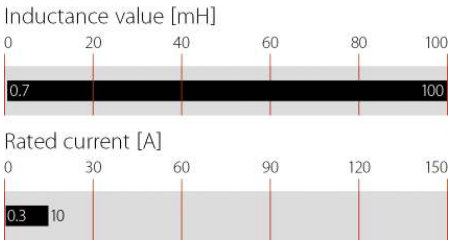
schaffner
energy efficiency and reliability

Current-compensated Chokes

- Rated currents from 0.3 to 10 A
- DC to 1kHz frequency
- 100kHz to 3MHz common-mode resonance frequency
- Dual-choke configurations
- Multiple PCB-mounting options

Performance indicators



Technical specifications

Flammability corresponding to	UL 94 V-0
High potential test voltage	
winding-to-housing @ 25°C	4000 VAC, 60 sec, guaranteed
winding-to-winding @ 25°C	1500 VAC, 60 sec, guaranteed 1500 V, 50 Hz, 2 sec, factory test
Maximum continuous operating voltage	250 VAC
MTBF @ 40°C/230V (Mil-HB-217F)	> 5,000,000 hours
Operating frequency	50/60 Hz
Rated currents	0.3 to 10 A @ 40 °C max.
Surge current @ 10msec	20 x Inominal @ 25°C
Temperature range (operation and storage)	-40 °C to +125 °C (40/125/56)

Approvals

VDE: excluding RN 102, RN 202

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 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

Typical applications

- Phase-angle control circuits in combination with saturating chokes
- EMI input filters
- For suppressing equipment with no earth connection
- Suppressing high interference levels

Typical electrical schematic

Choke selection table

Choke*	Nominal current @ 40 °C	Inductance L	Resistance R	Choke configuration	Input/Output connections	Weight Type 1	Weight Type 2
	[A]	[mH/path]	[mΩ/path]	[Qty]	⊥	[g]	[g]
RN x02-0.3-02	0.3	12	1275	2	-02	2	3
RN x02-0.6-02	0.6	4.4	385	2	-02	2	3
RN x02-1-02	1	3	205	2	-02	2	3
RN x02-1.5-02	1.5	1.6	100	2	-02	2	3
RN x02-2-02	2	1.1	70	2	-02	2	3
RN x12-0.4-02	0.4	39	1460	2	-02	5	6
RN x12-0.5-02	0.5	27	1250	2	-02	5	6
RN x12-0.6-02	0.6	15	465	2	-02	5	6
RN x12-0.8-02	0.8	10	370	2	-02	5	6
RN x12-1.2-02	1.2	6.8	245	2	-02	5	6
RN x12-1.5-02	1.5	3.3	135	2	-02	5	6
RN x12-2-02	2	1.8	75	2	-02	5	6
RN x12-4-02	4	0.7	27	2	-02	5	6
RN x14-0.3-02	0.3	47	1750	2	-02	9	12
RN x14-0.5-02	0.5	39	810	2	-02	9	12
RN x14-0.8-02	0.8	27	500	2	-02	9	12
RN x14-1-02	1	15	375	2	-02	9	12
RN x14-1.2-02	1.2	10	200	2	-02	9	12
RN x14-1.5-02	1.5	6.8	130	2	-02	9	12
RN x14-2-02	2	4.2	102	2	-02	9	12
RN x14-2.5-02	2.5	3.3	72	2	-02	9	12
RN x14-3-02	3	2	55	2	-02	9	12
RN x14-4-02	4	1.5	35	2	-02	9	12
RN x22-0.6-02	0.6	47	1180	2	-02	17	21
RN x22-0.8-02	0.8	39	1000	2	-02	17	21
RN x22-1-02	1	18	610	2	-02	17	21
RN x22-1.5-02	1.5	10	220	2	-02	17	21
RN x22-2-02	2	6.8	147	2	-02	17	21
RN x22-2.5-02	2.5	5.6	105	2	-02	17	21
RN x22-3-02	3	4.5	80	2	-02	17	21
RN x22-4-02	4	3.3	45	2	-02	17	21
RN x42-0.5-02	0.5	82	2700	2	-02	32	32
RN x42-1-02	1	33	810	2	-02	32	32
RN x42-1.4-02	1.4	27	500	2	-02	32	32
RN x42-2-02	2	6.8	190	2	-02	32	32
RN x42-4-02	4	3.3	66	2	-02	32	32
RN x42-6-02	6	1.8	20	2	-02	32	32

