

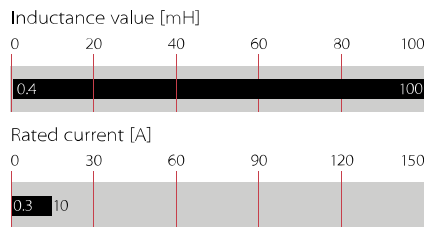
## Current-compensated Chokes



- 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

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

### Approvals



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.

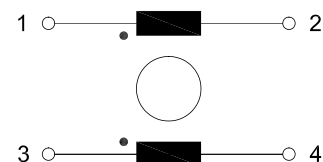
### Features and benefits

- 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

### 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



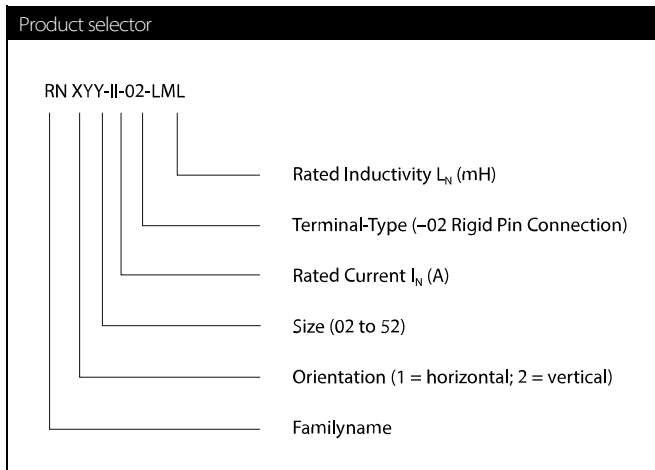
## Choke selection table

Choke	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	30	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	3.3	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	132	10
RN 114-0.5-02-39M	0.5	40	390	830	20.1	12.5	132	11
RN 114-0.8-02-27M	0.8	40	270	500	20.1	12.5	132	11
RN 114-1-02-15M	1.0	40	150	370	20.1	12.5	132	10
RN 114-1.2-02-10M	1.2	40	100	195	20.1	12.5	132	10
RN 114-1.5-02-6M8	1.5	40	68	123	20.1	12.5	132	11
RN 114-2-02-4M2	2.0	40	4.2	100	20.1	12.5	132	11
RN 114-2.5-02-3M3	2.5	40	3.3	72	20.1	12.5	132	11
RN 114-3-02-2M0	3.0	40	2.0	52	20.1	12.5	132	10
RN 114-4-02-1M5	4.0	40	1.5	34	20.1	12.5	132	11
RN 116-0.5-02-47M	0.5	60	470	960	20.1	12.5	132	11
RN 116-0.5-02-39M	0.5	60	390	920	20.1	12.5	132	11
RN 116-0.5-02-27M	0.5	60	270	790	20.1	12.5	132	11
RN 116-0.8-02-27M	0.8	60	270	370	20.1	12.5	132	13
RN 116-1-02-15M	1.0	60	150	260	20.1	12.5	132	12
RN 116-1-02-10M	1.0	60	100	210	20.1	12.5	132	11
RN 116-1.3-02-6M8	1.3	60	68	140	20.1	12.5	132	12
RN 116-1.5-02-10M	1.5	60	100	148	20.1	12.5	132	12
RN 116-1.7-02-4M0	1.7	60	40	87	20.1	12.5	132	12
RN 116-2-02-3M3	2.0	60	3.3	70	20.1	12.5	132	12
RN 116-2-02-2M2	2.0	60	2.2	66	20.1	12.5	132	11
RN 122-0.5-02-56M	0.5	40	560	1800	25.0	15.0	165	20
RN 122-0.6-02-47M	0.6	40	470	1300	25.0	15.0	165	20
RN 122-0.8-02-39M	0.8	40	390	1000	25.0	15.0	165	20
RN 122-1-02-18M	1.0	40	180	630	25.0	15.0	165	19
RN 122-1-02-10M	1.0	40	100	560	25.0	15.0	165	19
RN 122-1.5-02-10M	1.5	40	100	250	25.0	15.0	165	20
RN 122-2-02-6M8	2.0	40	68	156	25.0	15.0	165	20
RN 122-2-02-5M0	2.0	40	5.0	140	25.0	15.0	165	21
RN 122-2.5-02-5M6	2.5	40	5.6	110	25.0	15.0	165	20
RN 122-3-02-4M5	3.0	40	4.5	80	25.0	15.0	165	21
RN 122-4-02-3M3	4.0	40	3.3	46	25.0	15.0	165	22
RN 122-4-02-1M8	4.0	40	1.8	42	25.0	15.0	165	22

