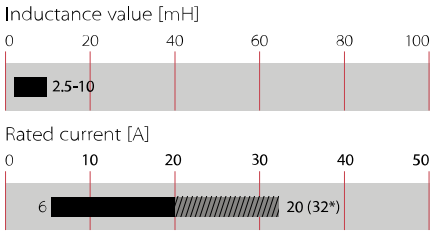
schaffner
shaping electrical power

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 & Compliances

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

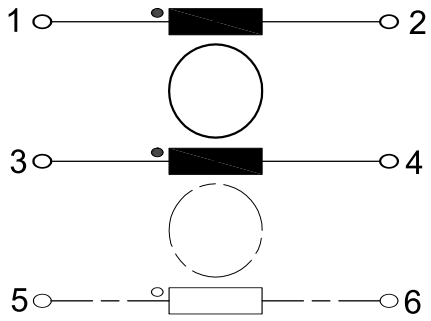
- Cost-effective PCB designs for up to 32 A with forced cooling *
- Compact size and light weight
- Low magnetic leakage flux
- Excellent winding insulation
- Standardized foot print
- Broad range of inductance ratings
- Custom-specific versions on request

* See RB 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 (2x Ln), 3-line chokes (3x Ln)

RT Series

Selection table	Buy	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]
RT8122-6-10M0		6	9.5	10	30	33	1	1.1	80
RT8122-8-8M0		8	12.5	8	24.8	21	1	1.3	80
RT8122-10-6M0		10	16	6	19.2	16	1	1.4	80
RT8122-12-5M0		12	19	5	20.5	14	2	1.5	100
RT8122-16-4M0		16	27	4	17.6	10	2	1.8	110
RT8122-20-3M0		20	32	3	13.5	7	3	2	160
RT8522-6-10M0		6	9.5	10	31.5	33	4	1.1	70
RT8522-8-8M0		8	12.5	8	24	21	4	1.3	80
RT8522-10-6M0		10	16	6	19.2	16	4	1.4	80
RT8522-12-5M0		12	19	5	23	14	5	1.5	90
RT8522-16-4M0		16	27	4	18.8	10	5	1.8	110
RT8522-20-3M0		20	32	3	13.5	7	6	2.0	150
RT8132-6-6M0		6	9.5	6	18	27	7	1.1	80
RT8132-8-4M8		8	12.5	4.8	14.9	17	7	1.3	90
RT8132-10-4M0		10	16	4	16	15	8	1.5	110
RT8132-12-3M6		12	19	3.6	14.4	12	8	1.6	120
RT8132-16-3M0		16	27	3	12	8	9	1.8	170
RT8132-20-2M5		20	32	2.5	10	7	9	2.1	190
RT8532-6-6M0		6	9.5	6	18	27	10	1.1	90
RT8532-8-4M8		8	12.5	4.8	13.9	17	10	1.3	90
RT8532-10-4M0		10	16	4	16	15	11	1.5	110
RT8532-12-3M6		12	19	3.6	15.1	12	11	1.6	120
RT8532-16-3M0		16	27	3	13.8	8	12	1.8	160
RT8532-20-2M5		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 = Horizonzal
- 5 = Vertical
- Schaffner standard ring-core choke series RT

Examples: RT8532-16-3M0: Vertical 3-line choke for 16 A, with 3 mH ; RT8122-20-3M0: Horizontal 2-line choke for 20 A, with 3 mH