Choke selection table

Choke*	Nominal current @ 40 °C	Inductance L	Resistance R	Choke configuration	Input/Output connections	Weight Type 1	Weight Type 2
	[A]	[mH/path]	[mΩ/path]	[Qty]	⊥	[g]	[g]
RN 143-0.5-02	0.5	100	2900	2	-02	33	
RN 143-1-02	1	47	880	2	-02	33	
RN 143-2-02	2	10	230	2	-02	33	
RN 143-4-02	4	3.9	58	2	-02	33	
RN 143-6-02	6	1.8	20	2	-02	33	
RN 152-1-02	1	68	1300	2	-02	54	
RN 152-2-02	2	18	350	2	-02	54	
RN 152-4-02	4	6.8	87	2	-02	54	
RN 152-6-02	6	3.9	41	2	-02	54	
RN 152-8-02	8	2.7	22	2	-02	54	
RN 152-10-02	10	1.8	14	2	-02	54	

* Replace the x by the desired housing style type 1 or 2.

1: Choke horizontal

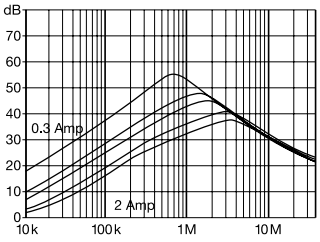
2: Choke vertical

Test conditions:
Measuring frequency: 10 kHz; 50mV
Inductance tolerance: +50%, -30%
Resistance tolerance: max. ±15% @ 25 °C; ≤ 20mΩ, 1 A; > 20mΩ ≤ 200mΩ, 100mA; > 200mΩ ≤ 2Ω, 10mA
Electrical characteristics @ 25 °C: ±2°C

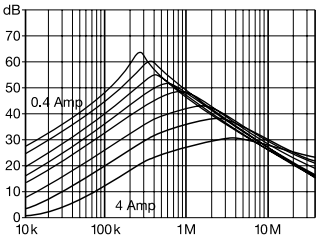
Typical choke attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

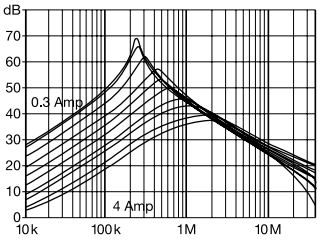
RN x02



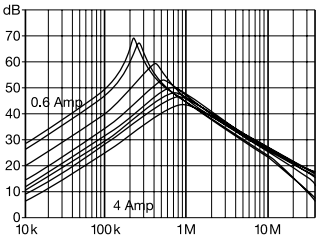
RN x12



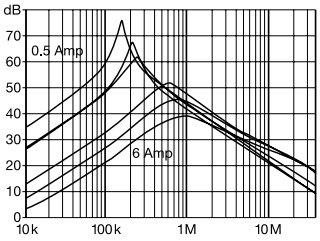
RN x14



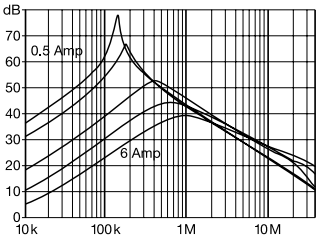
RN x22



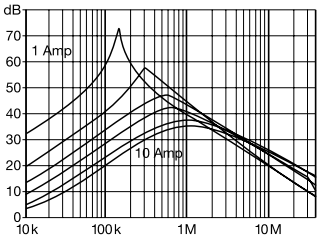
RN x42



RN 143



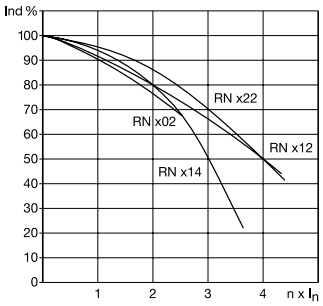
RN 152



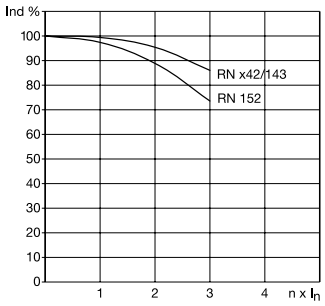
Typical saturation characteristics

Inductance (typical value in %) vs. nominal current (A DC)

