

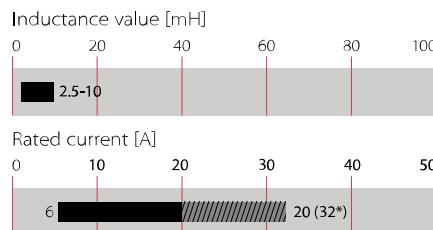
Current-compensated Chokes



- Rated currents from 6 to 20 A
- Up to 600 VAC and VDC
- 2- and 3-wire configurations
- Horizontal and vertical PCB mounting types
- Ruggedized saturation and thermal behavior
- Open construction for forced and convection cooling
- Straightforward pin-out for easy PCB design



Performance indicators



Technical specifications

Maximum continuous operating voltage	600 VAC (3-line) and 300 VAC/425 VDC (2-line)
Operating frequency	dc to 400 Hz
Rated currents	6 to 20 A @ 60°C max. convection cooling
High potential test voltage winding-to-winding @ 25°C	2500 VAC, 60 sec, guaranteed, 2 sec factory test
Temperature range (operation and storage)	-40°C to +100°C (40/100/56)
Flammability corresponding to	UL 94 V-0
Cooling	convection/forced cooling
MTBF @ 40°C/230 V (Mil-HB-217F)	>5,000,000 hours

Approvals

RoHS

RT common-mode chokes are mainly used to filter EMI noise on AC power lines up to 600 VAC. EMI noise of electronic equipment can go to the power lines and disturb the proper function of other devices like communication devices or control logic of robotics. Thus noise generated by the equipment from switched power electronics or by high slew rates of controllers needs to be filtered. RT common-mode chokes are used to suppress EMI noise in PCB integrated filter designs with line bypass capacitors or in combination with single phase filters for extra low leakage filter designs.

Features and benefits

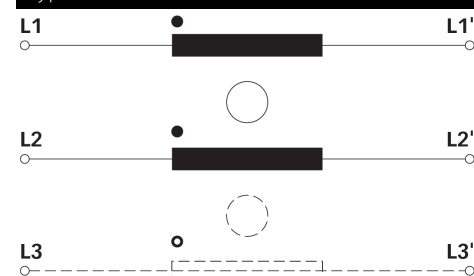
- Cost-effective PCB designs for up to 32 A with forced cooling *
- Compact size and light weight
- Low magnetic leakage flux
- Excellent winding insulation
- Standardized foot print
- Broad range of inductance ratings
- Custom-specific versions on request

* See Application Note for forced cooling

Typical applications

- AC and DC filtering for midsize power range drives, photovoltaic inverters, fast chargers, charging stations, UPS and switch mode power supplies
- Filter with low leakage current noise or improved immunity against grid disturbances
- Electronic devices, automation and (industrial) LED lighting
- Communication devices
- Medical and laboratory Equipment
- Converters

Typical electrical schematic **



** 2-line chokes (L1 and L2, 2x Ln), 3-line chokes (L1 to L3, 3x Ln)

RT Series

Selection table	convection cooling nominal current @ 60°C [A]	*forced cooling 3 m/s nominal current @ 60°C [A]	Inductance Ln @ 25°C 100kHz [mH/path]	**typ. Inductance Ls @ 25°C 100kHz [μH/path]	Resistance R @ 25°C [mΩ/path]	Choke [size]	***Ø Pin ±0.1 ØP [mm]	Weight [g]
RT 8122-6-10M0	6	9.5	10	30	33	1	1.1	80
RT 8122-8-8M0	8	12.5	8	24.8	21	1	1.3	80
RT 8122-10-6M0	10	16	6	19.2	16	1	1.4	80
RT 8122-12-5M0	12	19	5	20.5	14	2	1.5	100
RT 8122-16-4M0	16	27	4	17.6	10	2	1.8	110
RT 8122-20-3M0	20	32	3	13.5	7	3	2	160
RT 8522-6-10M0	6	9.5	10	31.5	33	4	1.1	70
RT 8522-8-8M0	8	12.5	8	24	21	4	1.3	80
RT 8522-10-6M0	10	16	6	19.2	16	4	1.4	80
RT 8522-12-5M0	12	19	5	23	14	5	1.5	90
RT 8522-16-4M0	16	27	4	18.8	10	5	1.8	110
RT 8522-20-3M0	20	32	3	13.5	7	6	2.0	150
RT 8132-6-6M0	6	9.5	6	18	27	7	1.1	80
RT 8132-8-4M8	8	12.5	4.8	14.9	17	7	1.3	90
RT 8132-10-4M0	10	16	4	16	15	8	1.5	110
RT 8132-12-3M6	12	19	3.6	14.4	12	8	1.6	120
RT 8132-16-3M0	16	27	3	12	8	9	1.8	170
RT 8132-20-2M5	20	32	2.5	10	7	9	2.1	190
RT 8532-6-6M0	6	9.5	6	18	27	10	1.1	90
RT 8532-8-4M8	8	12.5	4.8	13.9	17	10	1.3	90
RT 8532-10-4M0	10	16	4	16	15	11	1.5	110
RT 8532-12-3M6	12	19	3.6	15.1	12	11	1.6	120
RT 8532-16-3M0	16	27	3	13.8	8	12	1.8	160
RT 8532-20-2M5	20	32	2.5	10.8	7	12	2.1	190