Choke	Current	@ ambient	Inductance	Resistance	A	B	H	Weight
	(In)	temperature		(L <sub>N</sub> )				
	[A]	[°C]	[mH]	[mOhm]	[mm]	[mm]	[mm]	[g]
RN 142-0.5-02-82M	0.5	40	82.0	2700	300	200	19.7	36
RN 142-1-02-33M	1.0	40	33.0	810	300	200	19.7	37
RN 142-1.4-02-27M	1.4	40	27.0	500	300	200	19.7	40
RN 142-2-02-6M8	2.0	40	6.8	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	0.5	40	100.0	2900	300	200	19.7	36
RN 143-1-02-47M	1.0	40	47.0	890	300	200	19.7	38
RN 143-2-02-10M	2.0	40	10.0	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	68.0	1300	400	150	25.0	75
RN 152-2-02-18M	2.0	40	18.0	350	400	150	25.0	64
RN 152-4-02-6M8	4.0	40	6.8	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	0.3	40	22.0	1300	5.1	152	135	4
RN 202-0.3-02-12M	0.3	40	12.0	1100	5.1	152	135	4
RN 202-0.6-02-4M4	0.6	40	4.4	380	5.1	152	135	4
RN 202-1-02-3M0	1.0	40	3.0	210	5.1	152	135	4
RN 202-1.5-02-1M6	1.5	40	1.6	94	5.1	152	135	4
RN 202-2-02-1M1	2.0	40	1.1	70	5.1	152	135	4
RN 204-0.3-02-22M	0.3	40	22.0	1300	7.6	100	143	3
RN 204-0.3-02-12M	0.3	40	12.0	960	7.6	100	143	3
RN 204-0.6-02-4M4	0.6	40	4.4	350	7.6	100	143	3
RN 204-1-02-3M0	1.0	40	3.0	192	7.6	100	143	3
RN 204-1.5-02-1M6	1.5	40	1.6	96	7.6	100	143	3
RN 204-2-02-1M1	2.0	40	1.1	57	7.6	100	143	3
RN 212-0.4-02-39M	0.4	40	39.0	1500	100	150	200	8
RN 212-0.4-02-27M	0.4	40	27.0	1400	100	150	200	8
RN 212-0.5-02-27M	0.5	40	27.0	1200	100	150	200	8
RN 212-0.5-02-18M	0.5	40	18.0	1100	100	150	200	8
RN 212-0.5-02-15M	0.5	40	15.0	700	100	150	200	8
RN 212-0.6-02-15M	0.6	40	15.0	490	100	150	200	8
RN 212-0.8-02-10M	0.8	40	10.0	380	100	150	200	8
RN 212-1.2-02-6M8	1.2	40	6.8	250	100	150	200	8
RN 212-1.5-02-3M3	1.5	40	3.3	102	100	150	200	8
RN 212-2-02-1M8	2.0	40	1.8	74	100	150	200	8
RN 212-2-02-1M0	2.0	40	1.0	70	100	150	200	8
RN 212-2.6-02-0M4	2.6	40	0.4	40	100	150	200	8
RN 212-3.6-02-0M4	3.6	40	0.4	27	100	150	200	8
RN 212-4-02-0M7	4.0	40	0.7	24	100	150	200	8
RN 214-0.3-02-47M	0.3	40	47.0	1700	125	100	25.0	14
RN 214-0.5-02-56M	0.5	40	56.0	1700	125	100	25.0	15
RN 214-0.5-02-39M	0.5	40	39.0	830	125	100	25.0	14
RN 214-0.8-02-27M	0.8	40	27.0	500	125	100	25.0	15
RN 214-1-02-15M	1.0	40	15.0	370	125	100	25.0	14
RN 214-1.2-02-10M	1.2	40	10.0	195	125	100	25.0	15
RN 214-1.5-02-6M8	1.5	40	6.8	123	125	100	25.0	15
RN 214-2-02-4M2	2.0	40	4.2	100	125	100	25.0	14

