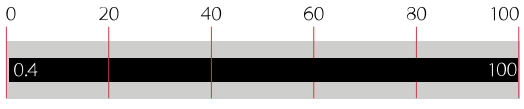
Current-compensated Chokes



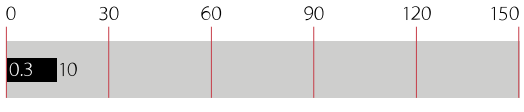
- Rated currents from 0.3 to 10 A
- DC to 400 Hz frequency
- 100 kHz to 3 MHz common-mode resonance frequency
- Dual-choke configurations
- Multiple PCB-mounting options

Performance indicators

Inductance value [mH]



Rated current [A]



Approvals & Compliances

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
- Fully potted design usable for ruggedized applications

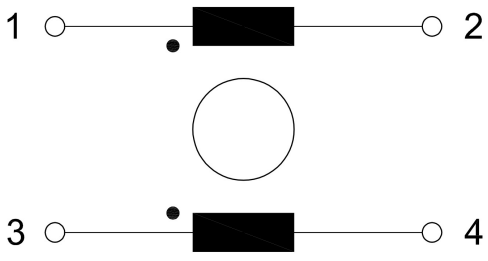
Technical Specifications

Nominal operating voltage	300 VAC
Rated currents	0.3 to 10 A @ 40°C
Operating frequency	DC to 400 Hz
Rated inductance	0.4 to 100 mH
Stray inductance	Typically 1% of Ln
Inductance reduction (DC bias with IN)	Less than 10% (25°C)
Surge current @ 10 msec	20 x nominal current @ 25°C
Temperature range (operation and storage)	-40°C to 100°C (40/100/56) acc. IEC 60068-1
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	Winding-to-housing @ 25°C
Flammability corresponding to	Housing UL 94V-0 Potting compound UL 94V-0
Design corresponding to	UL 1283, IEC/EN 60938-1
MTBF (Mil-HB-217F)	>5,000,000 h @ 40°C/230 V

Typical Applications

- Switch-mode power applications
- Suppressing common-mode interference levels
- EMI input filters
- For suppression-equipment with no earth connection

Typical electrical schematic



Choke Selection Table

Choke	Buy	Current (I_N) [A]	@ ambient temperature [°C]	Inductance (L_N) [mH]	Resistance (R_{DC}) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN102-0.3-02-22M		0.3	40	22.0	1300	10.0	10.0	9.0	4
RN102-0.3-02-12M		0.3	40	12.0	1100	10.0	10.0	9.0	3
RN102-0.6-02-4M4		0.6	40	4.4	380	10.0	10.0	9.0	3
RN102-1-02-3M0		1.0	40	3.0	210	10.0	10.0	9.0	3
RN102-1.5-02-1M6		1.5	40	1.6	94	10.0	10.0	9.0	3
RN102-2-02-1M1		2.0	40	1.1	70	10.0	10.0	9.0	3
RN112-0.4-02-39M		0.4	40	39.0	1500	15.0	10.0	12.6	6
RN112-0.4-02-27M		0.4	40	27.0	1400	15.0	10.0	12.6	6
RN112-0.5-02-27M		0.5	40	27.0	1200	15.0	10.0	12.6	6
RN112-0.5-02-18M		0.5	40	18.0	1100	15.0	10.0	12.6	6
RN112-0.5-02-15M		0.5	40	15.0	700	15.0	10.0	12.6	6
RN112-0.6-02-15M		0.6	40	15.0	490	15.0	10.0	12.6	6
RN112-0.8-02-10M		0.8	40	10.0	380	15.0	10.0	12.6	6
RN112-1.2-02-6M8		1.2	40	6.8	250	15.0	10.0	12.6	6
RN112-1.5-02-3M3		1.5	40	3.3	102	15.0	10.0	12.6	6
RN112-2-02-1M8		2.0	40	1.8	74	15.0	10.0	12.6	6
RN112-2-02-1M0		2.0	40	1.0	70	15.0	10.0	12.6	6
RN112-2.6-02-0M4		2.6	40	0.4	40	15.0	10.0	12.6	6
RN112-3.6-02-0M4		3.6	40	0.4	27	15.0	10.0	12.6	6
RN112-4-02-0M7		4.0	40	0.7	24	15.0	10.0	12.6	6
RN114-0.3-02-47M		0.3	40	47.0	1700	20.1	12.5	13.2	10
RN114-0.5-02-39M		0.5	40	39.0	830	20.1	12.5	13.2	11
RN114-0.8-02-27M		0.8	40	27.0	500	20.1	12.5	13.2	11
RN114-1-02-15M		1.0	40	15.0	370	20.1	12.5	13.2	10
RN114-1.2-02-10M		1.2	40	10.0	195	20.1	12.5	13.2	10
RN114-1.5-02-6M8		1.5	40	6.8	123	20.1	12.5	13.2	11
RN114-2-02-4M2		2.0	40	4.2	100	20.1	12.5	13.2	11
RN114-2.5-02-3M3		2.5	40	3.3	72	20.1	12.5	13.2	11
RN114-3-02-2M0		3.0	40	2.0	52	20.1	12.5	13.2	10
RN114-4-02-1M5		4.0	40	1.5	34	20.1	12.5	13.2	11
RN116-0.5-02-47M		0.5	60	47.0	960	20.1	12.5	13.2	11
RN116-0.5-02-39M		0.5	60	39.0	920	20.1	12.5	13.2	11
RN116-0.5-02-27M		0.5	60	27.0	790	20.1	12.5	13.2	11
RN116-0.8-02-27M		0.8	60	27.0	370	20.1	12.5	13.2	13
RN116-1-02-15M		1.0	60	15.0	260	20.1	12.5	13.2	12
RN116-1-02-10M		1.0	60	10.0	210	20.1	12.5	13.2	11
RN116-1.3-02-6M8		1.3	60	6.8	140	20.1	12.5	13.2	12
RN116-1.5-02-10M		1.5	60	10.0	148	20.1	12.5	13.2	12
RN116-1.7-02-4M0		1.7	60	4.0	87	20.1	12.5	13.2	12
RN116-2-02-3M3		2.0	60	3.3	70	20.1	12.5	13.2	12
RN116-2-02-2M2		2.0	60	2.2	66	20.1	12.5	13.2	11
RN122-0.5-02-56M		0.5	40	56.0	1800	25.0	15.0	16.5	20
RN122-0.6-02-47M		0.6	40	47.0	1300	25.0	15.0	16.5	20
RN122-0.8-02-39M		0.8	40	39.0	1000	25.0	15.0	16.5	20
RN122-1-02-18M		1.0	40	18.0	630	25.0	15.0	16.5	19
RN122-1-02-10M		1.0	40	10.0	560	25.0	15.0	16.5	19
RN122-1.5-02-10M		1.5	40	10.0	250	25.0	15.0	16.5	20
RN122-2-02-6M8		2.0	40	6.8	156	25.0	15.0	16.5	20
RN122-2-02-5M0		2.0	40	5.0	140	25.0	15.0	16.5	21
RN122-2.5-02-5M6		2.5	40	5.6	110	25.0	15.0	16.5	20
RN122-3-02-4M5		3.0	40	4.5	80	25.0	15.0	16.5	21
RN122-4-02-3M3		4.0	40	3.3	46	25.0	15.0	16.5	22
RN122-4-02-1M8		4.0	40	1.8	42	25.0	15.0	16.5	22

