

Current-compensated Chokes



- | Rated currents from 6 to 64 A

- | Up to 600 VAC or 850 VDC

- | DC to 400 Hz frequencies

- | Dual, triple and quad-choke configurations



Approvals

ROHS

RD 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 or wire connections.

- | Dual, triple and quad-choke configuration.

- | Up to 64 A quad configuration.

- | Multiple housing options.

- | Custom-specific versions are available on request.

Typical applications

- | Phase-angle control circuits in combination with saturating chokes

- | EMI input filters

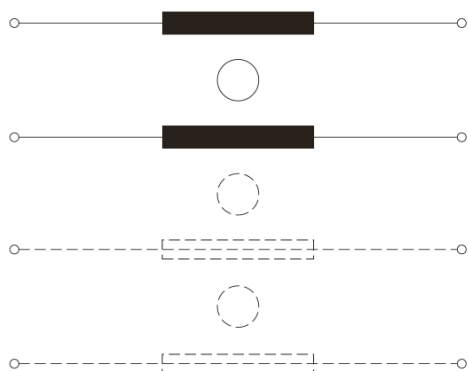
- | For suppressing equipment with no earth connection

- | Suppressing high interference levels

Technical specifications

| | |
|---|--|
| Maximum continuous operating voltage | 600 VAC/850 VDC @ 40 °C |
| Operating frequency | dc to 400 Hz |
| Rated currents | 6 to 64 A @ 40 °C max. |
| High potential test voltage winding-to-winding | 2500 V, 50 Hz, 2 sec, factory test 2500 VAC, 60 sec, guaranteed |
| winding-to-housing | 4000 VAC, 60 sec, guaranteed |
| Surge current @ 10msec | 20 x I _{nominal} @ 25 °C |
| Temperature range (operation and storage) | -25 °C to +110 °C (25/110/21) |
| Flammability corresponding to MTBF @ 40°C/230V (Mil-HB-217F) | UL 94 V-0 (insulation tubes UL 94 V-2) > 5,000,000 hours |

