

Common-mode Suppression Chokes

Common-mode Chokes EV/EH series



- | Rated currents up to 5 A
- | Broadband attenuation characteristics
- | Low magnetic leakage flux
- | UL rated materials
- | RoHS compliant



Performance indicators

Technical specifications

Maximum continuous operating voltage	250 VAC @ 50 °C
Operating frequency	dc to 400Hz @ 50 °C
Rated currents	0.3 to 5 A
Overcurrent	1.5x Inominal for 1 minute, once per hour
High potential test voltage winding-to-winding @ 25°C	3000 VAC, 60 sec, guaranteed 2000 V, 50 Hz, 2 sec, factory test
Temperature range (operation and storage)	-25 °C to +100 °C (25/100/21)
Flammability corresponding to	UL 94 V-0
Measuring frequency	10 kHz; 5 mA < 16 µH; 500 µA > 16 µH < 160 µH; 50 µA > 160 µH > 16 mH; 50 mV > 16 mH < 160 mH Inductance tolerance ±30%
Resistance	Tolerance max. ±15% @ 25 °C; ≤ 20 mΩ, 1 A; > 20 mΩ ≤ 200 mΩ, 100 mA; > 200 mΩ ≤ 2 V, 10 mA
Electrical characteristics	@ 25 °C ±2 °C

Approvals

ROHS

Common-mode suppression chokes are mainly used to filter noise on AC power lines. Noise on commercial power lines could enter the equipment and disturb the proper function. Noise generated by the equipment for example from switch mode power supplies need to be filtered and the spread of such generated noise need to be suppressed. Common-mode suppression chokes together with line bypass capacitors building an AC EMI suppression filter device.

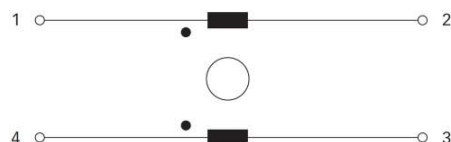
Features and benefits

- | Rated currents up to 5A
- | Compact and light weight
- | Low magnetic leakage flux
- | Sectional winding
- | Standard foot print
- | Broad range of available inductances and current ratings
- | Custom-specific versions
- | Schaffner offers you also EMI measurement service to verify that your design will pass the required safety standards

Typical applications

- | Input filters for switch mode power supplies
- | Filters to reduce leaking noise
- | TVs, VCRs, multimedia and audio equipment
- | Office automation, communications and other electronic devices
- | Electric ballast
- | AC/AC converters

Typical electrical schematic



Choke selection table

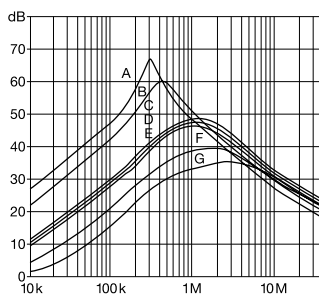
EV choke	EH choke	L nominal (±30%) [mH]	DC resistance R [mΩ]	Rated current I (50 °C) [A]	Weight [g]
EV 20-0.3-02-33M	EH 20-0.3-02-33M	33	1780	0.3	10
EV 20-0.5-02-18M	EH 20-0.5-02-18M	18	725	0.5	10
EV 20-0.8-02-5M6	EH 20-0.8-02-5M6	5.6	245	0.8	10
EV 20-1.0-02-3M9	EH 20-1.0-02-3M9	3.9	168	1.0	10
EV 20-1.2-02-3M3	EH 20-1.2-02-3M3	3.3	127	1.2	10
EV 20-1.5-02-1M8	EH 20-1.5-02-1M8	1.8	72	1.5	10
EV 20-2.0-02-0M8	EH 20-2.0-02-0M8	0.82	38	2.0	10
EV 24-0.5-02-44M	EH 24-0.5-02-44M	44	1250	0.5	18
EV 24-0.8-02-18M	EH 24-0.8-02-18M	18	438	0.8	18
EV 24-1.0-02-10M	EH 24-1.0-02-10M	10	244	1.0	18
EV 24-1.5-02-4M5	EH 24-1.5-02-4M5	4.5	116	1.5	18
EV 24-2.0-02-2M5	EH 24-2.0-02-2M5	2.5	62	2.0	18
EV 24-3.0-02-1M2	EH 24-3.0-02-1M2	1.2	29	3.0	18
EV 24-4.0-02-0M5	EH 24-4.0-02-0M5	0.5	16	4.0	18
EV 28-1.0-02-36M	EH 28-1.0-02-36M	36	591	1.0	31
EV 28-1.5-02-20M	EH 28-1.5-02-20M	20	282	1.5	31
EV 28-2.0-02-11M	EH 28-2.0-02-11M	11	162	2.0	31
EV 28-3.0-02-5M0	EH 28-3.0-02-5M0	5	79	3.0	31
EV 28-4.0-02-2M3	EH 28-4.0-02-2M3	2.3	40	4.0	31
EV 28-5.0-02-1M1	EH 28-5.0-02-1M1	1.1	27	5.0	31
EV 35-1.0-02-90M	EH 35-1.0-02-90M	90	628	1.0	70
EV 35-2.0-02-20M	EH 35-2.0-02-20M	20	150	2.0	70
EV 35-3.0-02-10M	EH 35-3.0-02-10M	10	72	3.0	70
EV 35-4.0-02-5M0	EH 35-4.0-02-5M0	5	53	4.0	70
EV 35-5.0-02-3M6	EH 35-5.0-02-3M6	3.6	33	5.0	70

All wires rated 130 °C or higher.

