

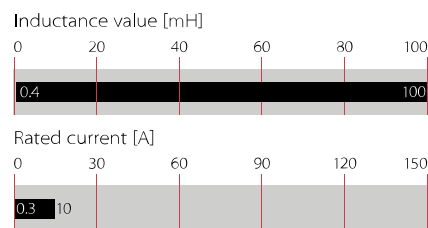
Current-compensated Chokes



- Rated currents from 0.3 to 10 A
- DC to 400 Hz frequency
- 100 kHz to 3 MHz common-mode resonance frequency
- Dual-choke configurations
- Multiple PCB-mounting options



Performance indicators



Technical specifications

Operating voltage	300VAC
Operating frequency	DC to 400Hz
Rated currents	0.3 to 10 A @ rated ambient temperature
Rated inductance	0.4 to 100 mH
Stray inductance	Typically 1% of L_N
Inductance reduction (DC bias with IN)	Less than 10% (25°C)
High potential test voltage winding-to-winding @ 25°C	1500 VAC, 60 sec, guaranteed 1500 VAC, 2 sec, factory test
winding-to-housing @ 25°C	4000 VAC, 60 sec, guaranteed
MTBF @ 40°C/230 V (Mil-HB-217F)	>5,000,000 hours
Surge current @ 10 msec	$20 \times I_N$ @ 25°C
Temperature range (operation and storage)	-40°C to 100°C (40/100/56) acc. IEC 60068-1
Flammability corresponding to	Potting compound UL 94V-0 Housing UL 94V-0 Ringcore coating UL 94V-0
Design corresponding to	UL 1283, IEC/EN 60938-1

Approvals



ROHS

RN chokes are attenuating common-mode or asymmetric (P/N → E) interference signals, by being connected in series with the phase and neutral lines of an AC powerline input. Symmetrical components of the noise are also attenuated by the leakage inductance (stray inductance) of the windings. These chokes are typically used in conjunction with suppression capacitors.

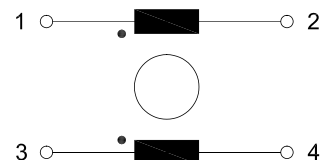
Features and benefits

- High saturation resistance and excellent thermal behavior
- Through hole pin connections
- Dual-choke configuration
- Small compact design
- Multiple housing options
- Custom-specific versions are available on request
- Higher temperature versions

Typical applications

- Switch-mode power applications
- Suppressing common-mode interference levels
- EMI input filters
- For suppression-equipment with no earth connection
- Phase-angle control circuits in combination with saturating chokes

