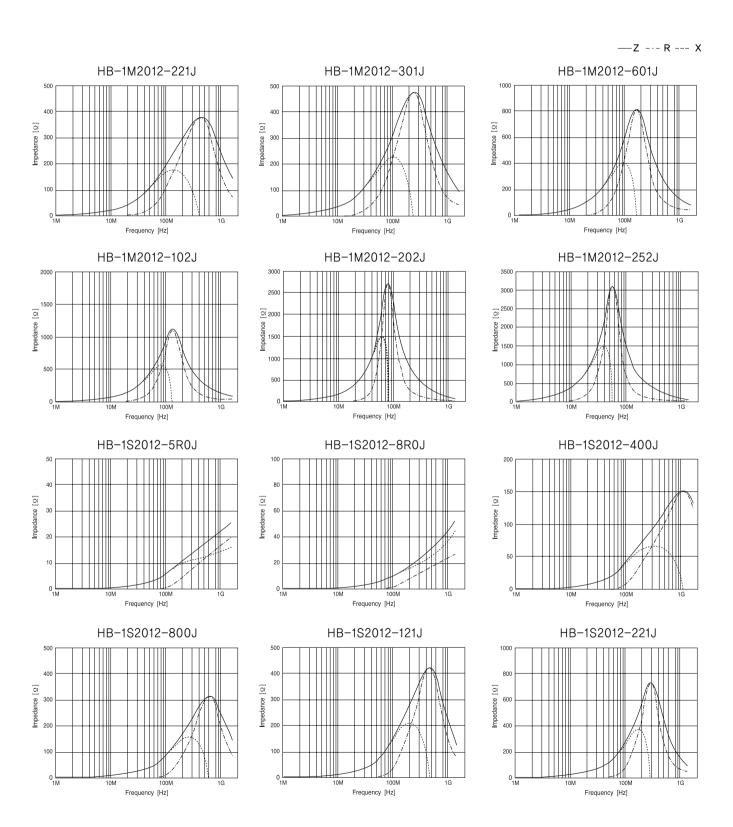




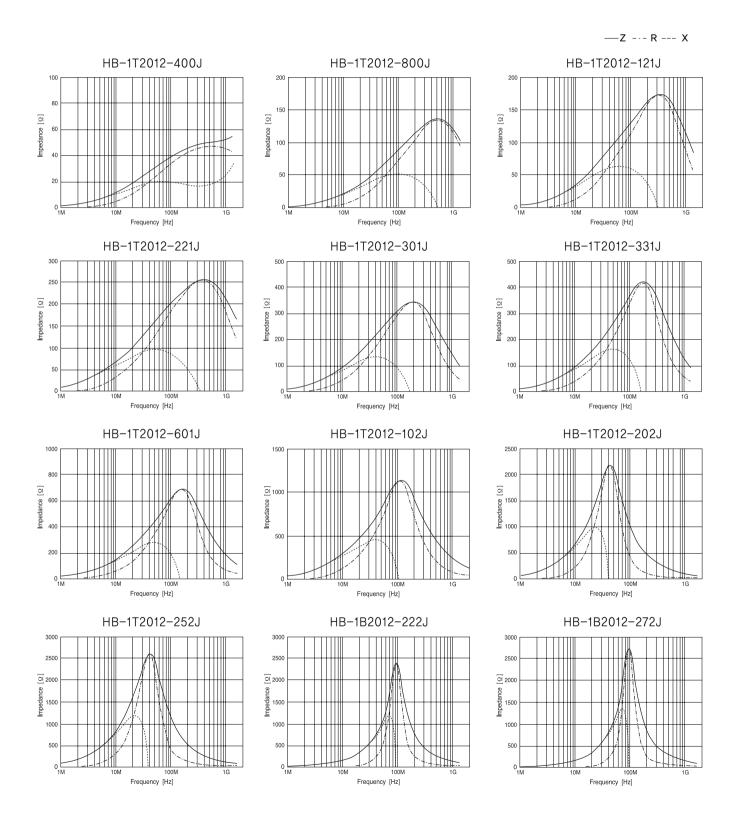


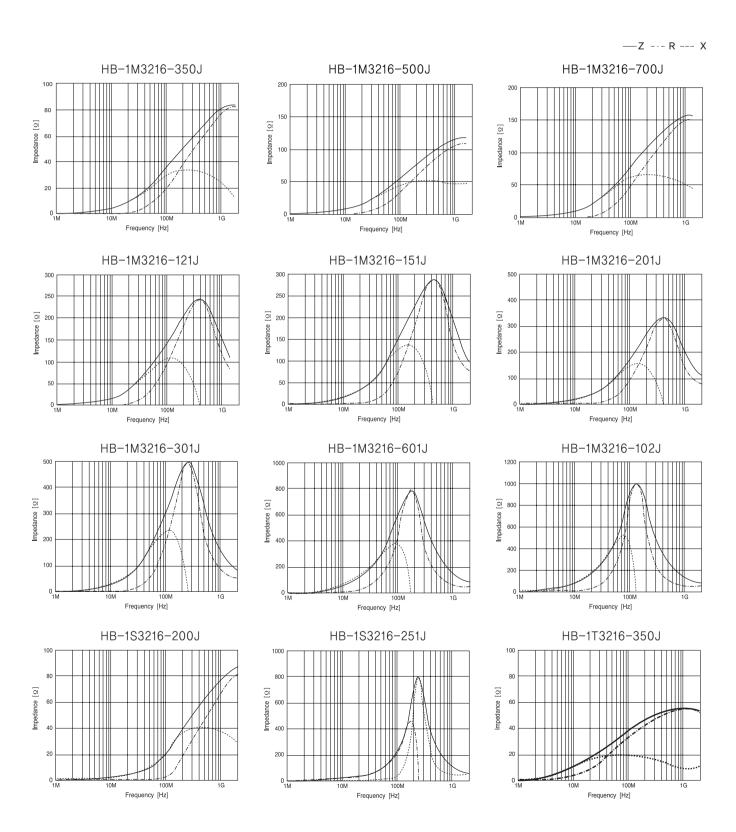




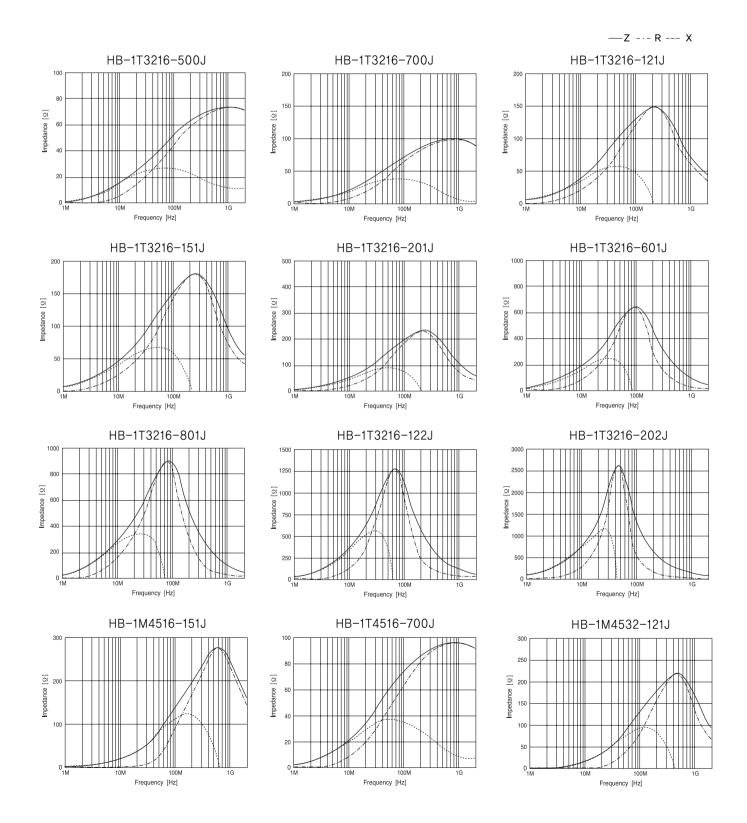




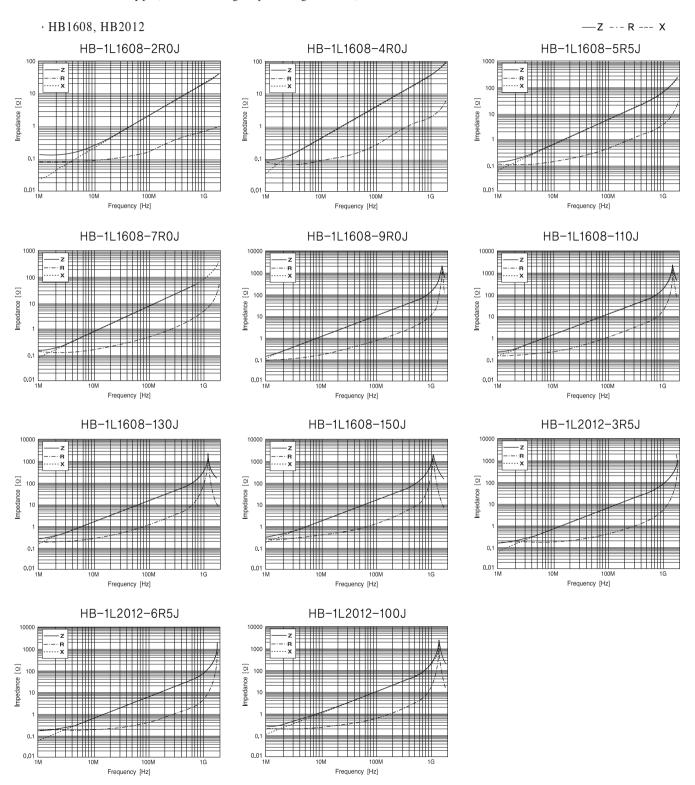








· HB series-L Type(For ultra high speed signal line)

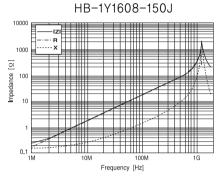




· HB series-Y Type(For ultra high speed signal line)

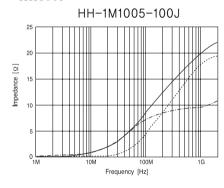
· HB1608

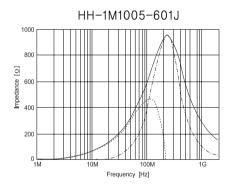
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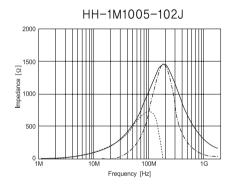


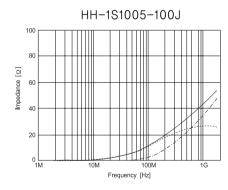
· HH series (For high Current)