Test conditions: Inductance tolerance: +50%, -30%; Resistance tolerance: +15% @ 25°C; Electrical characteristics @ 25°C: ±2°C

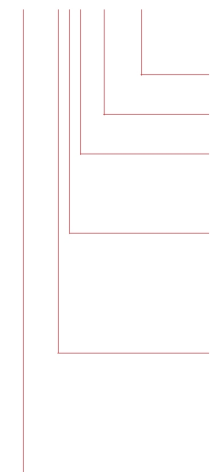
* typical current for forced cooling with 3 m/s. Due to the possible turbulences and degradation of the air stream within an equipment please consider thermal validation.

** typical stray inductance, max is 0.1% of Ln

*** Length of pin (Dimension P) is always 5.5 mm ± 1

Product selector

RT 8xxx-xx-xmx



Inductance value (e.g. 9M6 = 9.6 mH)

Nominal input current [A] (convection cooling)

Terminal type (2 for PCB pin)

2 = 2-line choke

3 = 3-line choke

1 = Horizontal

5 = Vertical

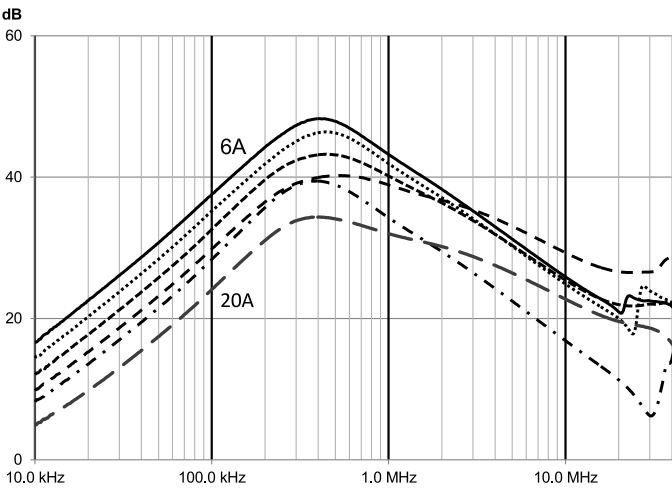
Schaffner standard ring-core choke series RT

Examples: RT 8532-16-3M0: Vertical 3-line choke for 16 A, with 3 mH ; RT 8122-20-3M0: Horizontal 2-line choke for 20 A, with 3 mH

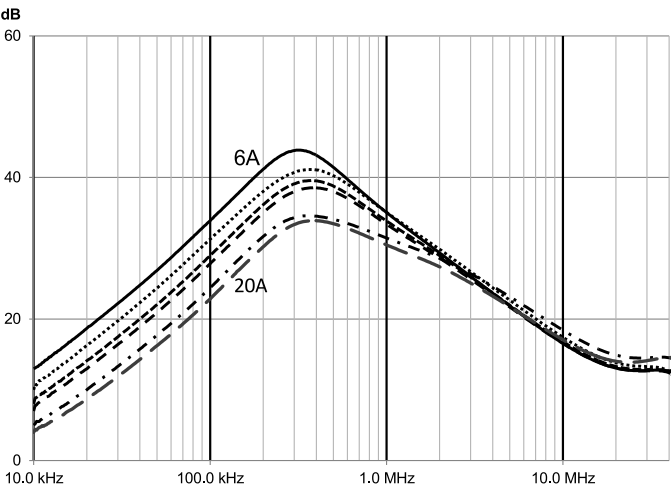
Typical choke attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