Typical choke attenuation

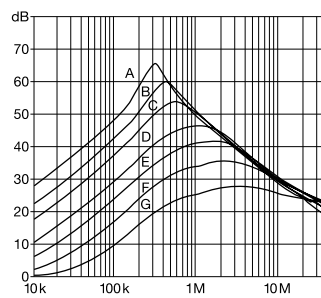
Per CISPR 17; 50 Ω/50 Ω asym

EV/EH 20 types



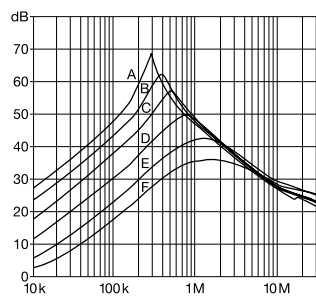
- A = 33mH
- B = 18mH
- C = 5.6mH
- D = 3.9mH
- E = 3.3mH
- F = 1.8mH
- G = 0.8mH

EV/EH 24 types



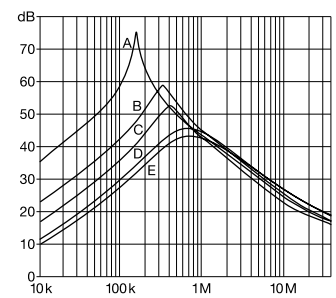
- A = 44mH
- B = 18mH
- C = 10mH
- D = 5.5mH
- E = 2.5mH
- F = 1.2mH
- G = 0.5mH

EV/EH 28 types



- A = 36mH
- B = 20mH
- C = 11mH
- D = 5mH
- E = 2.3mH
- F = 1.1mH

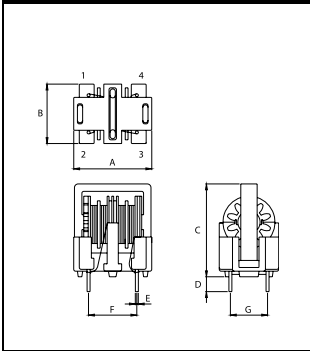
EV/EH 35 types



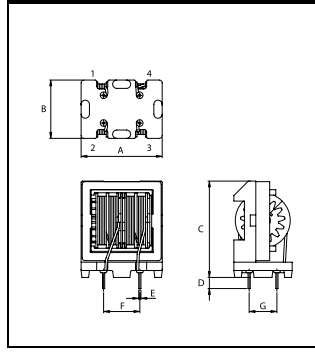
- A = 90mH
- B = 20mH
- C = 10mH
- D = 5mH
- E = 3.6mH

Mechanical data

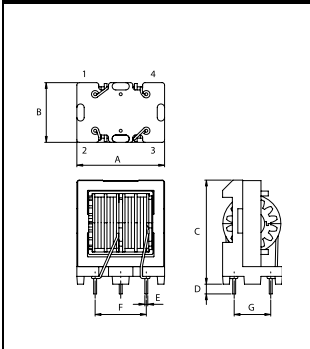
EV 20



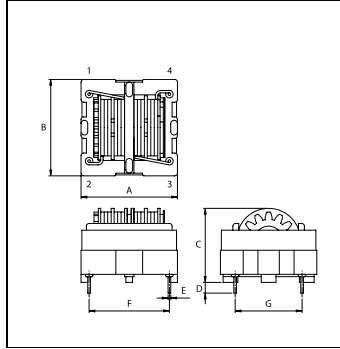
EV 24 and 28



EV 35



EH 20 to 35



Dimensions

	EV 20	EV 24	EV 28	EV 35	EH 20	EH 24	EH 28	EH35	Tolerances
A	21	24.6	29.2	36	21	24	28	36	±1
B	16	17.4	21	24.5	21	24	28	36	±1
C	25*	29.1	34.7	42.7	17.8	20	22.9	27.7	±1
D	4	4	4	4	4	4	4	4	±1
E	Ø0.8	Ø0.8	Ø0.8	Ø1.2	Ø0.8	Ø0.8	Ø0.8	Ø1.0	±0.1
F	13	13	13	21	13	21	24	30	±0.5
G	10	10	10	15	10	15	20	25	±0.5

All dimensions in mm; 1 inch = 25.4 mm

*Tolerance is +1/-2 mm



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