Typical electrical schematic



Choke selection table

Filter	Current (I _N) [A]	@ ambient temperature [°C]	Inductance (L _N) [mH]	Resistance (R _{DC}) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN 102-0.3-02-22M	0.3	40	220	1300	100	100	90	4
RN 102-0.3-02-12M	0.3	40	120	1100	100	100	90	3
RN 102-0.6-02-4M4	0.6	40	44	380	100	100	90	3
RN 102-1-02-3M0	1.0	40	3.0	210	100	100	90	3
RN 102-1.5-02-1M6	1.5	40	1.6	94	100	100	90	3
RN 102-2-02-1M1	2.0	40	1.1	70	100	100	90	3
RN 112-0.4-02-39M	0.4	40	390	1500	150	100	126	6
RN 112-0.4-02-27M	0.4	40	270	1400	150	100	126	6
RN 112-0.5-02-27M	0.5	40	270	1200	150	100	126	6
RN 112-0.5-02-18M	0.5	40	180	1100	150	100	126	6
RN 112-0.5-02-15M	0.5	40	150	700	150	100	126	6
RN 112-0.6-02-15M	0.6	40	150	490	150	100	126	6
RN 112-0.8-02-10M	0.8	40	100	380	150	100	126	6
RN 112-1.2-02-6M8	1.2	40	68	250	150	100	126	6
RN 112-1.5-02-3M3	1.5	40	33	102	150	100	126	6
RN 112-2-02-1M8	2.0	40	1.8	74	150	100	126	6
RN 112-2-02-1M0	2.0	40	1.0	70	150	100	126	6
RN 112-2.6-02-0M4	2.6	40	0.4	40	150	100	126	6
RN 112-3.6-02-0M4	3.6	40	0.4	27	150	100	126	6
RN 112-4-02-0M7	4.0	40	0.7	24	150	100	126	6
RN 114-0.3-02-47M	0.3	40	470	1700	20.1	12.5	13.2	10
RN 114-0.5-02-39M	0.5	40	390	880	20.1	12.5	13.2	11
RN 114-0.8-02-27M	0.8	40	270	500	20.1	12.5	13.2	11
RN 114-1-02-15M	1.0	40	150	370	20.1	12.5	13.2	10
RN 114-1.2-02-10M	1.2	40	100	195	20.1	12.5	13.2	10
RN 114-1.5-02-6M8	1.5	40	68	123	20.1	12.5	13.2	11
RN 114-2-02-4M2	2.0	40	42	100	20.1	12.5	13.2	11
RN 114-2.5-02-3M3	2.5	40	33	63	20.1	12.5	13.2	11
RN 114-3-02-2M0	3.0	40	2.0	52	20.1	12.5	13.2	10
RN 114-4-02-1M5	4.0	40	1.5	34	20.1	12.5	13.2	11
RN 116-0.5-02-47M	0.5	60	470	960	20.1	12.5	13.2	11
RN 116-0.5-02-39M	0.5	60	390	920	20.1	12.5	13.2	11
RN 116-0.5-02-27M	0.5	60	270	790	20.1	12.5	13.2	11
RN 116-0.8-02-27M	0.8	60	270	370	20.1	12.5	13.2	13
RN 116-1-02-15M	1.0	60	150	260	20.1	12.5	13.2	12
RN 116-1-02-10M	1.0	60	100	210	20.1	12.5	13.2	11
RN 116-1.3-02-6M8	1.3	60	68	140	20.1	12.5	13.2	12
RN 116-1.5-02-10M	1.5	60	100	148	20.1	12.5	13.2	12
RN 116-1.7-02-4M0	1.7	60	40	87	20.1	12.5	13.2	12
RN 116-2-02-3M3	2.0	60	33	70	20.1	12.5	13.2	12
RN 116-2-02-2M2	2.0	60	2.2	66	20.1	12.5	13.2	11
RN 122-0.5-02-56M	0.5	40	560	1800	25.0	15.0	16.5	20
RN 122-0.6-02-47M	0.6	40	470	1300	25.0	15.0	16.5	20
RN 122-0.8-02-39M	0.8	40	390	1000	25.0	15.0	16.5	20
RN 122-1-02-18M	1.0	40	180	630	25.0	15.0	16.5	19
RN 122-1-02-10M	1.0	40	100	560	25.0	15.0	16.5	19
RN 122-1.5-02-10M	1.5	40	100	250	25.0	15.0	16.5	20
RN 122-2-02-6M8	2.0	40	68	156	25.0	15.0	16.5	20
RN 122-2-02-5M0	2.0	40	5.0	140	25.0	15.0	16.5	21
RN 122-2.5-02-5M6	2.5	40	5.6	110	25.0	15.0	16.5	20
RN 122-3-02-4M5	3.0	40	4.5	80	25.0	15.0	16.5	21
RN 122-4-02-3M3	4.0	40	3.3	46	25.0	15.0	16.5	22
RN 122-4-02-1M8	4.0	40	1.8	42	25.0	15.0	16.5	22