RN x02 / RN x12 / RN x14 / RN x22

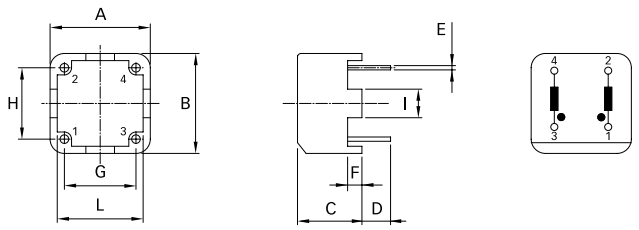


RN x42 / RN 143 / RN 152

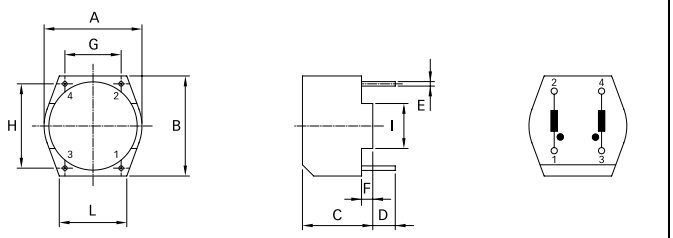


Mechanical data

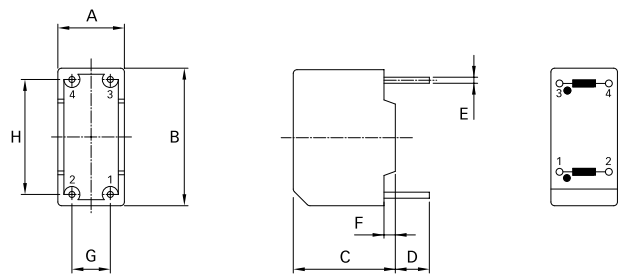
RN 102



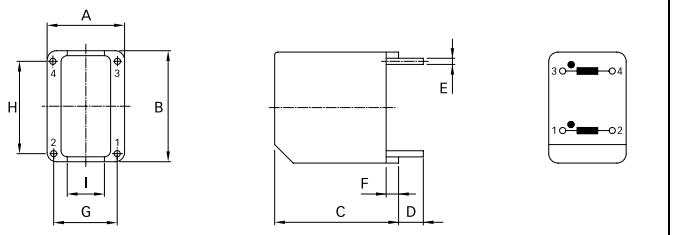
RN 112, RN 114, RN 122, RN 142, RN 143



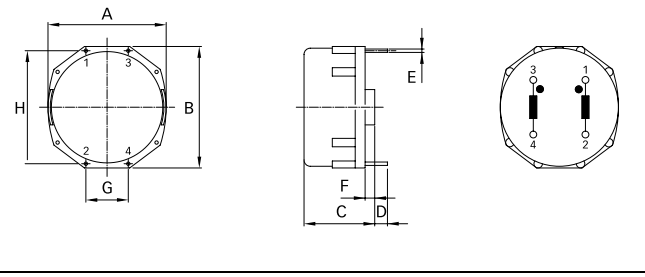
RN 202



RN 212, RN 214, RN 222, RN 242



RN 152



Dimensions

	RN 102	RN 112	RN 114	RN 122	RN 202	RN 212	RN 214	RN 222	RN 142	RN 143	RN 242	RN 152	Tol.
A	14	17.1	21.5	27	8.8	12.5	15.5	18	32.5	32.5	18	41.8	±0.3
B	14	17.7	22.5	28	18.2	18	23	31	33.1	33.1	31	43	±0.3
C	9	12.6	13.2	16.5	13.5	20	25	29.3	19.7	19.7	34.3	25	±0.3
D	4	4	4	4	4.5	4	4	4	4.3	4.3	4.2	4.5	±0.5
E	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.2	±0.1
F	2	2			1.5	2							
G	10	10	12.5	15	5.08	10	12.5	15	20	20	15	15	±0.6
H	10	15	20.1	25	15.21	15	10	12.5	30	30	12.5	40	±0.6
I	4	8											
L	12	12											

All dimensions in mm; 1 inch = 25.4 mm
Tolerances according: ISO 2768-m / EN 22768-m

Please visit www.schaffner.com to find more details on filter connections.

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