Typical electrical schematic



Choke selection table

| Choke | Nominal current @ 40 °C [A] | Inductance L [mH/path] | Resistance R [m Ω/path] | Choke configuration [Qty] | Input/Output connections | Pin footprint connections [mm] | Weight [g] |
|----------------|-----------------------------------|------------------------------|-------------------------------|---------------------------------|-----------------------------|--------------------------------------|---------------|
| RD5122-6-9m6 | 6 | 9.6 | 52.55 | 2 | -02 | Ø 1 | 160 |
| RD5122-10-6m0 | 10 | 6 | 24.25 | 2 | -02 | Ø 1.3 | 160 |
| RD5122-16-2m0 | 16 | 2 | 9.5 | 2 | -02 | Ø 1.6 | 160 |
| RD5132-6-5m0 | 6 | 5 | 38 | 3 | -02 | Ø 1 | 160 |
| RD5132-10-3m0 | 10 | 3 | 17.6 | 3 | -02 | Ø 1.3 | 160 |
| RD5132-16-1m0 | 16 | 1 | 6.9 | 3 | -02 | Ø 1.6 | 160 |
| RD6127-6-15m0 | 6 | 15 | 66.65 | 2 | -07 | Ø 1 | 235 |
| RD6127-10-9m0 | 10 | 9 | 25.9 | 2 | -07 | Ø 1.5 | 235 |
| RD6127-16-3m0 | 16 | 3 | 10.9 | 2 | -07 | Ø 1.8 | 235 |
| RD6137-6-7m5 | 6 | 7.5 | 49 | 3 | -07 | Ø 1 | 235 |
| RD6137-10-4m5 | 10 | 4.5 | 18.35 | 3 | -07 | Ø 1.5 | 235 |
| RD6137-16-1m5 | 16 | 1.5 | 8.3 | 3 | -07 | Ø 1.8 | 235 |
| RD7127-6-25m0 | 6 | 25 | 84.2 | 2 | -07 | Ø 1 | 320 |
| RD7127-10-14m0 | 10 | 14 | 33.5 | 2 | -07 | Ø 1.4 | 350 |
| RD7127-16-5m7 | 16 | 5.7 | 14.1 | 2 | -07 | Ø 1.8 | 370 |
| RD7127-25-2m8 | 25 | 2.8 | 6.4 | 2 | -07 | Ø 2.4 | 400 |
| RD7127-36-1m0 | 36 | 1 | 3.3 | 2 | -07 | Ø 2.7 | 380 |
| RD7137-6-12m0 | 6 | 12 | 60.6 | 3 | -07 | Ø 1 | 340 |
| RD7137-10-6m6 | 10 | 6.6 | 21.9 | 3 | -07 | Ø 1.5 | 380 |
| RD7137-16-2m8 | 16 | 2.8 | 10.7 | 3 | -07 | Ø 1.8 | 380 |
| RD7137-25-1m3 | 25 | 1.3 | 4.45 | 3 | -07 | Ø 2.5 | 440 |
| RD7137-36-0m5 | 36 | 0.5 | 2.75 | 3 | -07 | Ø 2.7 | 400 |
| RD7147-6-6m0 | 6 | 6 | 45.1 | 4 | -07 | Ø 1 | 320 |
| RD7147-10-3m5 | 10 | 3.5 | 19.1 | 4 | -07 | Ø 1.4 | 370 |
| RD7147-16-1m5 | 16 | 1.5 | 8.5 | 4 | -07 | Ø 1.8 | 390 |
| RD7147-25-0m7 | 25 | 0.7 | 3.65 | 4 | -07 | Ø 2.4 | 430 |
| RD7147-36-0m2 | 36 | 0.2 | 2.3 | 4 | -07 | Ø 2.5 | 400 |
| RD8127-16-12m0 | 16 | 12 | 20.05 | 2 | -07 | Ø 2 | 590 |
| RD8127-25-5m0 | 25 | 5 | 8.45 | 2 | -07 | Ø 2.4 | 630 |
| RD8127-36-3m0 | 36 | 3 | 4.55 | 2 | -07 | 1.5 x 4.5 | 690 |
| RD8127-50-1m0 | 50 | 1 | 2.5 | 2 | -07 | 1.7 x 5 | 640 |
| RD8127-64-0m8 | 64 | 0.8 | 1.6 | 2 | -07 | 2.5 x 5 | 710 |
| RD8137-16-5m0 | 16 | 5 | 11.6 | 3 | -07 | Ø 2 | 630 |
| RD8137-25-2m5 | 25 | 2.5 | 6.4 | 3 | -07 | Ø 2.4 | 650 |
| RD8137-36-1m5 | 36 | 1.5 | 3.65 | 3 | -07 | 1.5 x 4.5 | 720 |
| RD8137-50-0m6 | 50 | 0.6 | 2.15 | 3 | -07 | 1.7 x 5 | 700 |
| RD8137-64-0m5 | 64 | 0.5 | 1.35 | 3 | -07 | 2.5 x 5 | 780 |
| RD8147-16-3m0 | 16 | 3 | 9.25 | 4 | -07 | Ø 2 | 650 |
| RD8147-25-1m3 | 25 | 1.3 | 5.05 | 4 | -07 | Ø 2.4 | 650 |
| RD8147-36-0m8 | 36 | 0.8 | 3 | 4 | -07 | 1.5 x 4.5 | 760 |
| RD8147-50-0m3 | 50 | 0.3 | 1.75 | 4 | -07 | 1.7 x 5 | 740 |
| RD8147-64-0m2 | 64 | 0.2 | 1.1 | 4 | -07 | 2.5 x 5 | 820 |

Test conditions:

Measuring frequency: 1 kHz; 500 µA > 0.16 mH > 1.6 mH; 50 µA > 1.6 mH < 160 mH

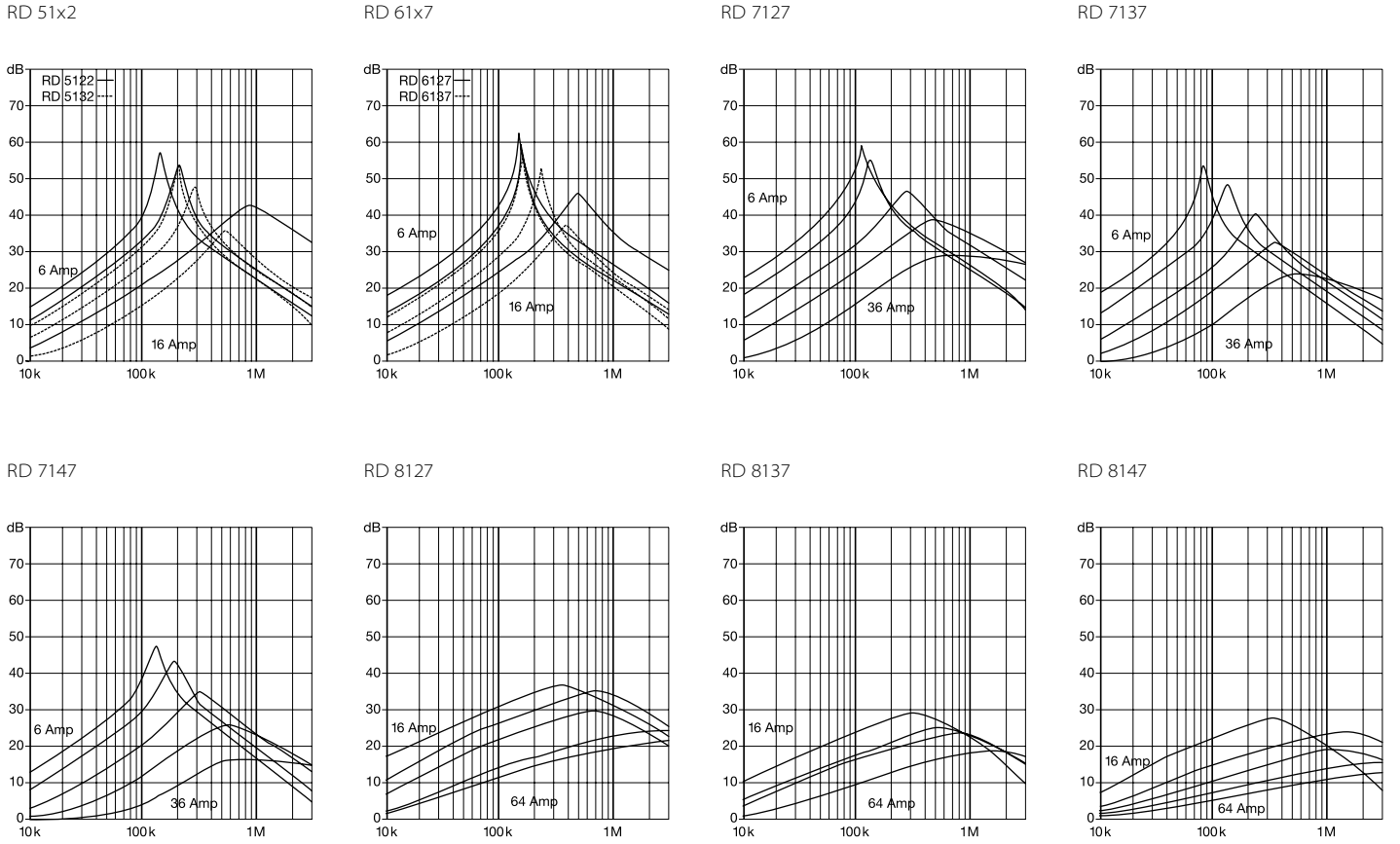
Inductance tolerance: +50%, -30%

Resistance tolerance: ±15% @ 25 °C

Electrical characteristics @ 25 °C: ±2 °C

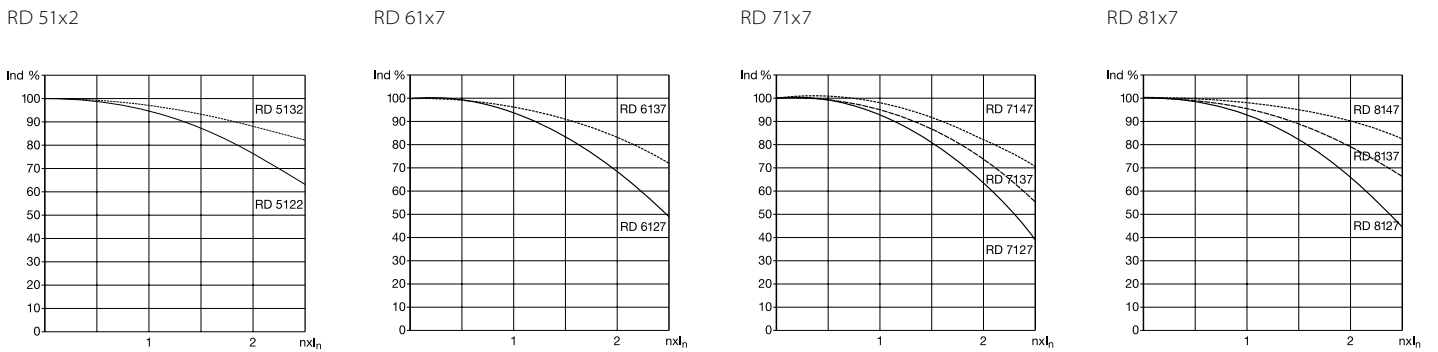
Typical choke attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