Filter	Current (IN) [A]	@ ambient temperature [°C]	Inductance (LN) [mH]	Resistance (RDC) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN 142-0.5-02-82M	05	40	820	2700	300	200	19.7	36
RN 142-1-02-33M	1.0	40	330	810	300	200	19.7	37
RN 142-1.4-02-27M	1.4	40	270	500	300	200	19.7	40
RN 142-2-02-6M8	2.0	40	68	192	300	200	19.7	36
RN 142-4-02-3M3	4.0	40	3.3	67	300	200	19.7	38
RN 142-6-02-1M8	6.0	40	1.8	20	300	200	19.7	40
RN 143-0.5-02-100M	05	40	1000	2900	300	200	19.7	36
RN 143-1-02-47M	1.0	40	470	890	300	200	19.7	38
RN 143-2-02-10M	2.0	40	100	240	300	200	19.7	42
RN 143-4-02-3M9	4.0	40	3.9	59	300	200	19.7	39
RN 143-6-02-1M8	6.0	40	1.8	20	300	200	19.7	42
RN 152-1-02-68M	1.0	40	680	1300	400	150	25.0	75
RN 152-2-02-18M	2.0	40	180	350	400	150	25.0	64
RN 152-4-02-6M8	4.0	40	68	87	400	150	25.0	74
RN 152-6-02-3M9	6.0	40	3.9	42	400	150	25.0	68
RN 152-8-02-2M7	8.0	40	2.7	22	400	150	25.0	73
RN 152-10-02-1M8	10.0	40	1.8	14	400	150	25.0	73
RN 202-0.3-02-22M	03	40	220	1300	5.1	15.2	13.5	4
RN 202-0.3-02-12M	03	40	120	1100	5.1	15.2	13.5	4
RN 202-0.6-02-4M4	06	40	4.4	380	5.1	15.2	13.5	4
RN 202-1-02-3M0	1.0	40	3.0	210	5.1	15.2	13.5	4
RN 202-1.5-02-1M6	1.5	40	1.6	94	5.1	15.2	13.5	4
RN 202-2-02-1M1	2.0	40	1.1	70	5.1	15.2	13.5	4
RN 204-0.3-02-22M	03	40	220	1300	7.6	10.0	14.3	3
RN 204-0.3-02-12M	03	40	120	960	7.6	10.0	14.3	3
RN 204-0.6-02-4M4	06	40	4.4	350	7.6	10.0	14.3	3
RN 204-1-02-3M0	1.0	40	3.0	192	7.6	10.0	14.3	3
RN 204-1.5-02-1M6	1.5	40	1.6	96	7.6	10.0	14.3	3
RN 204-2-02-1M1	2.0	40	1.1	57	7.6	10.0	14.3	3
RN 212-0.4-02-39M	04	40	390	1500	100	150	200	8
RN 212-0.4-02-27M	04	40	270	1400	100	150	200	8
RN 212-0.5-02-27M	05	40	270	1200	100	150	200	8
RN 212-0.5-02-18M	05	40	180	1100	100	150	200	8
RN 212-0.5-02-15M	05	40	150	700	100	150	200	8
RN 212-0.6-02-15M	06	40	150	490	100	150	200	8
RN 212-0.8-02-10M	08	40	100	380	100	150	200	8
RN 212-1.2-02-6M8	12	40	68	250	100	150	200	8
RN 212-1.5-02-3M3	15	40	3.3	102	100	150	200	8
RN 212-2-02-1M8	20	40	1.8	74	100	150	200	8
RN 212-2-02-1M0	20	40	1.0	70	100	150	200	8
RN 212-2.6-02-0M4	26	40	0.4	40	100	150	200	8
RN 212-3.6-02-0M4	36	40	0.4	27	100	150	200	8
RN 212-4-02-0M7	40	40	0.7	24	100	150	200	8
RN 214-0.3-02-47M	03	40	470	1700	12.5	100	25.0	14
RN 214-0.5-02-56M	05	40	560	1700	12.5	100	25.0	15
RN 214-0.5-02-39M	05	40	390	880	12.5	100	25.0	14
RN 214-0.8-02-27M	08	40	270	500	12.5	100	25.0	15
RN 214-1-02-15M	1.0	40	150	370	12.5	100	25.0	14
RN 214-1.2-02-10M	12	40	100	195	12.5	100	25.0	15
RN 214-1.5-02-6M8	15	40	68	123	12.5	100	25.0	15
RN 214-2-02-4M2	20	40	42	100	12.5	100	25.0	14