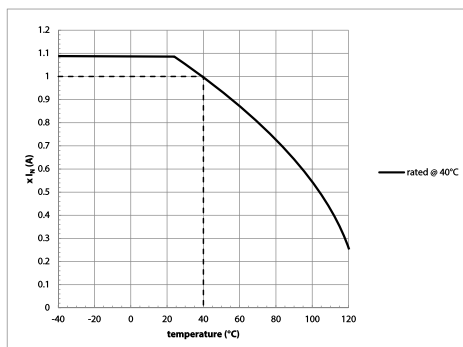
Choke	Current (In) [A]	@ ambient temperature [°C]	Inductance (L <sub>N</sub> ) [mH]	Resistance (R <sub>DC</sub> ) [mOhm]	A [mm]	B [mm]	H [mm]	Weight (g)
RN 214-2-02-2M2	20	40	22	67	125	100	250	14
RN 214-2.5-02-3M3	25	40	33	72	125	100	250	15
RN 214-3-02-2M0	30	40	20	52	125	100	250	14
RN 214-4-02-1M5	40	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	13	60	68	140	125	100	250	16
RN 216-1.5-02-10M	15	60	100	148	125	100	250	16
RN 216-1.7-02-4M0	17	60	40	87	125	100	250	16
RN 216-2-02-3M3	20	60	33	70	125	100	250	16
RN 216-2-02-2M2	20	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	22	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	15	40	100	250	150	125	293	26
RN 222-2-02-6M8	20	40	68	156	150	125	293	28
RN 222-2.5-02-5M6	25	40	56	110	150	125	293	27
RN 222-3-02-4M5	30	40	45	80	150	125	293	28
RN 222-4-02-3M3	40	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	25	40	56	86	150	125	293	38
RN 232-4-02-3M3	40	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	20	40	68	192	150	125	343	37
RN 242-4-02-3M3	40	40	33	67	150	125	343	38
RN 242-6-02-1M8	60	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.