Choke	Buy	Current (I_N) [A]	@ ambient temperature [°C]	Inductance (L_N) [mH]	Resistance (R_{DC}) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN142-0.5-02-82M		0.5	40	82.0	2700	30.0	20.0	19.7	36
RN142-1-02-33M		1.0	40	33.0	810	30.0	20.0	19.7	37
RN142-1.4-02-27M		1.4	40	27.0	500	30.0	20.0	19.7	40
RN142-2-02-6M8		2.0	40	6.8	192	30.0	20.0	19.7	36
RN142-4-02-3M3		4.0	40	3.3	67	30.0	20.0	19.7	38
RN142-6-02-1M8		6.0	40	1.8	20	30.0	20.0	19.7	40
RN143-0.5-02-100M		0.5	40	100.0	2900	30.0	20.0	19.7	36
RN143-1-02-47M		1.0	40	47.0	890	30.0	20.0	19.7	38
RN143-2-02-10M		2.0	40	10.0	240	30.0	20.0	19.7	42
RN143-4-02-3M9		4.0	40	3.9	59	30.0	20.0	19.7	39
RN143-6-02-1M8		6.0	40	1.8	20	30.0	20.0	19.7	42
RN152-1-02-68M		1.0	40	68.0	1300	40.0	15.0	25.0	75
RN152-2-02-18M		2.0	40	18.0	450	40.0	15.0	25.0	64
RN152-4-02-6M8		4.0	40	6.8	87	40.0	15.0	25.0	74
RN152-6-02-3M9		6.0	40	3.9	42	40.0	15.0	25.0	68
RN152-8-02-2M7		8.0	40	2.7	22	40.0	15.0	25.0	73
RN152-10-02-1M8		10.0	40	1.8	14	40.0	15.0	25.0	73
RN202-0.3-02-22M		0.3	40	22.0	1300	5.1	15.2	13.5	4
RN202-0.3-02-12M		0.3	40	12.0	1100	5.1	15.2	13.5	4
RN202-0.6-02-4M4		0.6	40	4.4	380	5.1	15.2	13.5	4
RN202-1-02-3M0		1.0	40	3.0	210	5.1	15.2	13.5	4
RN202-1.5-02-1M6		1.5	40	1.6	94	5.1	15.2	13.5	4
RN202-2-02-1M1		2.0	40	1.1	70	5.1	15.2	13.5	4
RN204-0.3-02-22M		0.3	40	22.0	1300	7.6	10.0	14.3	3
RN204-0.3-02-12M		0.3	40	12.0	960	7.6	10.0	14.3	3
RN204-0.6-02-4M4		0.6	40	4.4	350	7.6	10.0	14.3	3
RN204-1-02-3M0		1.0	40	3.0	192	7.6	10.0	14.3	3
RN204-1.5-02-1M6		1.5	40	1.6	96	7.6	10.0	14.3	3
RN204-2-02-1M1		2.0	40	1.1	57	7.6	10.0	14.3	3
RN212-0.4-02-39M		0.4	40	39.0	1500	10.0	15.0	20.0	8
RN212-0.4-02-27M		0.4	40	27.0	1400	10.0	15.0	20.0	8
RN212-0.5-02-27M		0.5	40	27.0	1200	10.0	15.0	20.0	8
RN212-0.5-02-18M		0.5	40	18.0	1100	10.0	15.0	20.0	8
RN212-0.5-02-15M		0.5	40	15.0	700	10.0	15.0	20.0	8
RN212-0.6-02-15M		0.6	40	15.0	490	10.0	15.0	20.0	8
RN212-0.8-02-10M		0.8	40	10.0	380	10.0	15.0	20.0	8
RN212-1.2-02-6M8		1.2	40	6.8	250	10.0	15.0	20.0	8
RN212-1.5-02-3M3		1.5	40	3.3	102	10.0	15.0	20.0	8
RN212-2-02-1M8		2.0	40	1.8	74	10.0	15.0	20.0	8
RN212-2-02-1M0		2.0	40	1.0	70	10.0	15.0	20.0	8
RN212-2.6-02-0M4		2.6	40	0.4	40	10.0	15.0	20.0	8
RN212-3.6-02-0M4		3.6	40	0.4	27	10.0	15.0	20.0	8
RN212-4-02-0M7		4.0	40	0.7	24	10.0	15.0	20.0	8
RN214-0.3-02-47M		0.3	40	47.0	1700	12.5	10.0	25.0	14
RN214-0.5-02-56M		0.5	40	56.0	1700	12.5	10.0	25.0	15
RN214-0.5-02-39M		0.5	40	39.0	830	12.5	10.0	25.0	14
RN214-0.8-02-27M		0.8	40	27.0	500	12.5	10.0	25.0	15
RN214-1-02-15M		1.0	40	15.0	370	12.5	10.0	25.0	14
RN214-1.2-02-10M		1.2	40	10.0	195	12.5	10.0	25.0	15
RN214-1.5-02-6M8		1.5	40	6.8	123	12.5	10.0	25.0	15
RN214-2-02-4M2		2.0	40	4.2	100	12.5	10.0	25.0	14