Filter	Current (IN) [A]	@ ambient temperature [°C]	Inductance (LN) [mH]	Resistance (RDC) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN 214-2-02-2M2	20	40	22	67	125	100	250	14
RN 214-2.5-02-3M3	25	40	33	63	125	100	250	15
RN 214-3-02-2M0	30	40	20	52	125	100	250	14
RN 214-4-02-1M5	40	40	15	34	125	100	250	15
RN 216-0.5-02-47M	05	60	470	960	125	100	250	15
RN 216-0.5-02-39M	05	60	390	920	125	100	250	15
RN 216-0.5-02-27M	05	60	270	790	125	100	250	15
RN 216-0.8-02-27M	08	60	270	370	125	100	250	16
RN 216-1-02-15M	1.0	60	150	260	125	100	250	16
RN 216-1-02-10M	1.0	60	100	210	125	100	250	15
RN 216-1.3-02-6M8	1.3	60	68	140	125	100	250	16
RN 216-1.5-02-10M	1.5	60	100	148	125	100	250	16
RN 216-1.7-02-4M0	1.7	60	40	87	125	100	250	16
RN 216-2-02-3M3	2.0	60	33	70	125	100	250	16
RN 216-2-02-2M2	2.0	60	22	66	125	100	250	15
RN 218-0.4-02-100M	04	40	100	2800	100	125	200	8
RN 218-0.6-02-47M	06	40	470	1200	100	125	200	8
RN 218-0.7-02-39M	07	40	390	1150	100	125	200	8
RN 218-0.9-02-27M	09	40	270	620	100	125	200	8
RN 218-1-02-22M	1.0	40	220	520	100	125	200	8
RN 218-1.1-02-15M	1.1	40	150	420	100	125	200	8
RN 218-1.4-02-10M	1.4	40	100	330	100	125	200	8
RN 218-1.7-02-6M8	1.7	40	68	180	100	125	200	8
RN 218-2.2-02-3M3	2.2	40	33	100	100	125	200	8
RN 222-0.5-02-56M	05	40	560	1800	150	125	293	27
RN 222-0.6-02-47M	06	40	470	1300	150	125	293	26
RN 222-0.8-02-39M	08	40	390	1000	150	125	293	27
RN 222-1-02-33M	1.0	40	330	1300	150	125	293	29
RN 222-1-02-18M	1.0	40	180	630	150	125	293	26
RN 222-1.5-02-10M	1.5	40	100	250	150	125	293	26
RN 222-2-02-6M8	2.0	40	68	156	150	125	293	28
RN 222-2.5-02-5M6	2.5	40	56	110	150	125	293	27
RN 222-3-02-4M5	3.0	40	45	80	150	125	293	28
RN 222-4-02-3M3	4.0	40	33	46	150	125	293	28
RN 232-0.6-02-47M	06	40	470	1300	150	125	293	37
RN 232-1-02-18M	1.0	40	180	390	150	125	293	38
RN 232-1.6-02-10M	1.6	40	100	170	150	125	293	38
RN 232-2.5-02-5M6	2.5	40	56	86	150	125	293	38
RN 232-4-02-3M3	4.0	40	33	54	150	125	293	38
RN 242-0.5-02-82M	05	40	820	2700	150	125	343	37
RN 242-1-02-33M	1.0	40	330	810	150	125	343	38
RN 242-1.4-02-27M	1.4	40	270	500	150	125	343	38
RN 242-2-02-6M8	2.0	40	68	192	150	125	343	37
RN 242-4-02-3M3	4.0	40	33	67	150	125	343	38
RN 242-6-02-1M8	6.0	40	18	20	150	125	343	41

Test conditions: Measuring frequency: 10 kHz; 50 mV; Inductance tolerance: +50%, -30%; Resistance tolerance: ±15% @ 25°C; Electrical characteristics @ 25°C: ±2°C; Stray Inductance measurement between pin 1 and 2 (pin 3 and 4 shorted)
For mechanical tolerances refer to mechanical data section.

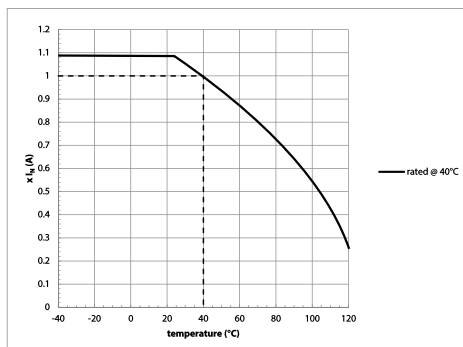
Product selector

RN XYY-II-02-LML

- Rated Inductivity L_N (mH)
- Terminal-Type (-02 Rigid Pin Connection)
- Rated Current I_N (A)
- Size (02 to 52)
- Orientation (1 = horizontal; 2 = vertical)
- Familyname