## Thermal Derating

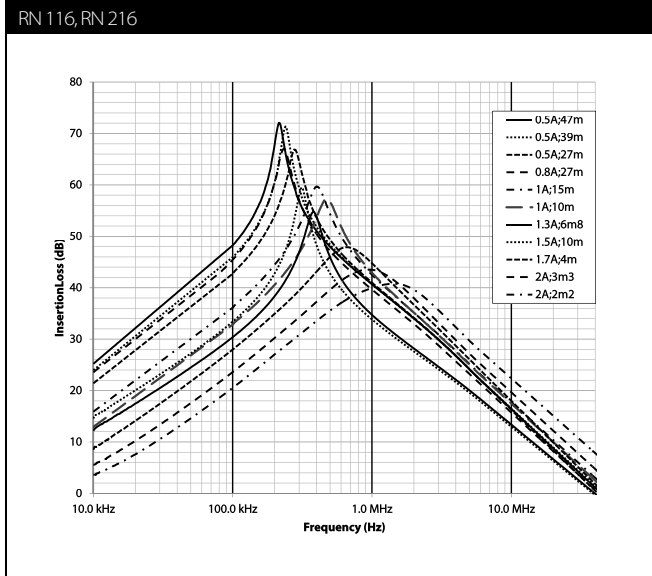
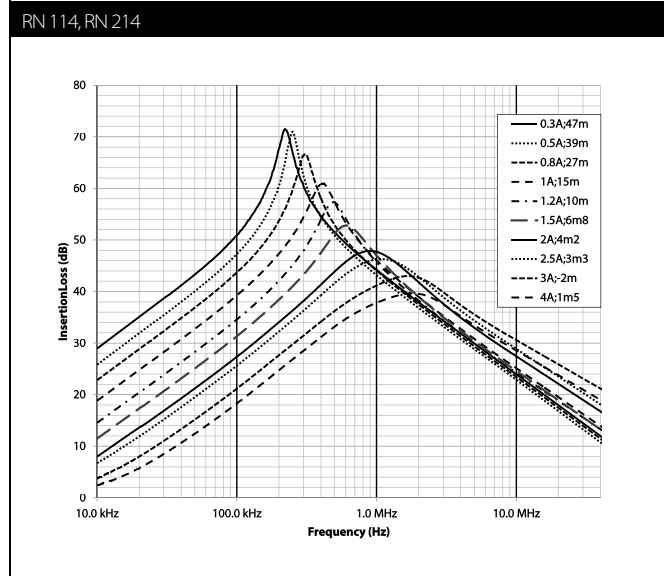
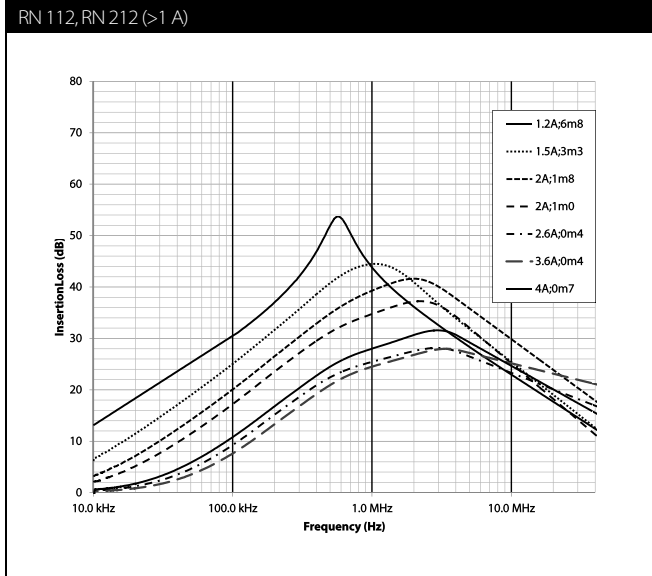
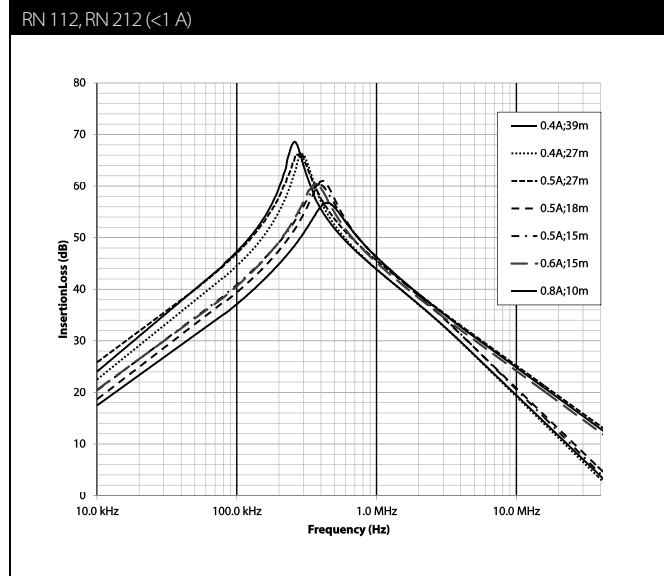
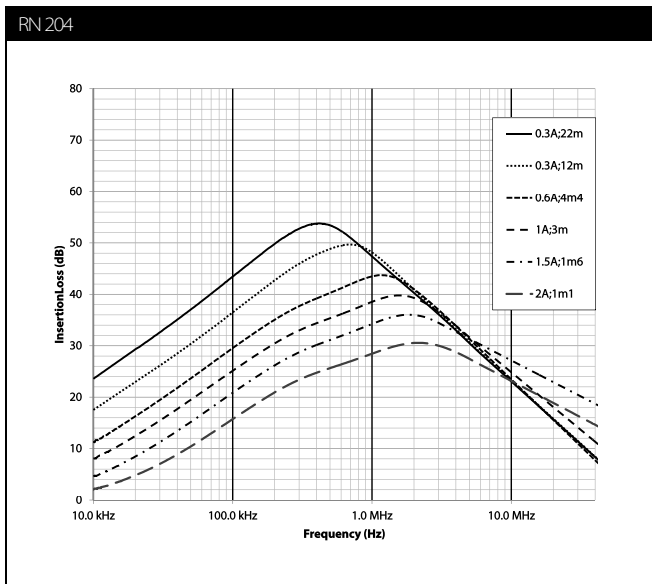
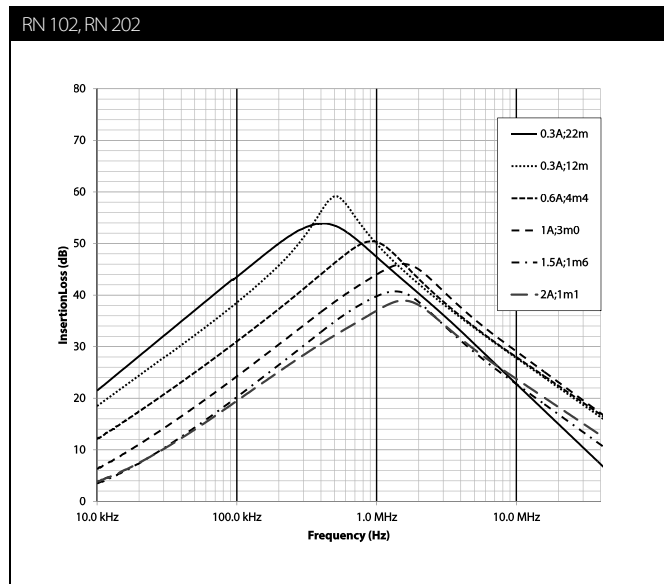
If higher ambient temperatures than the specified apply, the nominal current needs to be reduced according to the graph below.