Choke	Buy	Current (I_N) [A]	@ ambient temperature [°C]	Inductance (L_N) [mH]	Resistance (R_{DC}) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN214-2-02-2M2		2.0	40	2.2	67	12.5	10.0	25.0	14
RN214-2.5-02-3M3		2.5	40	3.3	72	12.5	10.0	25.0	15
RN214-3-02-2M0		3.0	40	2.0	52	12.5	10.0	25.0	14
RN214-4-02-1M5		4.0	40	1.5	34	12.5	10.0	25.0	15
RN216-0.5-02-47M		0.5	60	47.0	960	12.5	10.0	25.0	15
RN216-0.5-02-39M		0.5	60	39.0	920	12.5	10.0	25.0	15
RN216-0.5-02-27M		0.5	60	27.0	790	12.5	10.0	25.0	15
RN216-0.8-02-27M		0.8	60	27.0	370	12.5	10.0	25.0	16
RN216-1-02-15M		1.0	60	15.0	260	12.5	10.0	25.0	16
RN216-1-02-10M		1.0	60	10.0	210	12.5	10.0	25.0	15
RN216-1.3-02-6M8		1.3	60	6.8	140	12.5	10.0	25.0	16
RN216-1.5-02-10M		1.5	60	10.0	148	12.5	10.0	25.0	16
RN216-1.7-02-4M0		1.7	60	4.0	87	12.5	10.0	25.0	16
RN216-2-02-3M3		2.0	60	3.3	70	12.5	10.0	25.0	16
RN216-2-02-2M2		2.0	60	2.2	66	12.5	10.0	25.0	15
RN218-0.4-02-100M		0.4	40	100	2800	10.0	12.5	20.0	8
RN218-0.6-02-47M		0.6	40	47.0	1200	10.0	12.5	20.0	8
RN218-0.7-02-39M		0.7	40	39.0	1150	10.0	12.5	20.0	8
RN218-0.9-02-27M		0.9	40	27.0	620	10.0	12.5	20.0	8
RN218-1-02-22M		1.0	40	22.0	520	10.0	12.5	20.0	8
RN218-1.1-02-15M		1.1	40	15.0	420	10.0	12.5	20.0	8
RN218-1.4-02-10M		1.4	40	10.0	330	10.0	12.5	20.0	8
RN218-1.7-02-6M8		1.7	40	6.8	180	10.0	12.5	20.0	8
RN218-2.2-02-3M3		2.2	40	3.3	100	10.0	12.5	20.0	8
RN222-0.5-02-56M		0.5	40	56.0	1800	15.0	12.5	29.3	27
RN222-0.6-02-47M		0.6	40	47.0	1300	15.0	12.5	29.3	26
RN222-0.8-02-39M		0.8	40	39.0	1000	15.0	12.5	29.3	27
RN222-1-02-33M		1.0	40	33.0	1300	15.0	12.5	29.3	29
RN222-1-02-18M		1.0	40	18.0	630	15.0	12.5	29.3	26
RN222-1.5-02-10M		1.5	40	10.0	250	15.0	12.5	29.3	26
RN222-2-02-6M8		2.0	40	6.8	156	15.0	12.5	29.3	28
RN222-2.5-02-5M6		2.5	40	5.6	110	15.0	12.5	29.3	27
RN222-3-02-4M5		3.0	40	4.5	80	15.0	12.5	29.3	28
RN222-4-02-3M3		4.0	40	3.3	46	15.0	12.5	29.3	28
RN232-0.6-02-47M		0.6	40	47.0	1300	15.0	12.5	34.3	37
RN232-1-02-18M		1.0	40	18.0	390	15.0	12.5	34.3	38
RN232-1.6-02-10M		1.6	40	10.0	170	15.0	12.5	34.3	38
RN232-2.5-02-5M6		2.5	40	5.6	86	15.0	12.5	34.3	38
RN232-4-02-3M3		4.0	40	3.3	54	15.0	12.5	34.3	38
RN242-0.5-02-82M		0.5	40	82.0	2700	15.0	12.5	34.3	37
RN242-1-02-33M		1.0	40	33.0	810	15.0	12.5	34.3	38
RN242-1.4-02-27M		1.4	40	27.0	500	15.0	12.5	34.3	38
RN242-2-02-6M8		2.0	40	6.8	192	15.0	12.5	34.3	37
RN242-4-02-3M3		4.0	40	3.3	67	15.0	12.5	34.3	38
RN242-6-02-1M8		6.0	40	1.8	20	15.0	12.5	34.3	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