Thermal Derating

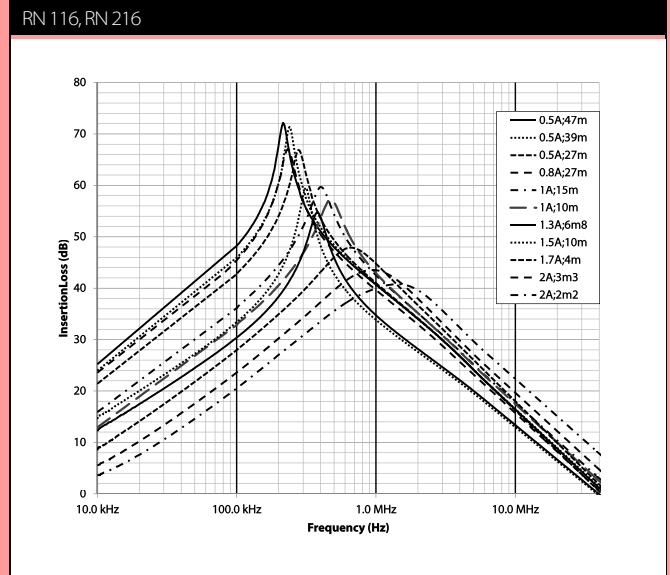
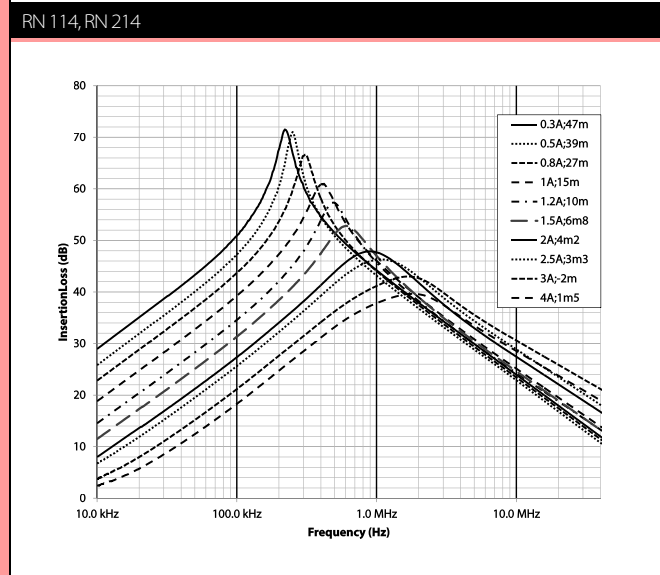
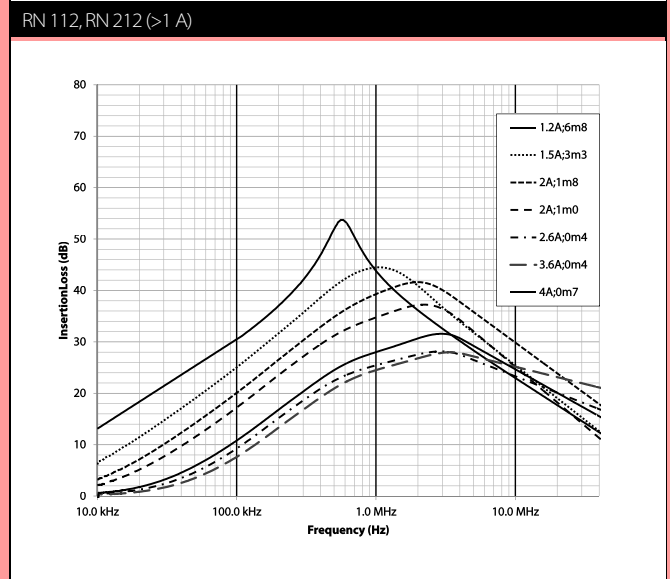
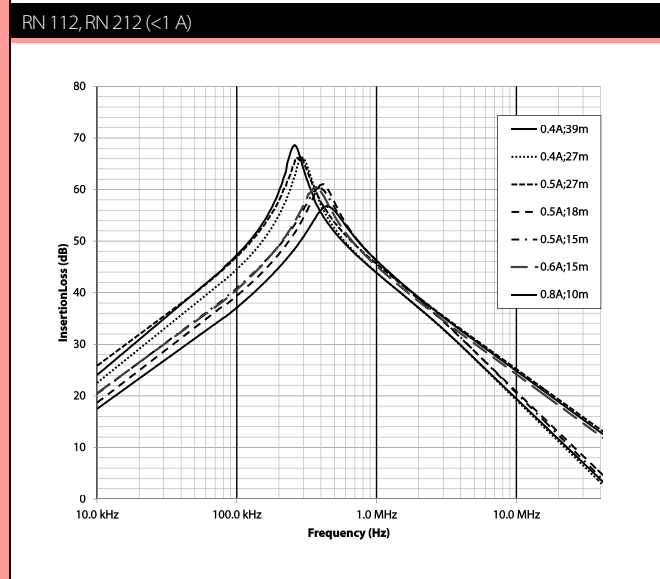
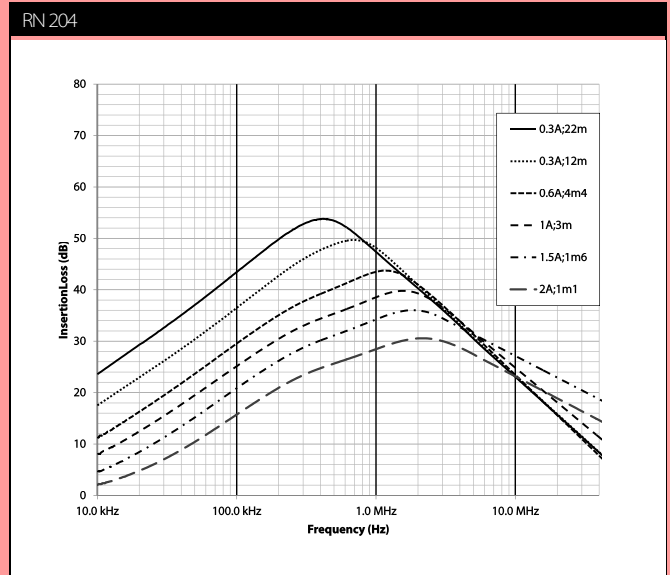
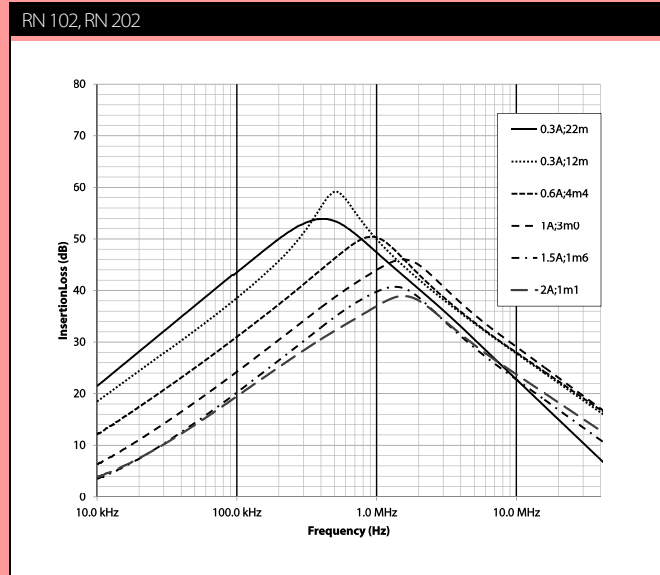
If higher ambient temperatures than the specified apply, the nominal current needs to be reduced according to the graph below.



