

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

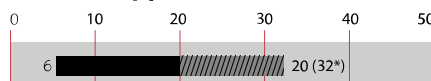


Performance indicators

Inductance value [mH]



Rated current [A]



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

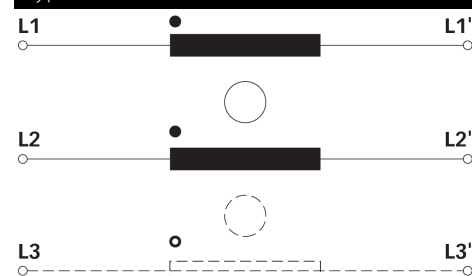
- Cost-effective PCB designs for up to 32 A with forced cooling *
- Compact size and light weight
- Low magnetic leakage flux
- Excellent winding insulation
- Standardized foot print
- Broad range of inductance ratings
- Custom-specific versions on request

* 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

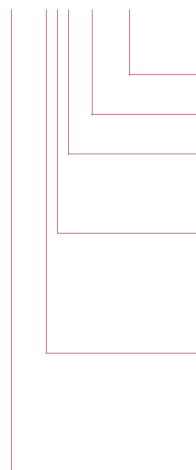
* typical current for forced cooling with 3 m/s. Due to the possible turbulences and degradation of the air stream within an equipment please consider thermal validation.

** 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

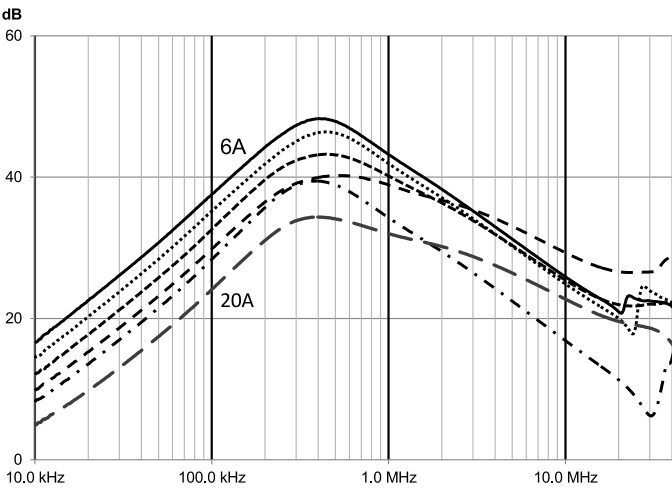


Examples: RT 8532-16-3M0: Vertical 3-line choke for 16 A, with 3 mH ; RT 8122-20-3M0: Horizontal 2-line choke for 20 A, with 3 mH

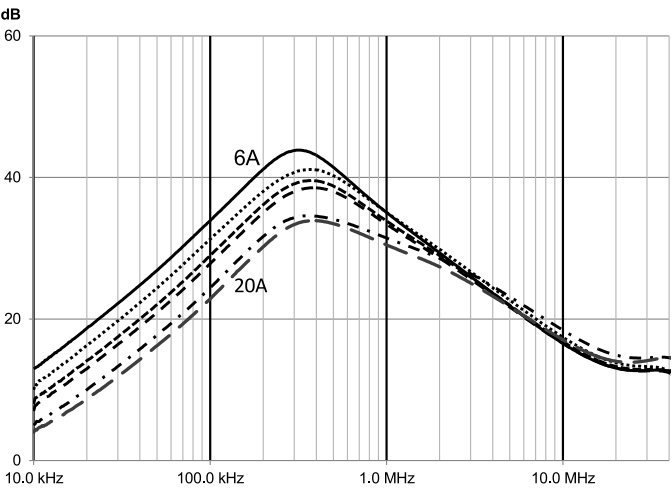
Typical choke attenuation/resonance frequency characteristics