Distribution Inventory

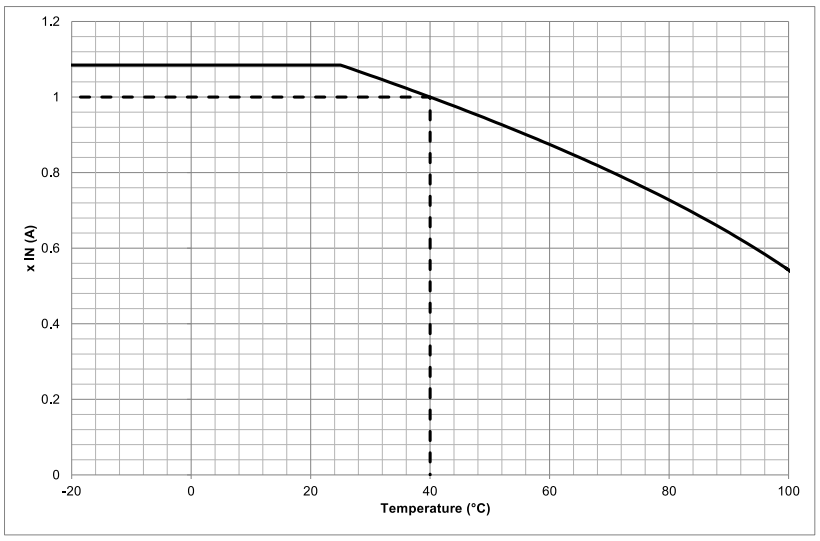
Up-to-date inventory levels for global distributors is available at

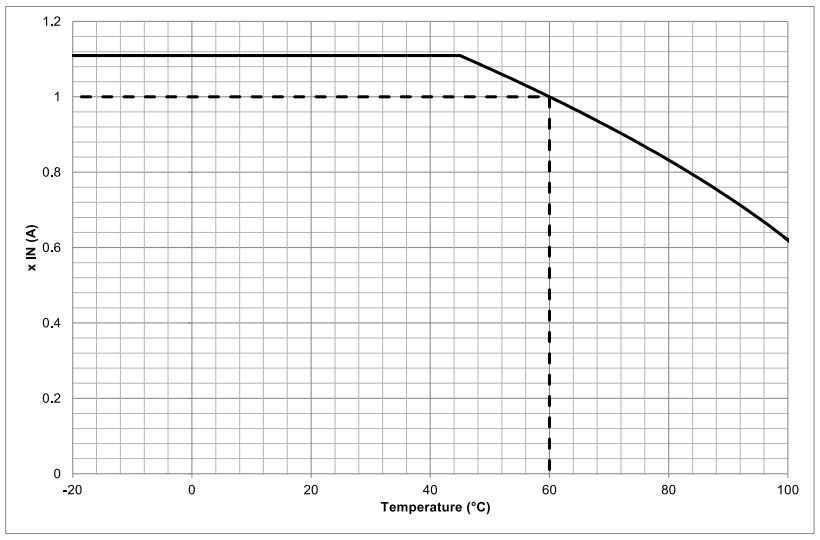
https://products.schaffner.com/stock

Thermal Derating

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

Graph on the left side applies to RN with rated ambient temperature of 40 °C, right side for rated ambient temperature of 60 °C.