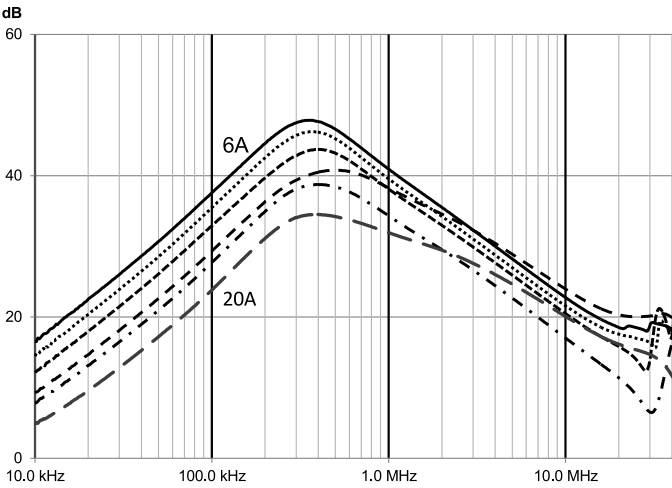
RT 8122



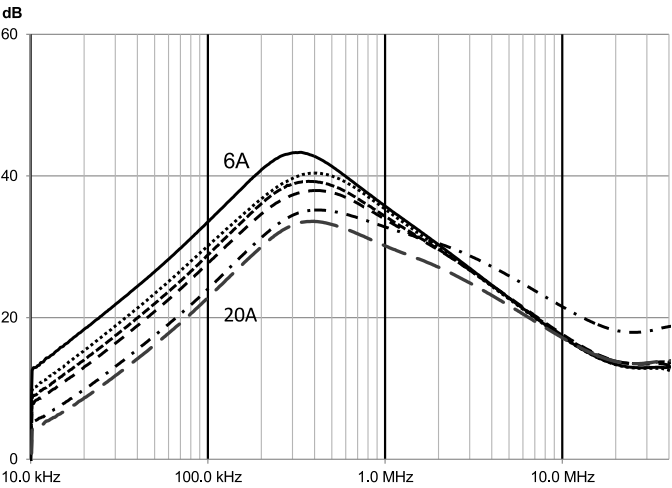
RT 8132



RT 8522

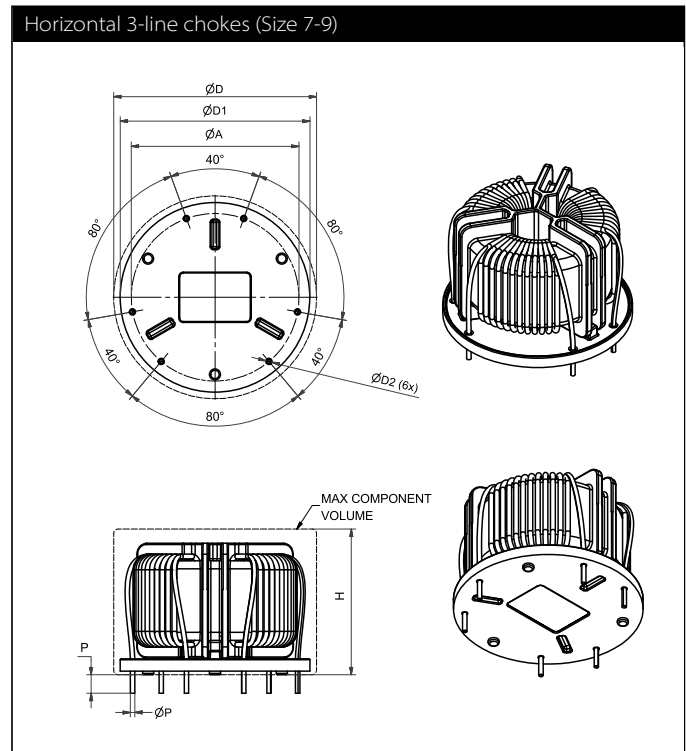
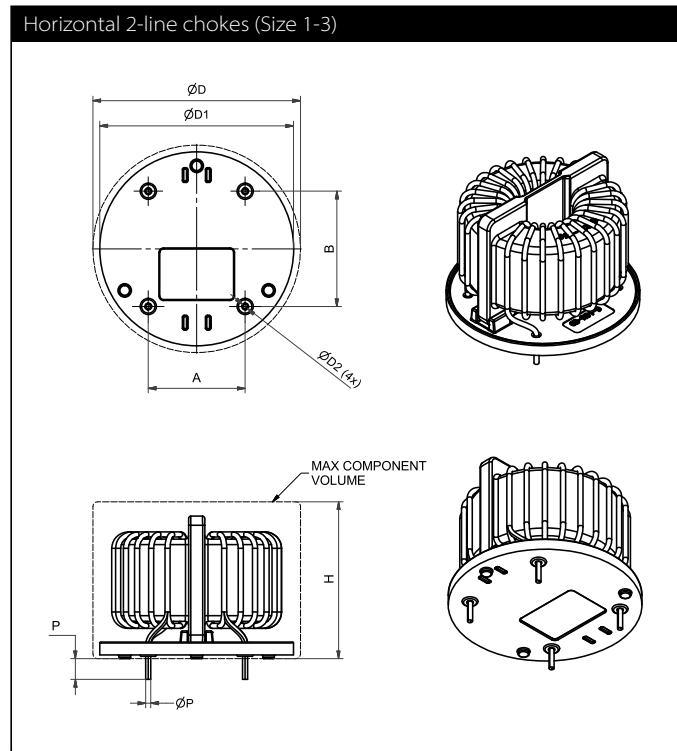