Distribution inventory

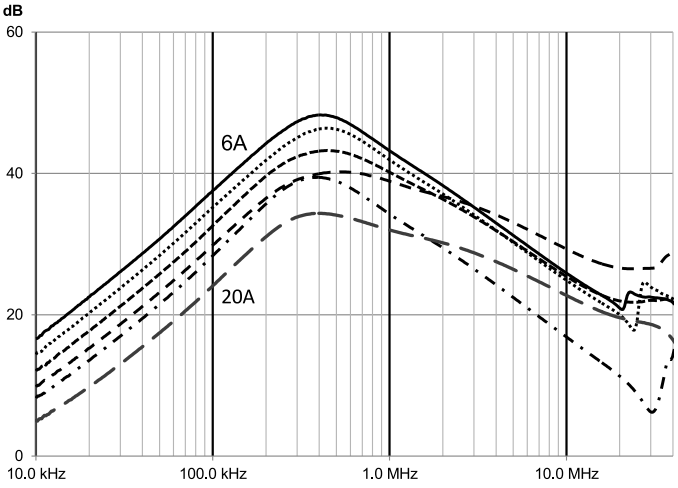
Up-to-date inventory levels for global distributors is available at

https://products.schaffner.com/stock

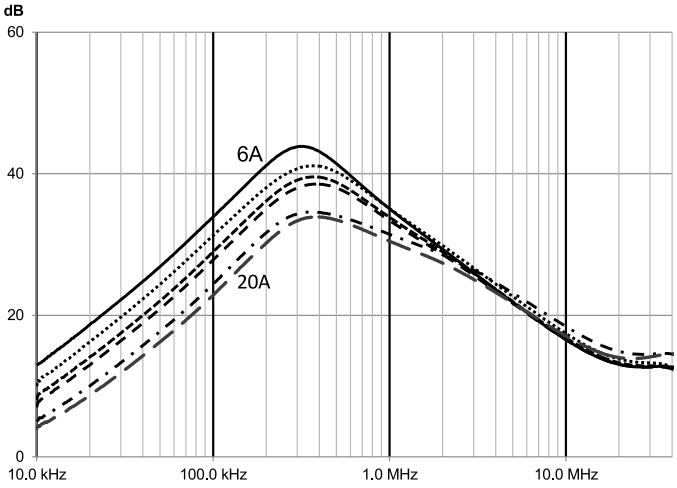
Typical choke attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