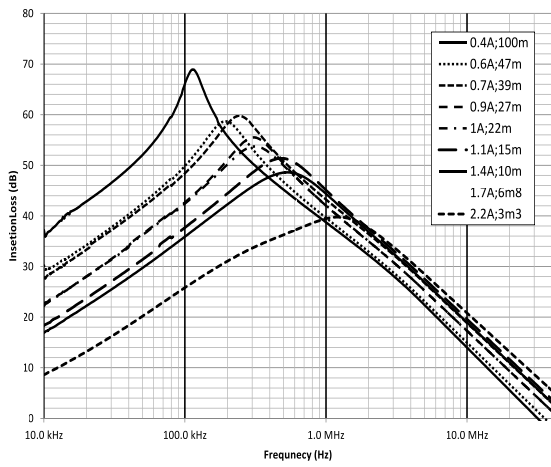
Typical attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

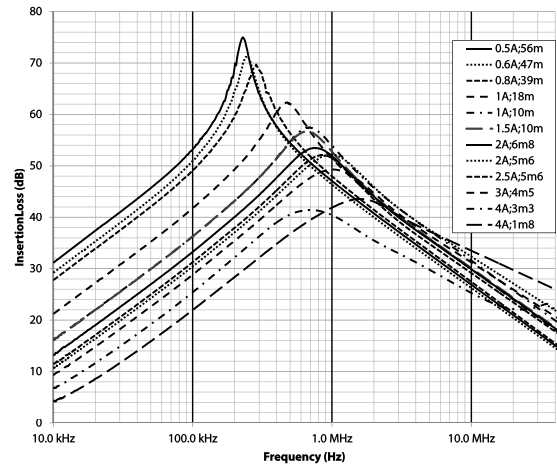
X can be exchanged with either 1 or 2 for different housing configuration, attenuation is similar