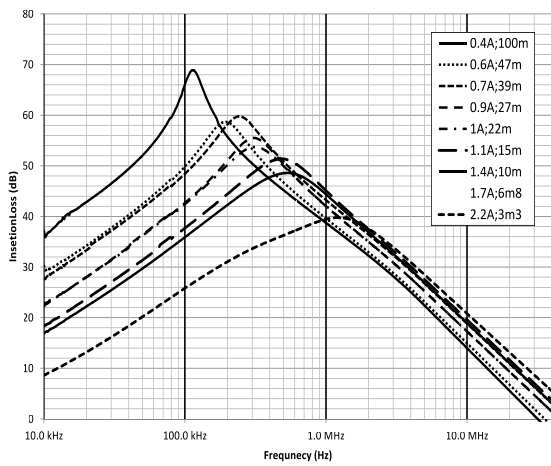
### Typical attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

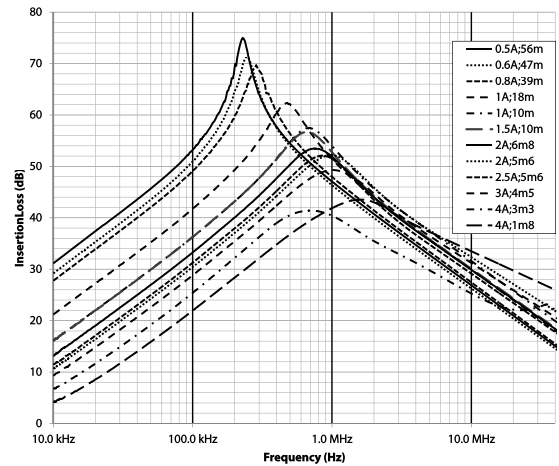
X can be exchanged with either 1 or 2 for different housing configuration, attenuation is similar