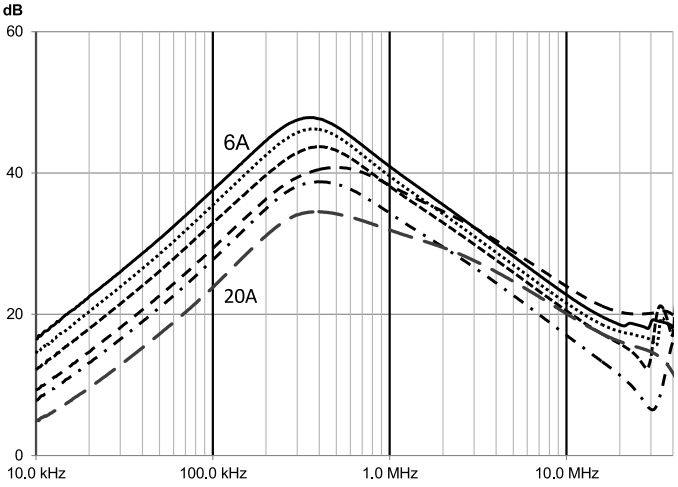
RT 8122



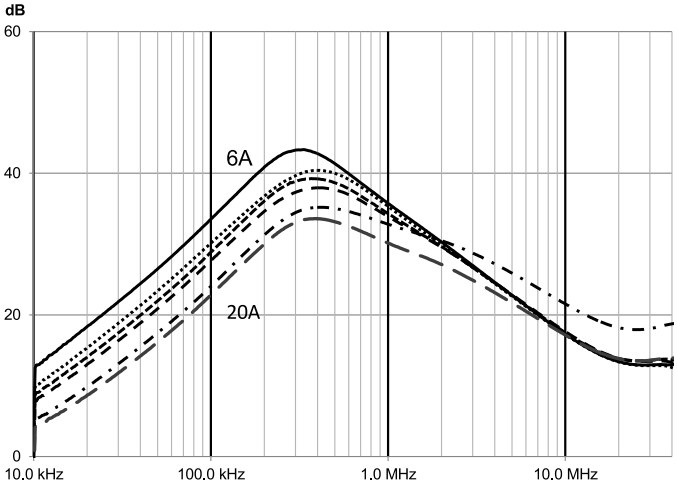
RT 8132



RT 8522



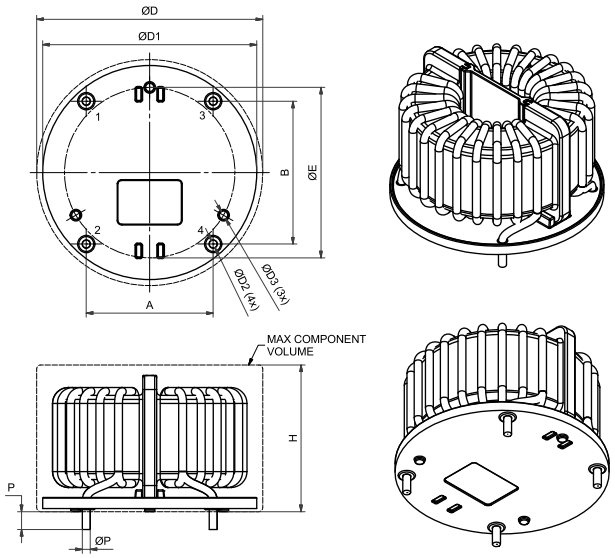
RT 8532



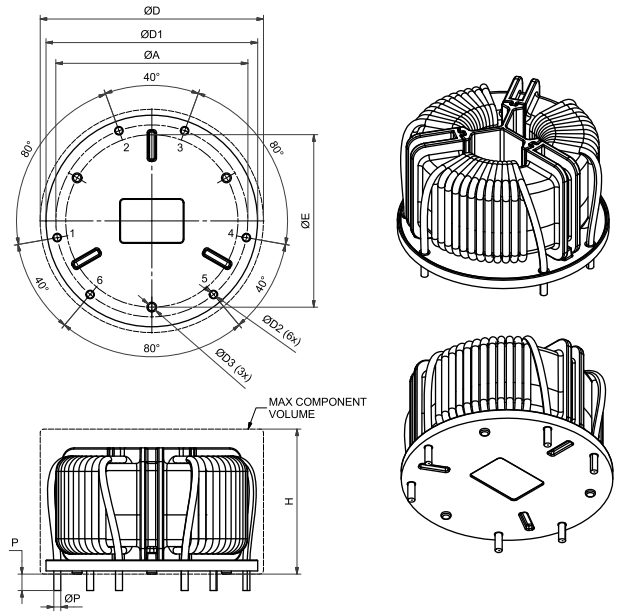
Mechanical data: Horizontal chokes (2-line and 3-line)

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

Horizontal 2-line chokes (Size 1-3)



Horizontal 3-line chokes (Size 7-9)



Dimensions

	A	B	ØD (max)	H (max)	ØD1	ØD2	ØD3	ØE
	(±0.5)	(±0.5)			(±0.5)			
Size1 (RT8122-6-10M0, RT8122-8-8M0, RT8122-10-6M0)	21	25	45	34	42	1.5	2.5	36
SIze2 (RT8122-12-5M0, RT8122-16-4M0)	26	30	51	33	48	1.9	2.5	40
Size3 (RT8122-20-3M0)	32	36	57	37	54	2.1	2.5	43
	ØA		**ØD (max)**	**H (max)**	**ØD1**	**ØD2**		
	(±0.5)				(±0.5)			
Size 7 (RT8132-6-6M0, RT8132-8-4M8)	38	-	46	34	43	1.4	2.5	35
Size 8 (RT8132-10-4M0,RT8132-12-3M6)	44	-	51	33	48	1.7	2.5	40
Size 9 (RT8132-16-3M0, RT8132-20-2M5)	49	-	57	37	54	2.3	2.5	44