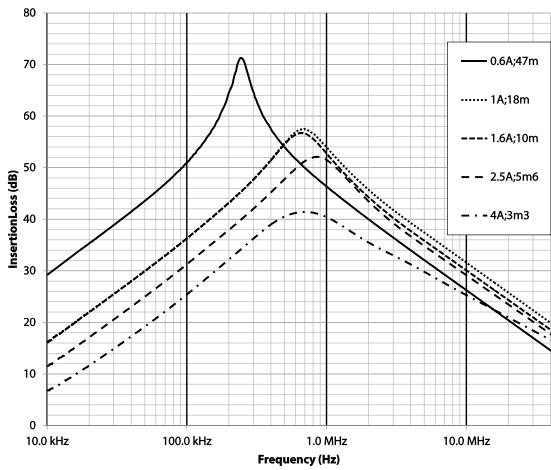
RN 218



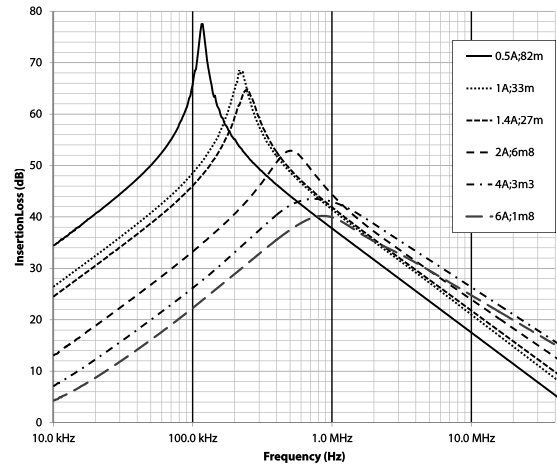
RN 122, RN 222



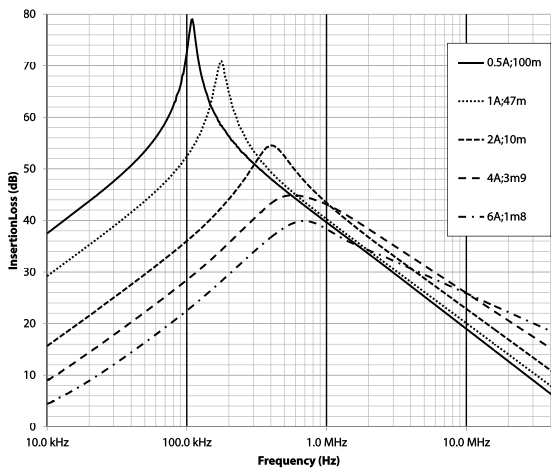
RN 232



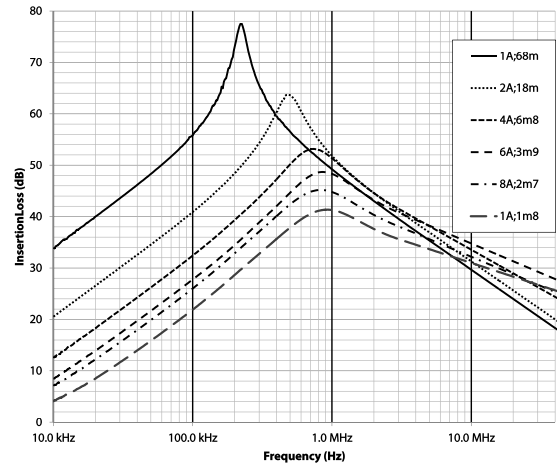
RN 142, RN 242



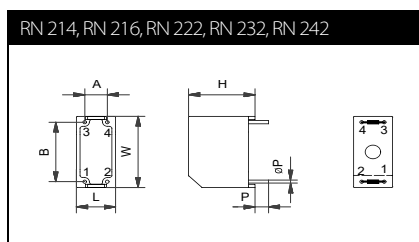
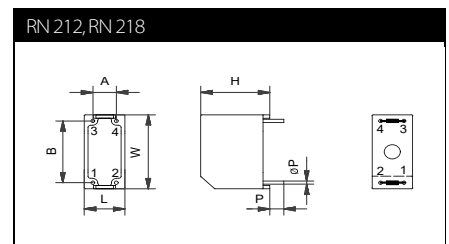
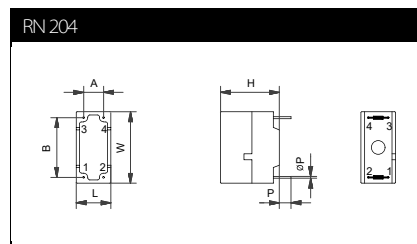
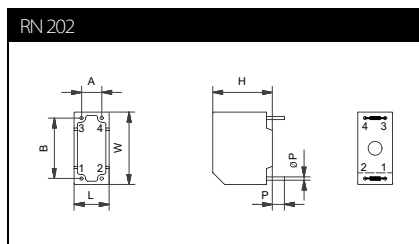
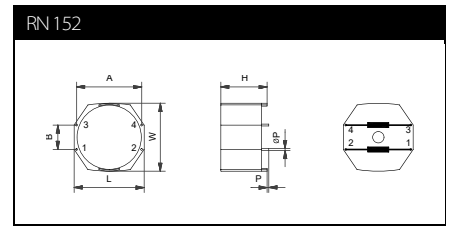
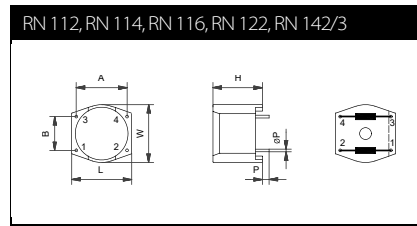
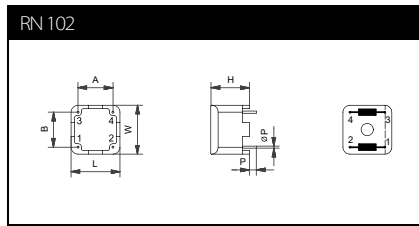
RN 143



RN 152



Mechanical data



Pin material: Steel (base), Cu (under plating), Sn (final plating 6µm)

Dimensions

	A (±0.6 mm)	B (±0.6 mm)	H (±0.3 mm)	L (±0.3 mm)	W (±0.3 mm)	P (±0.5 mm)	ØP (±0.1 mm)
RN 102	100 mm	100 mm	90 mm	140 mm	140 mm	40 mm	0.6 mm
RN 112	150 mm	100 mm	126 mm	177 mm	171 mm	40 mm	0.8 mm