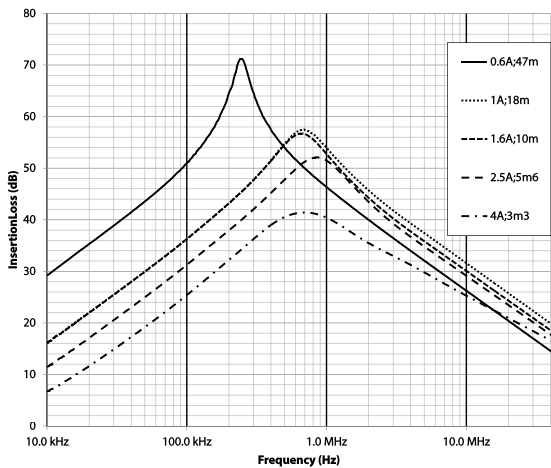
RN 218



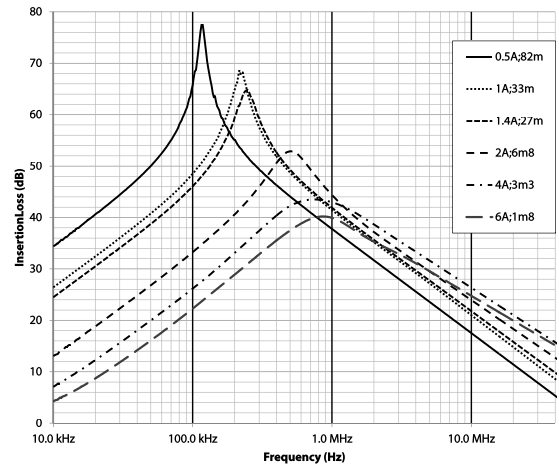
RN 122, RN 222



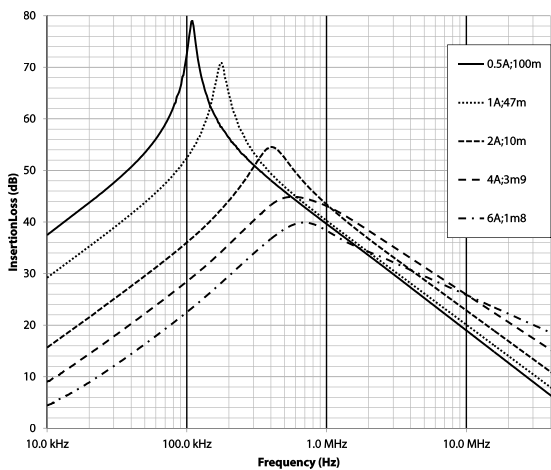
RN 232



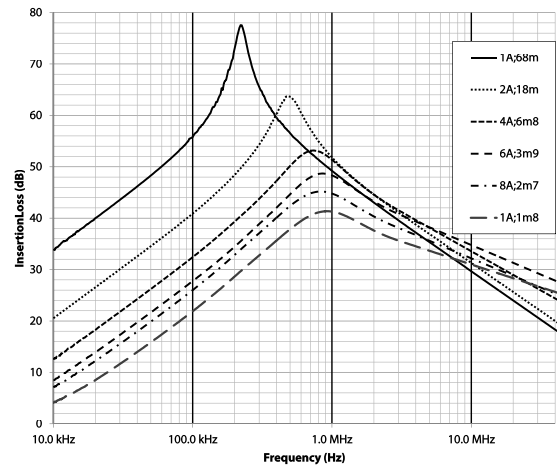
RN 142, RN 242

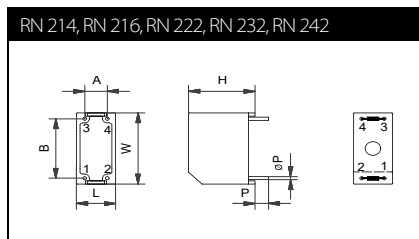
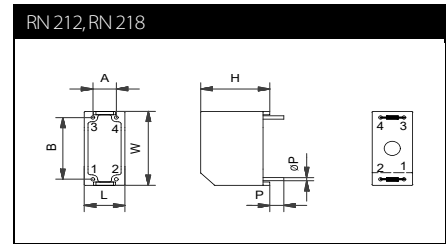
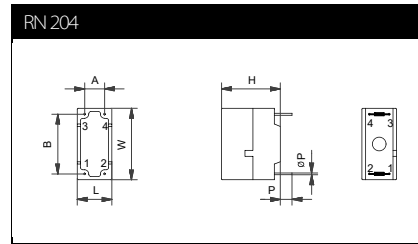
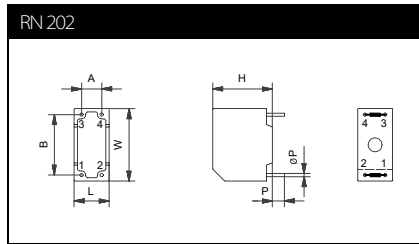
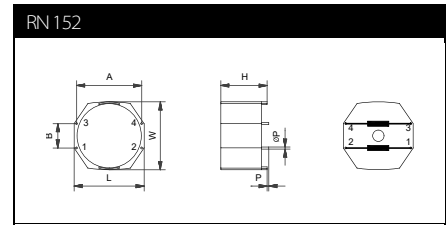
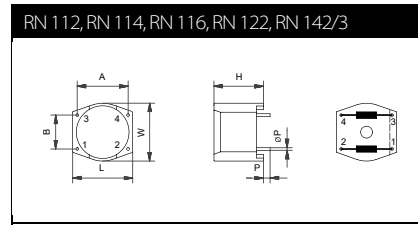
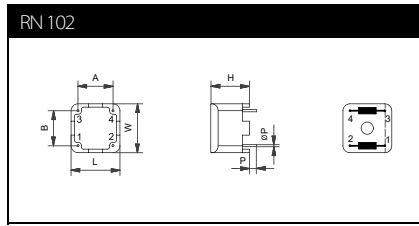


RN 143



RN 152



**Mechanical data**

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

**Dimensions**

	<b>A</b> <b>(±0.6 mm)</b>	<b>B</b> <b>(±0.6 mm)</b>	<b>H</b> <b>(±0.3 mm)</b>	<b>L</b> <b>(±0.3 mm)</b>	<b>W</b> <b>(±0.3 mm)</b>	<b>P</b> <b>(±0.5 mm)</b>	<b>ØP</b> <b>(±0.1 mm)</b>
<b>RN 102</b>	100 mm	100 mm	90 mm	140 mm	140 mm	40 mm	0.6 mm
<b>RN 112</b>	150 mm	100 mm	126 mm	177 mm	171 mm	40 mm	0.8 mm