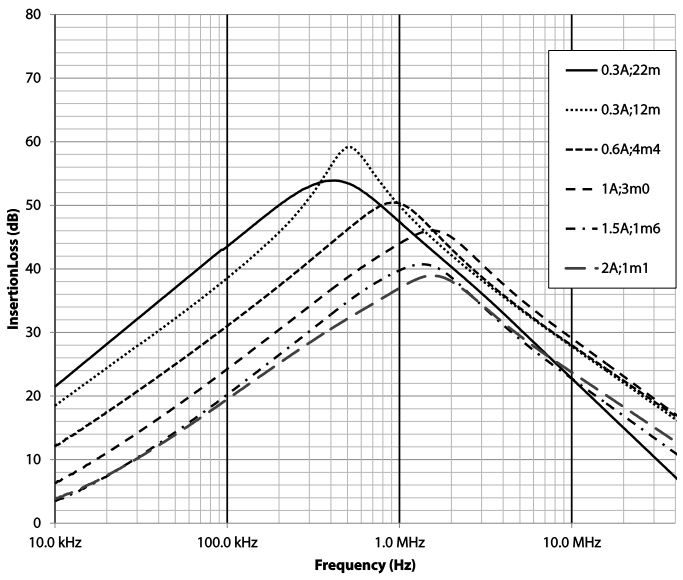




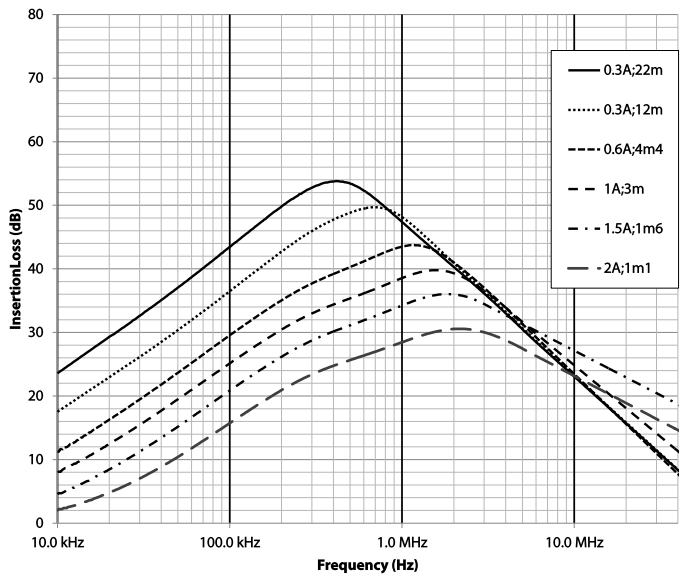
Typical Attenuation/Resonance Frequency Characteristics

Per CISPR 17; 50 Ω/50 Ω asym
X can be exchanged with either 1 or 2 for different housing configuration, attenuation is similar