RN 114	201 mm	125 mm	132 mm	225 mm	215 mm	40 mm	0.8 mm
RN 116	201 mm	125 mm	132 mm	225 mm	215 mm	40 mm	0.8 mm
RN 122	250 mm	150 mm	165 mm	280 mm	270 mm	40 mm	0.8 mm
RN 142	300 mm	200 mm	197 mm	331 mm	325 mm	43 mm	0.8 mm
RN 143	300 mm	200 mm	197 mm	331 mm	325 mm	43 mm	0.8 mm
RN 152	400 mm	150 mm	250 mm	430 mm	418 mm	45 mm	1.2 mm
RN 202	51 mm	152 mm	135 mm	88 mm	82 mm	45 mm	0.8 mm
RN 204	76 mm	100 mm	143 mm	90 mm	140 mm	40 mm	0.5 mm
RN 212	100 mm	150 mm	200 mm	125 mm	180 mm	40 mm	0.8 mm
RN 214	125 mm	100 mm	250 mm	155 mm	230 mm	40 mm	0.8 mm
RN 216	125 mm	100 mm	250 mm	155 mm	230 mm	40 mm	0.8 mm
RN 218	100 mm	125 mm	200 mm	125 mm	180 mm	40 mm	0.8 mm
RN 222	150 mm	125 mm	293 mm	180 mm	310 mm	40 mm	0.8 mm
RN 232	150 mm	125 mm	343 mm	180 mm	310 mm	42 mm	0.8 mm
RN 242	150 mm	125 mm	343 mm	180 mm	310 mm	42 mm	0.8 mm

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