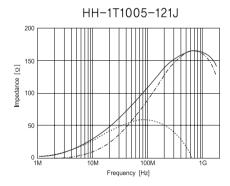
#### · HH1005

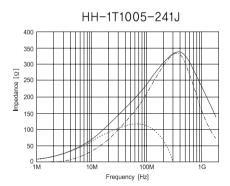


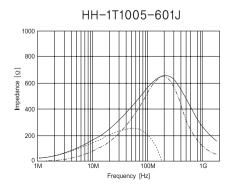


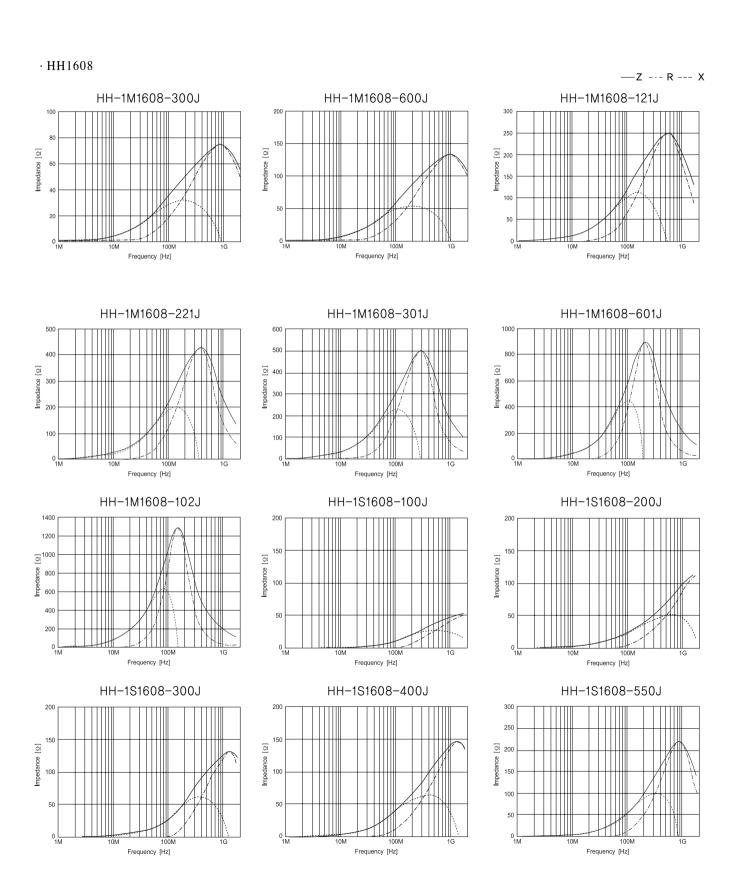




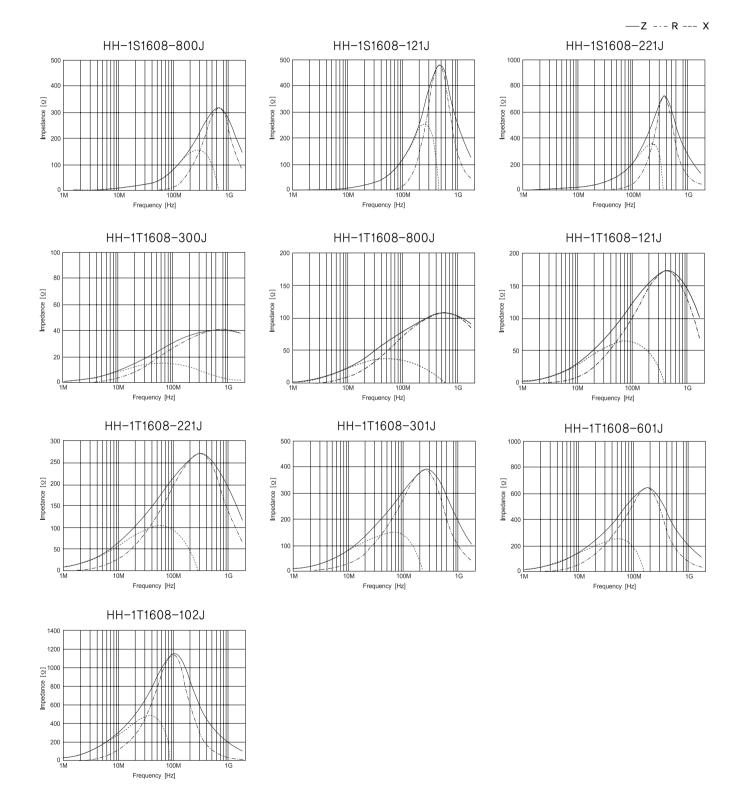


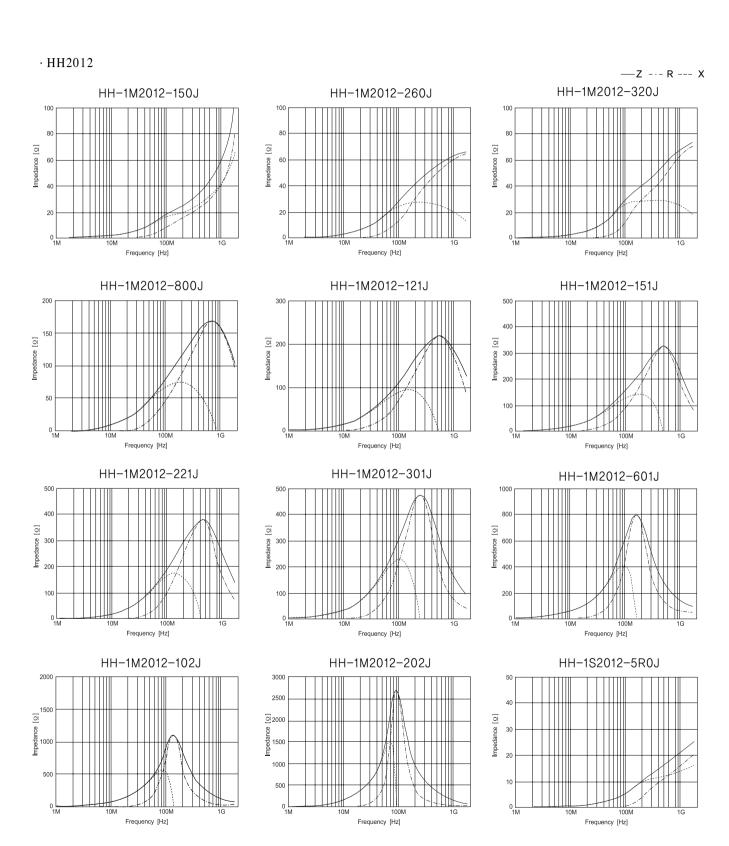




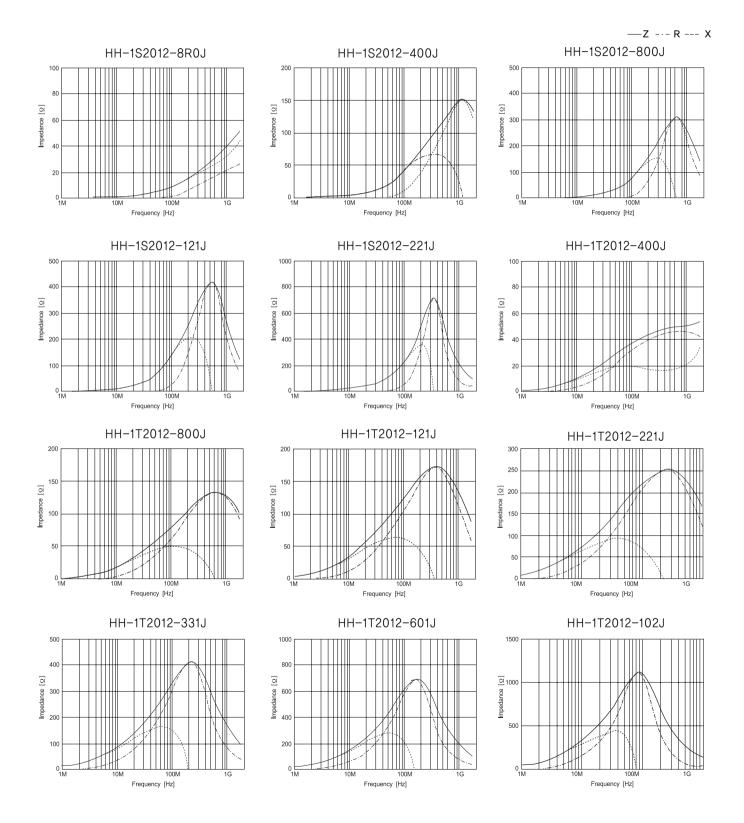


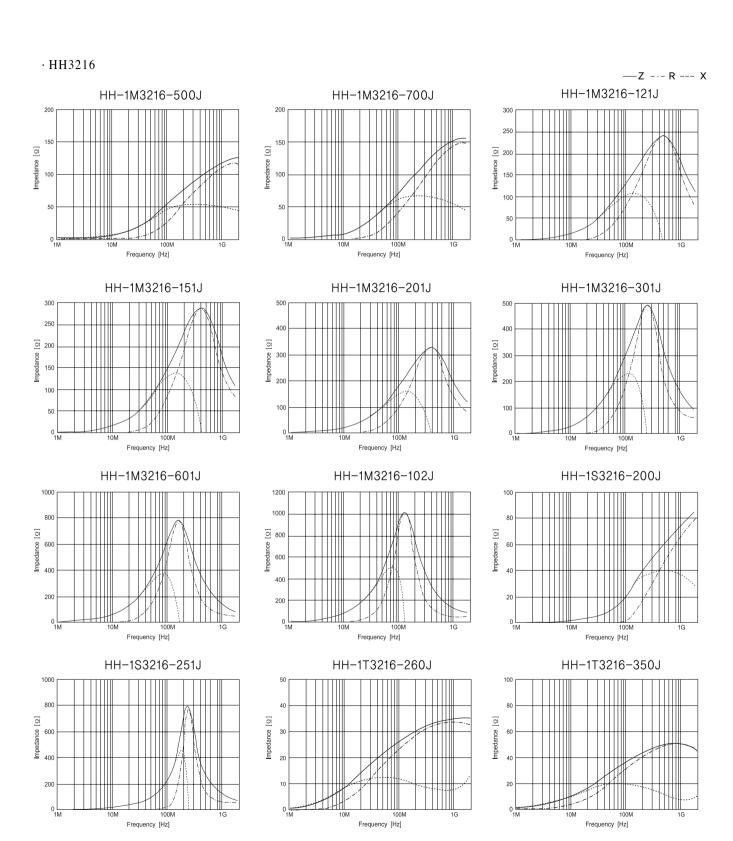