Per CISPR 17; 50 Ω/50 Ω asym

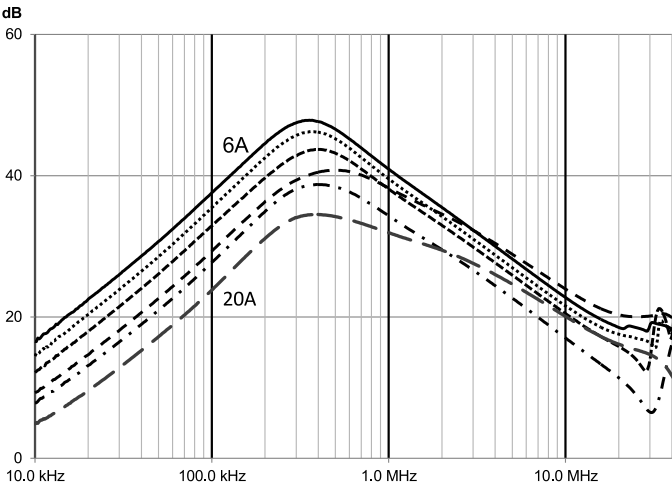
RT 8122



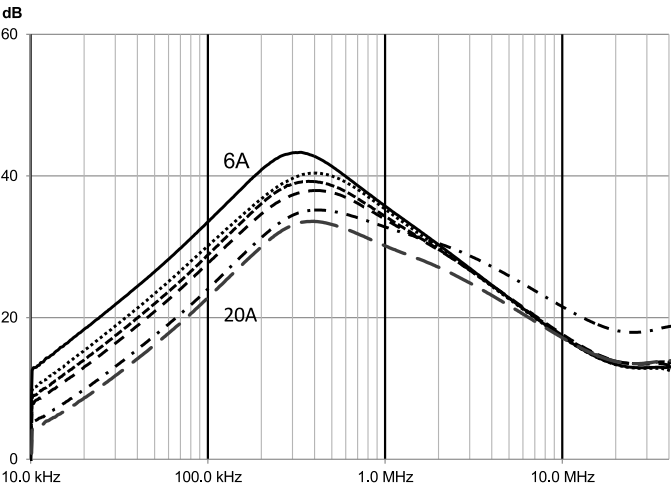
RT 8132



RT 8522

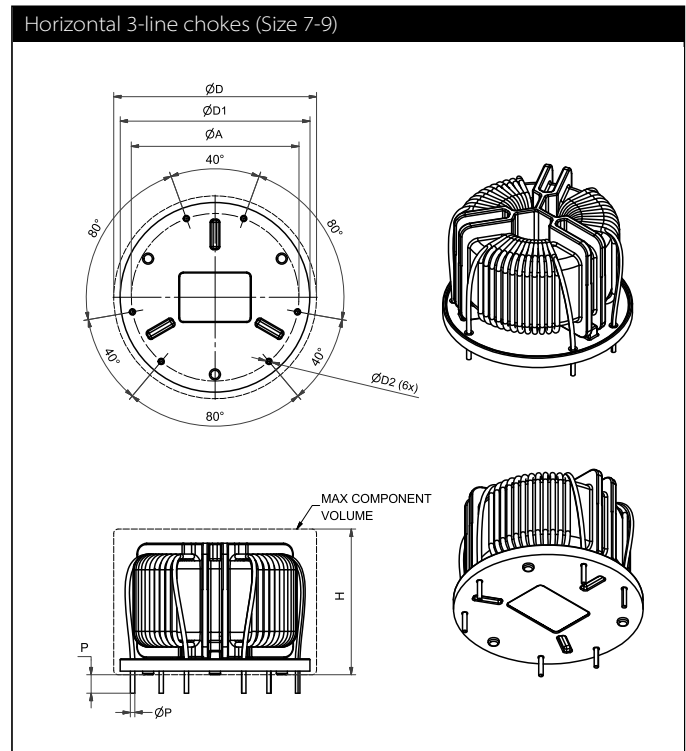
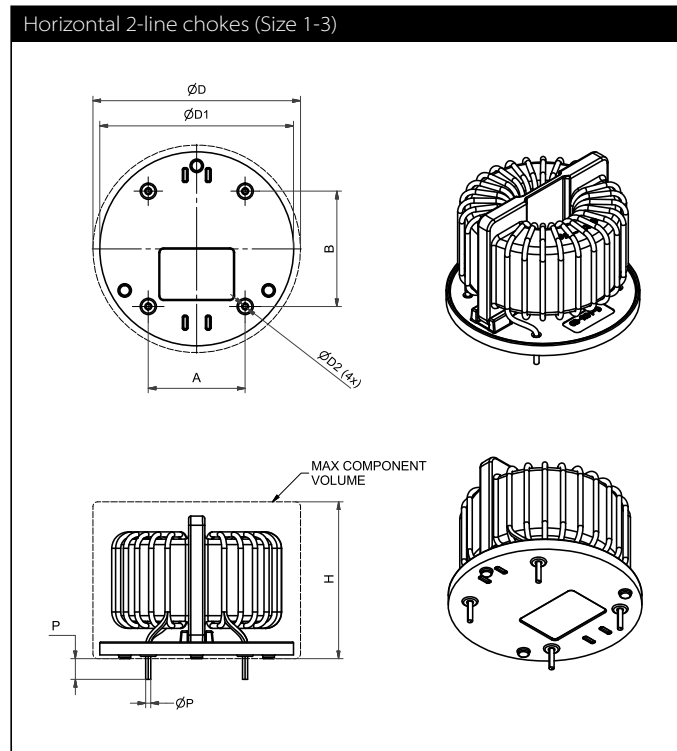