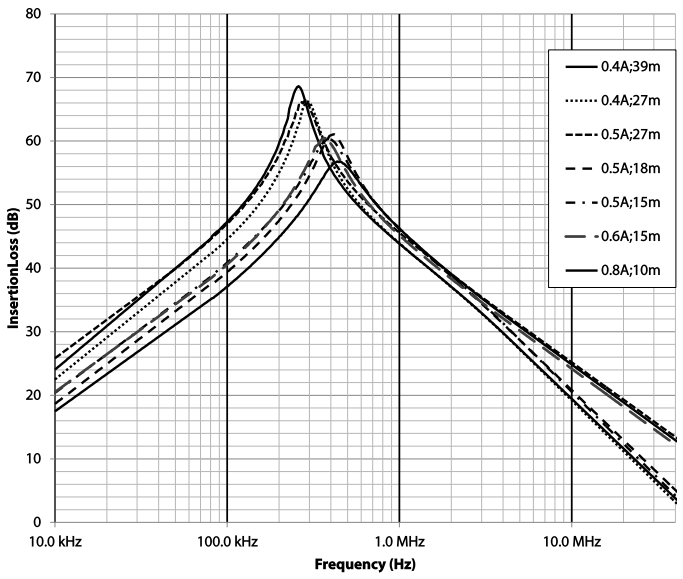
RN 102, RN 202



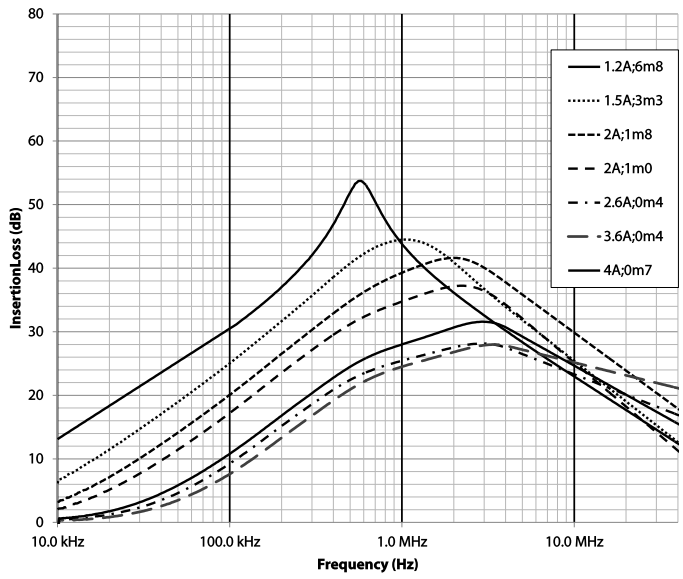
RN 204



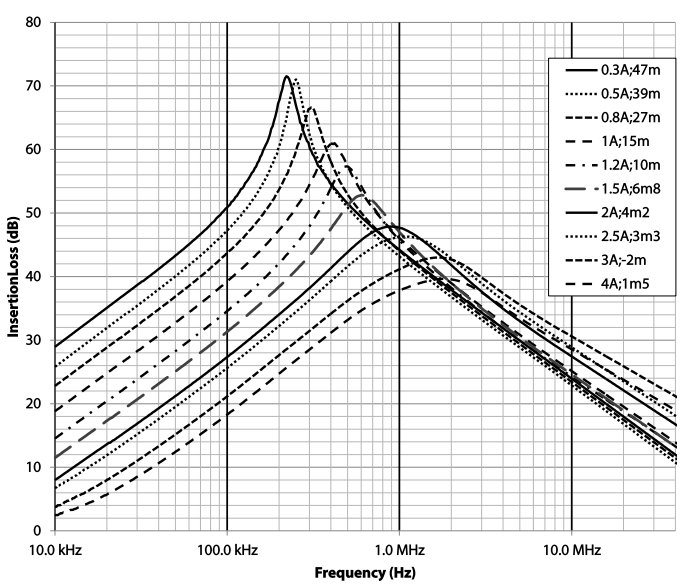
RN 112, RN 212 (<1 A)



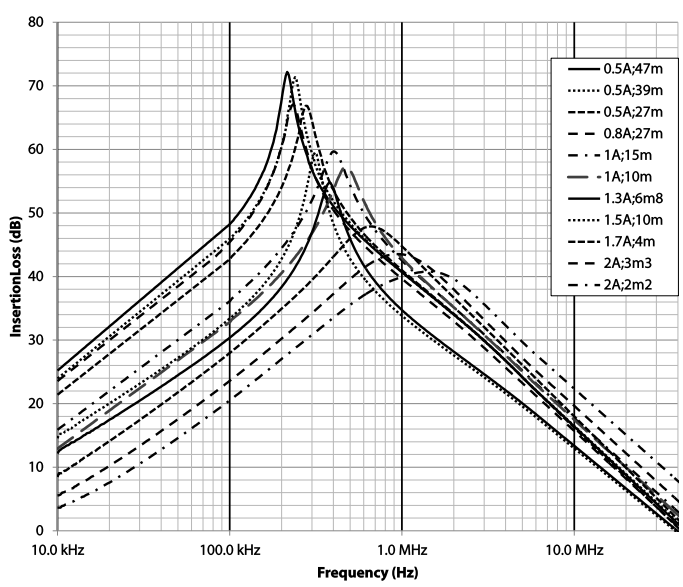
RN 112, RN 212 (>1 A)