RT 8532



Mechanical data: Horizontal chokes (2-line and 3-line)

All dimensions in mm



Dimensions

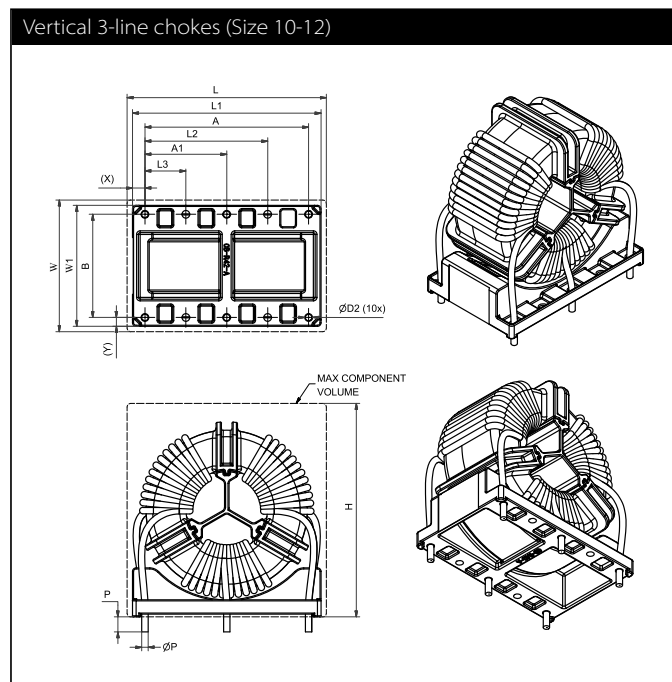
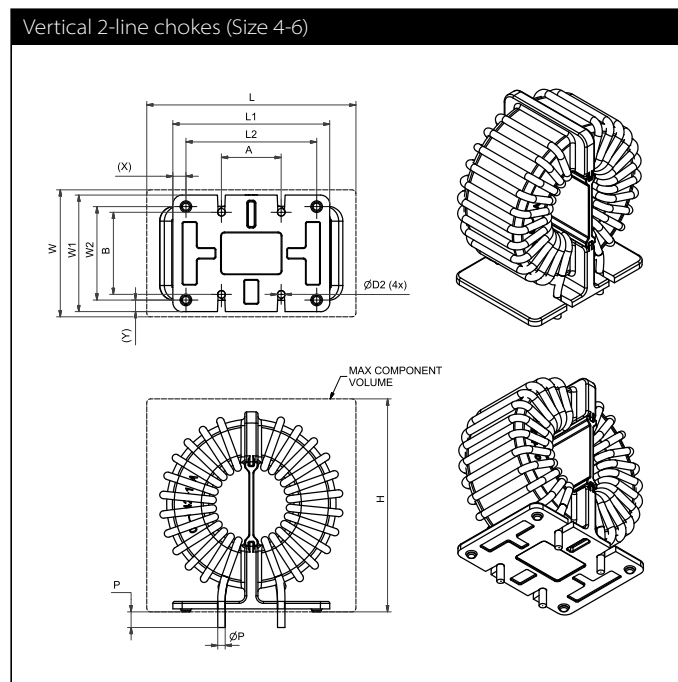
	A	B	ØD (max)	H (max)	ØD1	ØD2
	(±0.5)	(±0.5)			(±0.5)	
Size1 (RT 8122-6-10M0, RT 8122-8-8M0, RT 8122-10-6M0)	21	25	45	34	42	1.5
Size2 (RT 8122-12-5M0, RT 8122-16-4M0)	26	30	51	33	48	1.9
Size3 (RT 8122-20-3M0)	32	36	57	37	54	2.1
	ØA		ØD (max)	H (max)	ØD1	ØD2
	(±0.5)				(±0.5)	
Size 7 (RT 8132-6-6M0, RT 8132-8-4M8)	38	-	46	34	43	1.4
Size 8 (RT 8132-10-4M0, RT 8132-12-3M6)	44	-	51	33	48	1.7
Size 9 (RT 8132-16-3M0, RT 8132-20-2M5)	49	-	57	37	54	2.2