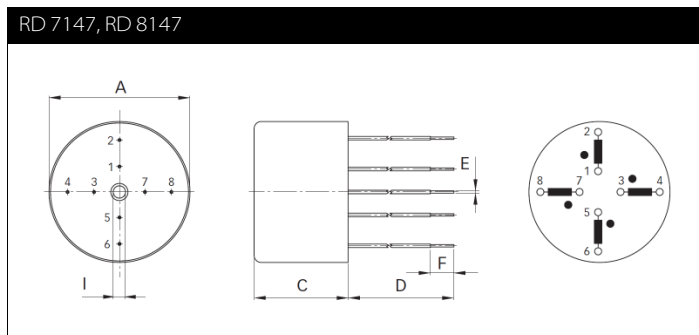
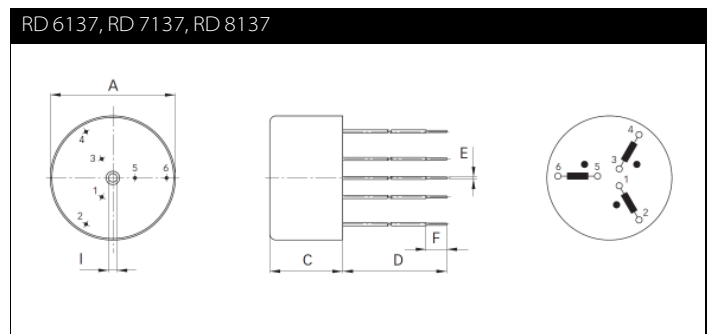
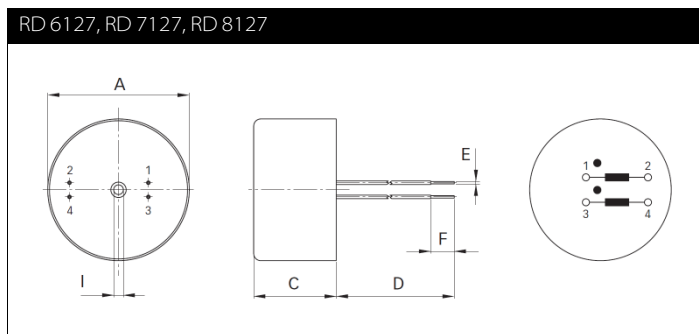
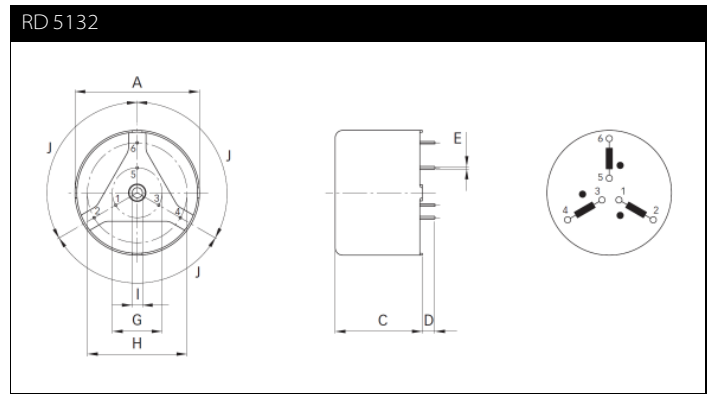
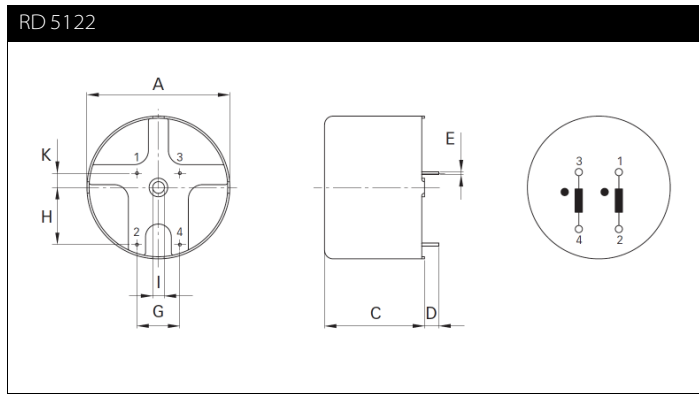


Typical saturation characteristics

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



Mechanical data



Dimensions

| | RD 5122 | RD 5132 | RD 6127 | RD 6137 | RD 7127 | RD 7137 | RD 7147 | RD 8127 | RD 8137 | RD 8147 | Tolerances |
|----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------|
| A | 50 | 50 | 60 | 60 | 70 | 70 | 70 | 80 | 80 | 80 | ±0.5 |
| C | 35 | 35 | 35 | 35 | 40 | 40 | 40 | 50 | 50 | 50 | ±0.5 |
| D | 5 ±0.5 | 5 ±0.5 | 150 | 150 | 150 | 150 | 150 | 200 | 200 | 200 | +5/-0 |
| E | | | | | | | | | | | see choke selection table |
| F | | | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | ±1 |
| G | 15 | 20 | | | | | | | | | ±0.3 |
| H | 20 | 40 ±0.4 | | | | | | | | | ±0.3 |
| I | 4.1 +3/-0 | 4.1 +3/-0 | 4.1 +3/-0 | 4.1 +3/-0 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | +6/-0 |
| J | | 120° | | | | | | | | | |
| K | 5 | | | | | | | | | | |

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

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



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