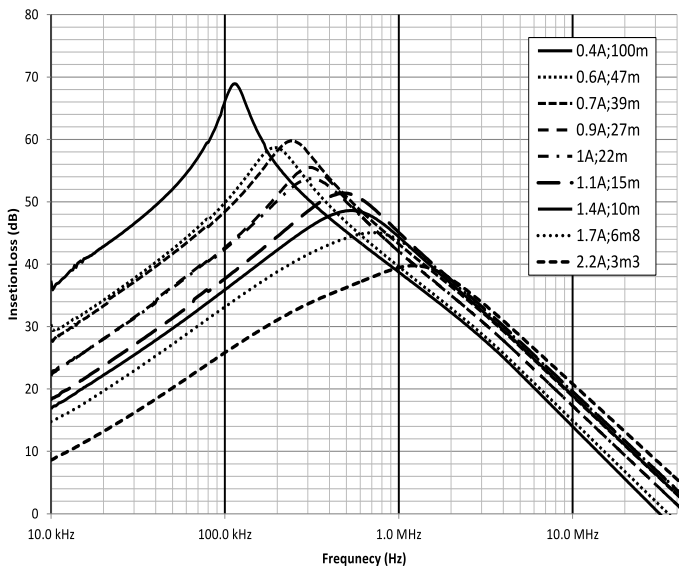
RN 114, RN 214



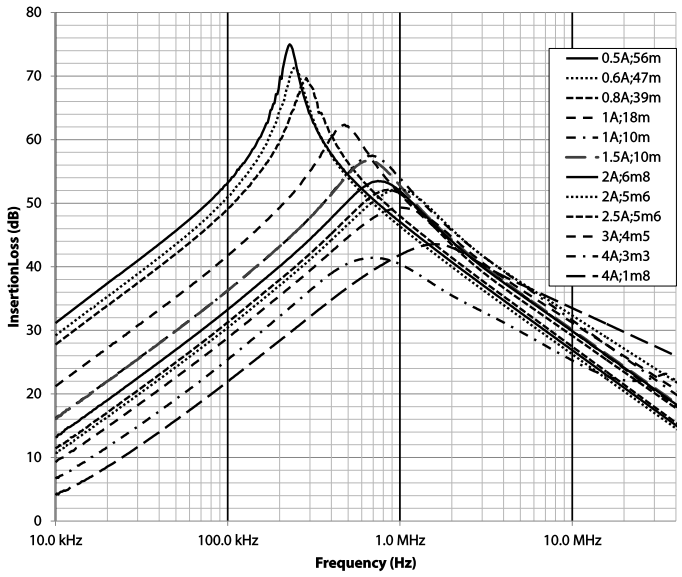
RN 116, RN 216



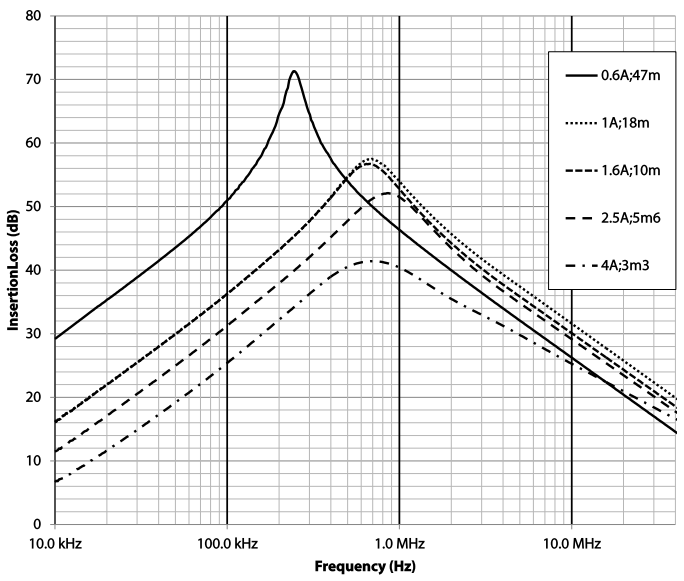
RN 218



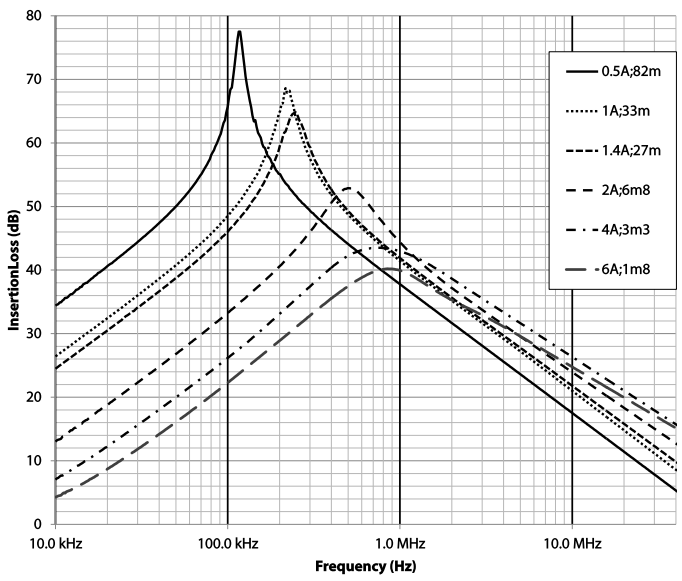
RN 122, RN 222



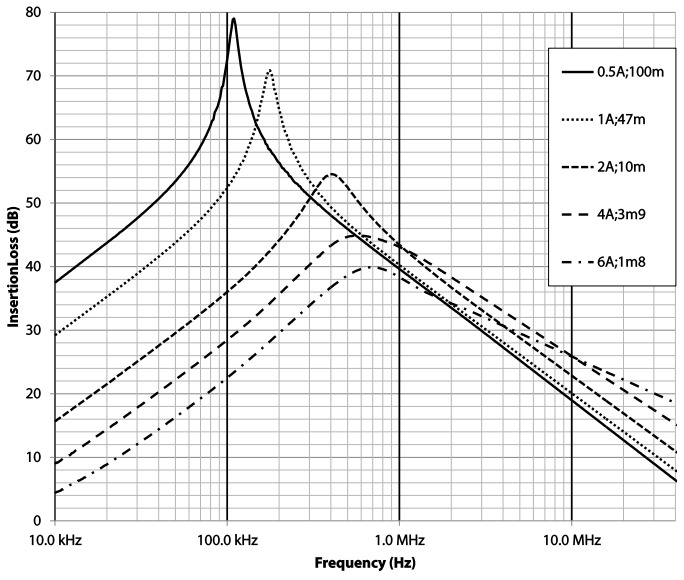
RN 232



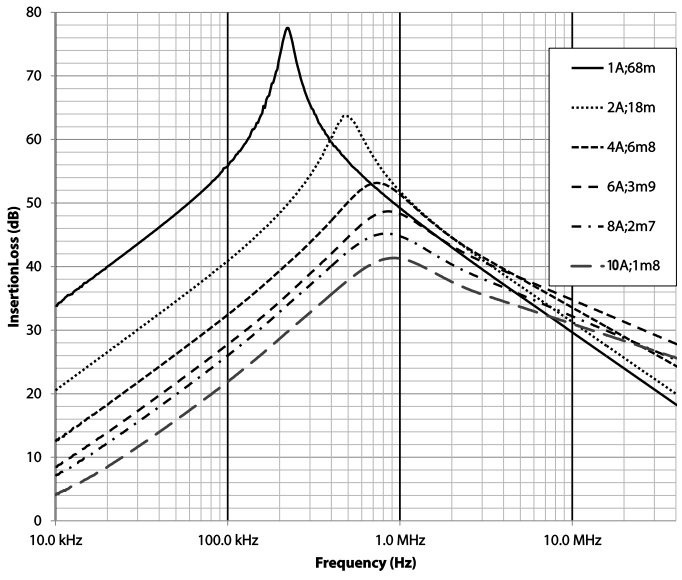
RN 142, RN 242



RN 143

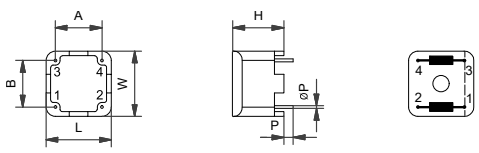


RN 152

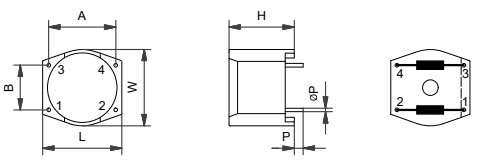


Mechanical Data

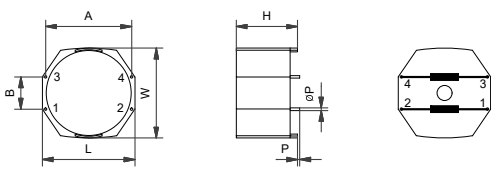
RN 102



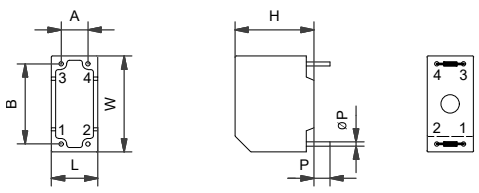
RN 112, RN 114, RN 116, RN 122, RN 142/3



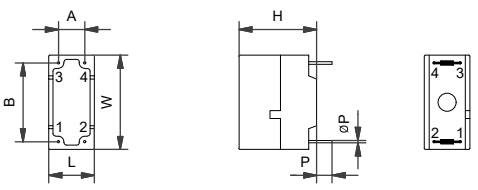
RN 152



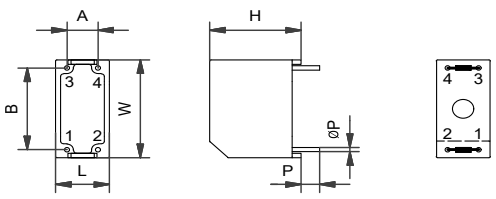
RN 202



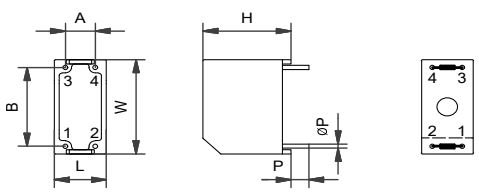
RN 204



RN 212, RN 218



RN 214, RN 216, RN 222, RN 232, RN 242



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	10.0 mm	10.0 mm	9.0 mm	14.0 mm	14.0 mm	4.0 mm	0.6 mm
RN 112	15.0 mm	10.0 mm	12.6 mm	17.7 mm	17.1 mm	4.0 mm	0.8 mm