Pin material: Copper (base), Sn (final plating typical thickness 0.15 mm; composition: Sn-1.2AG-4Cu or SN-3Cu-0.25Ni)

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

Mechanical data: Vertical chokes (2-line and 3-line)

All dimensions in mm



Dimensions

	A (±0.5)	A1 (±0.5)	B (±0.5)	L (max)	W (max)	H (max)	L1 (±0.5)	L2 (±0.5)	L3	W1 (±0.5)	W2 (±0.5)	ØD2	X	Y
Size 4 (RT 8522-6-10M0, RT 8522-8-8M0, RT 8522-10-6M0)	16	-	20	43	32	44	32	26	-	27.8	22	1.5	3	2.9
Size 5 (RT 8522-12-5M0, RT 8522-16-4M0)	16	-	22	50	32	52	39	33	-	27	23	1.9	3	2
Size 6 (RT 8522-20-3M0)	16	-	22	56	32	57	42	35	-	31.2	25	2.1	3.5	3.1
Size 10 (RT 8532-6-6M0, RT 8532-8-4M8)	36	18	24	44	32	47	41	27	9	29	-	1.4	2.5	2.5
Size 11 (RT 8532-10-4M0, RT 8532-12-3M6)	38	19	24	49	34	53	46	28.5	9.5	31	-	1.7	4	3.5
Size 12 (RT 8532-16-3M0, RT 8532-20-2M5)	46	23	29	56	37	60	53	34.5	11.5	34	-	2.2	3.5	2.5

Pin material: Copper (base), Sn (final plating typical thickness 0.15 mm; composition: Sn-1.2AG-4Cu or SN-3Cu-0.25Ni)

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



Headquarters, global innovation and development

Switzerland

Schaffner Group

Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
info@schaffner.com
www.schaffner.com



Sales and application centers

China

Schaffner EMC Ltd. Shanghai

T20-3 C, No 565 Chuangye Road,
Pudong district
201201 Shanghai
T +86 21 3813 9500
cschina@schaffner.com
www.schaffner.com.cn

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.

16-20 Rue Louis Rameau
95875 Bezons
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany

Schaffner Deutschland GmbH

Schoemperlenstrasse 12B
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
germanysales@schaffner.com

India

Schaffner India Pvt. Ltd

REGUS WORLD TRADE CENTRE
WTC, 22nd Floor Unit No 2238, Brigade
Gateway Campus, 26/1, Dr. Rajkumar Road
Malleshwaram (W)
560055 Bangalore
T +91 80 67935355
indiasales@schaffner.com

Italy

Schaffner EMC S.r.l.

Via Ticino, 30
20900 Monza (MB)
T +39 039 21 41 070
italysales@schaffner.com

Japan

Schaffner EMC K.K.

1-32-12, Kamiuma, Setagaya-ku
7F Mitsui-seimei Sangenjaya Bldg.
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
www.schaffner.jp

Singapore

Schaffner EMC Pte Ltd.

#05-09, Kg Ubi Ind. Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain

Schaffner EMC España

Calle Caléndula 93, Miniparc III, Edificio E
El Soto de Moraleja, Alcobendas
28109 Madrid
T +34 917 912 900
F +34 917 912 901
spainsales@schaffner.com

Sweden

Schaffner EMC AB

Tegeluddsvägen 76, 2tr
115 28 Stockholm
T +46 8 5050 2425
swedensales@schaffner.com
www.schaffner.com

Switzerland

Schaffner EMV AG

Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan R.O.C.

Schaffner EMV Ltd.

20 Floor-2, No 97, Section 1, XinTai 5th Road
22175 XiZhi District New Taipei City 22175
T +886 2 2697 5500
F +886 2 2697 5533
taiwansales@schaffner.com
www.schaffner.com.tw

Thailand

Schaffner EMC Co. Ltd.

Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muang P.O. Box 14
51000 Lamphun
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

United Kingdom

Schaffner Ltd.

5 Ashville Way, Molly Millars Lane
Wokingham
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com

USA

Schaffner EMC Inc.

52 Mayfield Avenue
08837 Edison, New Jersey
T +1 800 367 5566
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffnerusa.com

Schaffner North America

6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953

Schaffner North America

823 Fairview Road
24382 Wytheville, Virginia
T +1 276 228 7943
F +1 276 228 7258

To find your local partner within Schaffner's global network: www.schaffner.com

© 2018 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.