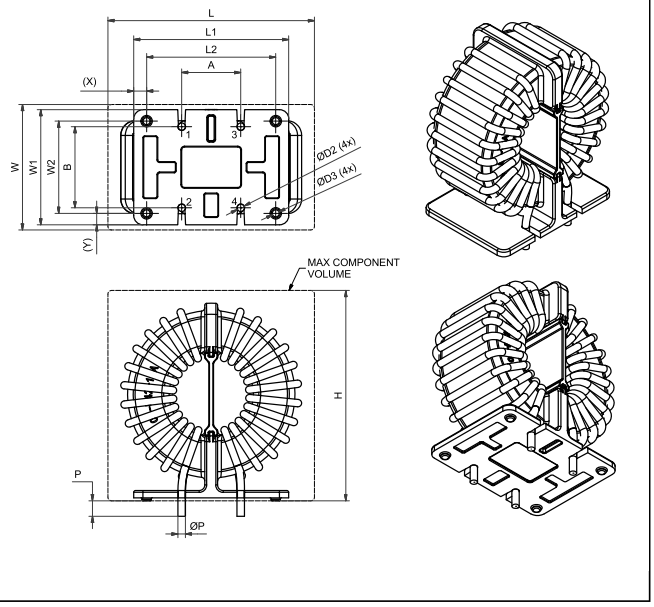
Pin material: Copper (base), Sn (final plating typical thickness 0.15 mm; composition: Sn-1.2AG-4Cu or SN-3Cu-0.25Ni)

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

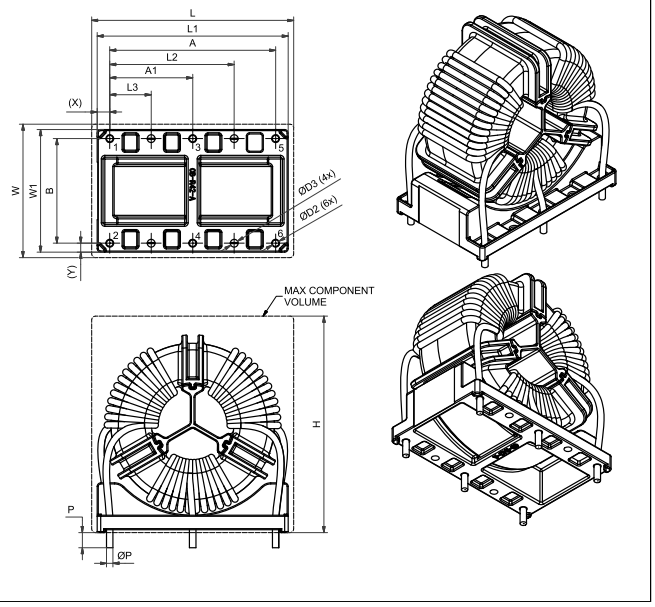
Mechanical data: Vertical chokes (2-line and 3-line)

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

Vertical 2-line chokes (Size 4-6)



Vertical 3-line chokes (Size 10-12)



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	ØD3	X	Y
Size 4 (RT8522-6-10M0, RT8522-8-8M0, RT 8522-10-6M0)	16	-	20	43	32	44	32	26	-	27.8	22	1.5	2.5	3	2.9
SIze 5 (RT8522-12-5M0, RT8522-16-4M0)	16	-	22	50	32	52	39	33	-	27	23	1.9	2.5	3	2
Size 6 (RT8522-20-3M0)	16	-	22	56	32	57	42	35	-	31.2	25	2.1	2.5	3.5	3.1
Size 10 (RT8532-6-6M0, RT8532-8-4M8)	36	18	24	44	32	47	41	27	9	29	-	1.4	1.4	2.5	2.5
Size 11 (RT8532-10-4M0,RT8532-12-3M6)	38	19	24	49	34	53	46	28.5	9.5	31	-	1.7	1.7	4	3.5
Size 12 (RT8532-16-3M0, RT8532-20-2M5)	46	23	29	56	37	60	53	34.5	11.5	34	-	2.2	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.

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