<b>RN 114</b>	201 mm	125 mm	132 mm	225 mm	215 mm	40 mm	0.8 mm
<b>RN 116</b>	201 mm	125 mm	132 mm	225 mm	215 mm	40 mm	0.8 mm
<b>RN 122</b>	250 mm	150 mm	165 mm	280 mm	270 mm	40 mm	0.8 mm
<b>RN 142</b>	300 mm	200 mm	197 mm	331 mm	325 mm	43 mm	0.8 mm
<b>RN 143</b>	300 mm	200 mm	197 mm	331 mm	325 mm	43 mm	0.8 mm
<b>RN 152</b>	400 mm	150 mm	250 mm	430 mm	418 mm	45 mm	1.2 mm
<b>RN 202</b>	51 mm	152 mm	135 mm	88 mm	182 mm	45 mm	0.8 mm
<b>RN 204</b>	76 mm	100 mm	143 mm	90 mm	140 mm	40 mm	0.5 mm
<b>RN 212</b>	100 mm	150 mm	200 mm	125 mm	180 mm	40 mm	0.8 mm
<b>RN 214</b>	125 mm	100 mm	250 mm	155 mm	230 mm	40 mm	0.8 mm
<b>RN 216</b>	125 mm	100 mm	250 mm	155 mm	230 mm	40 mm	0.8 mm
<b>RN 218</b>	100 mm	125 mm	200 mm	125 mm	180 mm	40 mm	0.8 mm
<b>RN 222</b>	150 mm	125 mm	293 mm	180 mm	310 mm	40 mm	0.8 mm
<b>RN 232</b>	150 mm	125 mm	343 mm	180 mm	310 mm	42 mm	0.8 mm
<b>RN 242</b>	150 mm	125 mm	343 mm	180 mm	310 mm	42 mm	0.8 mm

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