RT 8532



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

All dimensions in mm



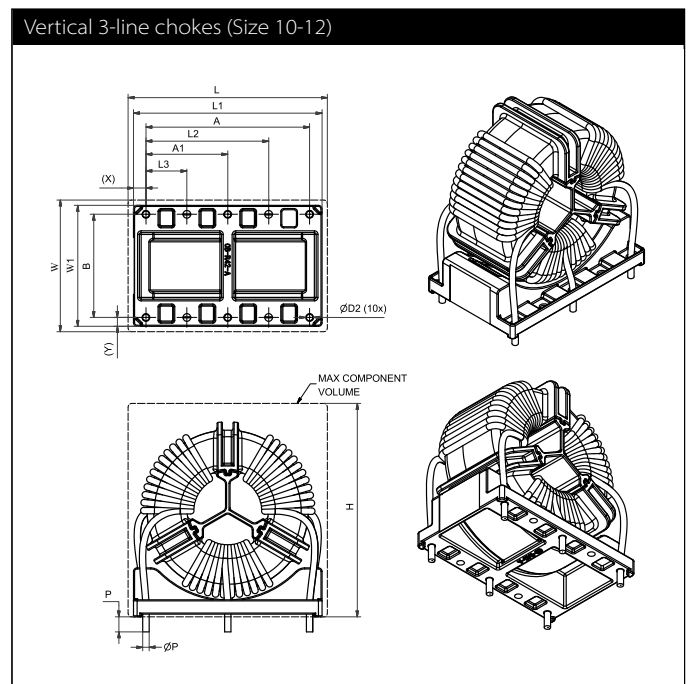
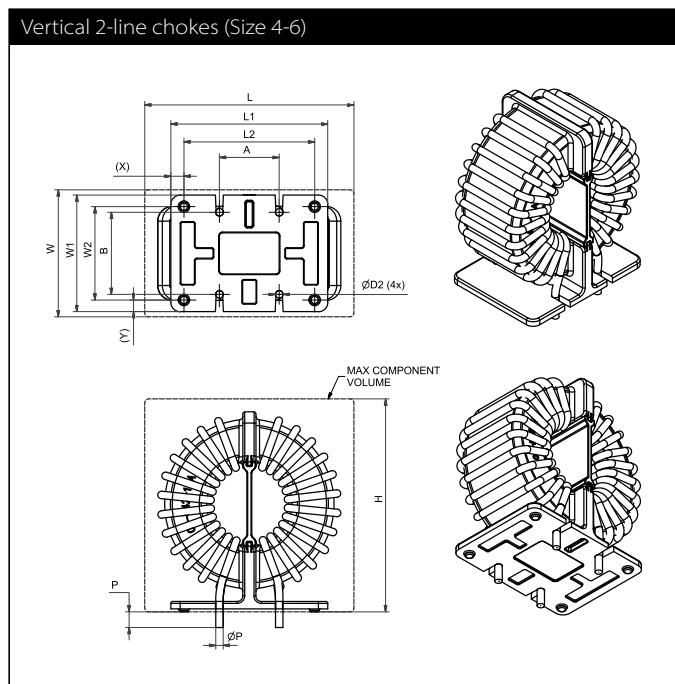
Dimensions

	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

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	A1	B	L	W	H	L1	L2	L3	W1	W2	ØD2	X	Y
	(±0.5)	(±0.5)	(±0.5)	(max)	(max)	(max)	(±0.5)	(±0.5)		(±0.5)	(±0.5)			
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

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



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