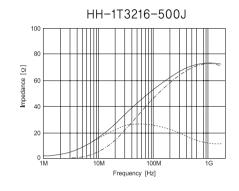


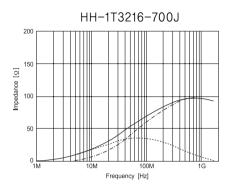


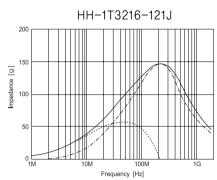


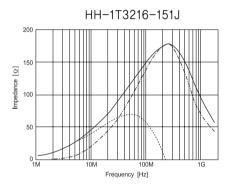


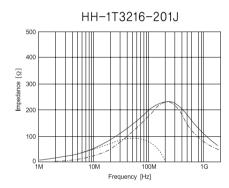


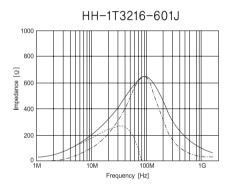


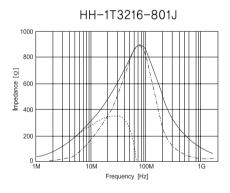


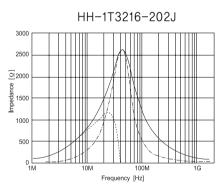




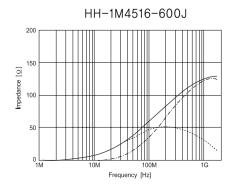




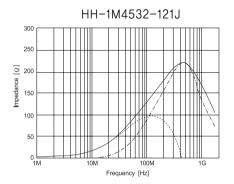


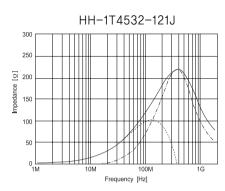


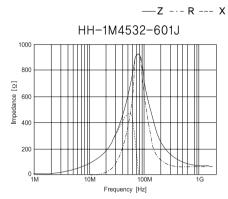
### · HH4516

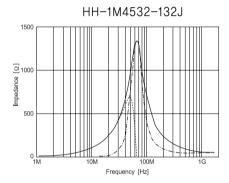


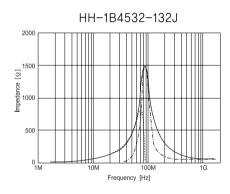
#### · HH4532



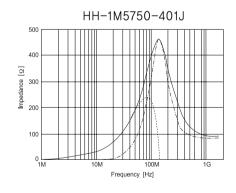


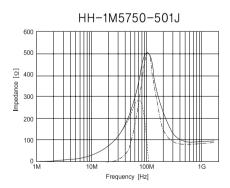






## HH5750







### · HU series(For ultra high current)