RN 114	20.1 mm	12.5 mm	13.2 mm	22.5 mm	21.5 mm	4.0 mm	0.8 mm
RN 116	20.1 mm	12.5 mm	13.2 mm	22.5 mm	21.5 mm	4.0 mm	0.8 mm
RN 122	25.0 mm	15.0 mm	16.5 mm	28.0 mm	27.0 mm	4.0 mm	0.8 mm
RN 142	30.0 mm	20.0 mm	19.7 mm	33.1 mm	32.5 mm	4.3 mm	0.8 mm
RN 143	30.0 mm	20.0 mm	19.7 mm	33.1 mm	32.5 mm	4.3 mm	0.8 mm
RN 152	40.0 mm	15.0 mm	25.0 mm	43.0 mm	41.8 mm	4.5 mm	1.2 mm
RN 202	5.1 mm	15.2 mm	13.5 mm	8.8 mm	18.2 mm	4.5 mm	0.8 mm
RN 204	7.6 mm	10.0 mm	14.3 mm	9.0 mm	14.0 mm	4.0 mm	0.5 mm
RN 212	10.0 mm	15.0 mm	20.0 mm	12.5 mm	18.0 mm	4.0 mm	0.8 mm
RN 214	12.5 mm	10.0 mm	25.0 mm	15.5 mm	23.0 mm	4.0 mm	0.8 mm
RN 216	12.5 mm	10.0 mm	25.0 mm	15.5 mm	23.0 mm	4.0 mm	0.8 mm
RN 218	10.0 mm	12.5 mm	20.0 mm	12.5 mm	18.0 mm	4.0 mm	0.8 mm
RN 222	15.0 mm	12.5 mm	29.3 mm	18.0 mm	31.0 mm	4.0 mm	0.8 mm
RN 232	15.0 mm	12.5 mm	34.3 mm	18.0 mm	31.0 mm	4.2 mm	0.8 mm
RN 242	15.0 mm	12.5 mm	34.3 mm	18.0 mm	31.0 mm	4.2 mm	0.8 mm

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