

Common-mode Suppression Chokes



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



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.

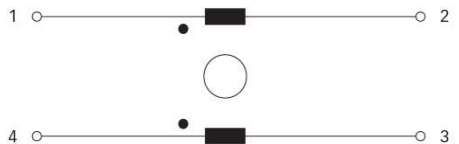
Features and benefits

- 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

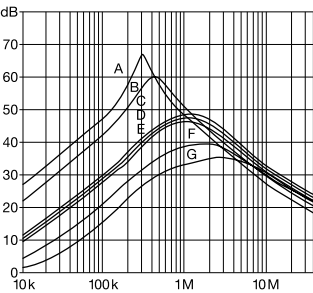
EV choke	EH choke	L nominal (±30%) [mH]	DC resistance R [mΩ]	Rated current I (50 °C) [A]	Weight [g]
EV 20-0.3-02-33M	EH 20-0.3-02-33M	33	1780	0.3	10
EV 20-0.5-02-18M	EH 20-0.5-02-18M	18	725	0.5	10
EV 20-0.8-02-5M6	EH 20-0.8-02-5M6	5.6	245	0.8	10
EV 20-1.0-02-3M9	EH 20-1.0-02-3M9	3.9	168	1.0	10
EV 20-1.2-02-3M3	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

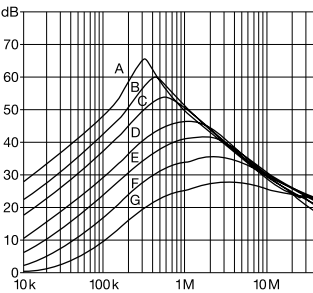
Per CISPR 17; 50 Ω/50 Ω asym

EV/EH 20 types



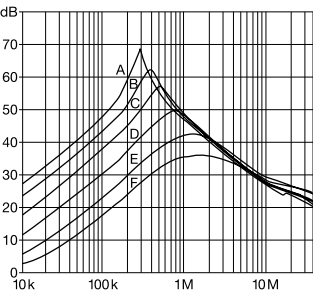
- A = 33mH
- B = 18mH
- C = 5.6mH
- D = 3.9mH
- E = 3.3mH
- F = 1.8mH
- G = 0.8mH

EV/EH 24 types



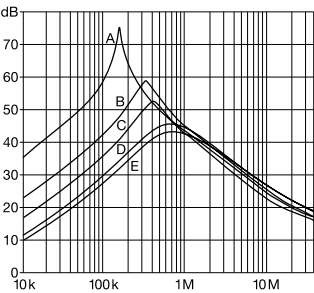
- A = 44mH
- B = 18mH
- C = 10mH
- D = 5.5mH
- E = 2.5mH
- F = 1.2mH
- G = 0.5mH

EV/EH 28 types



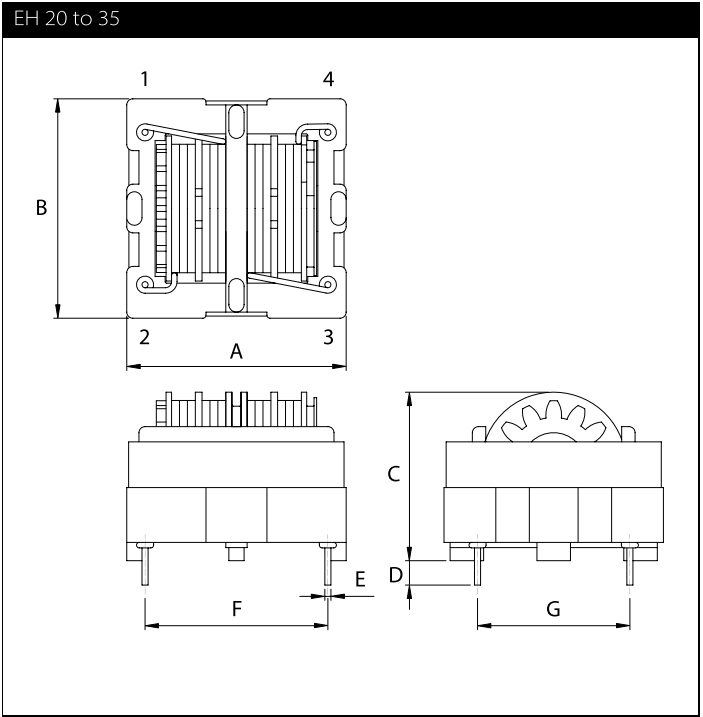
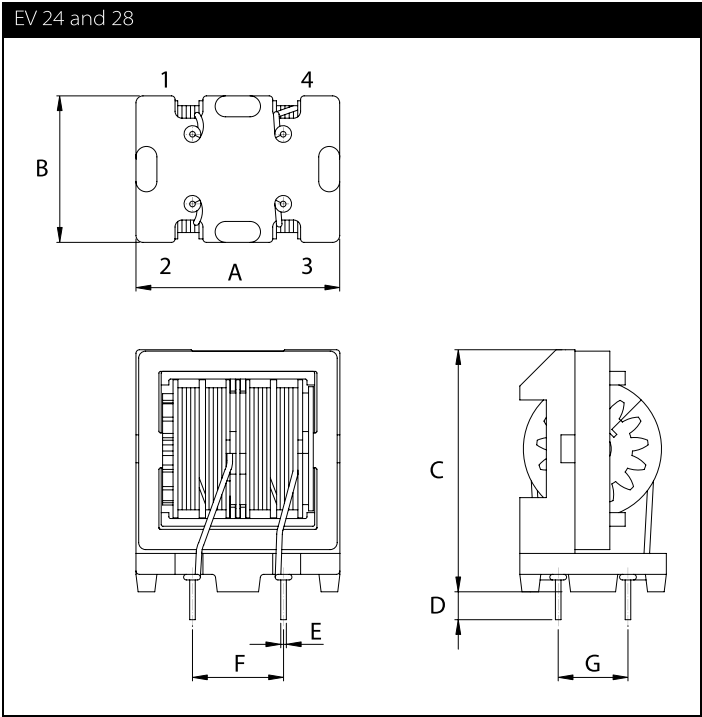
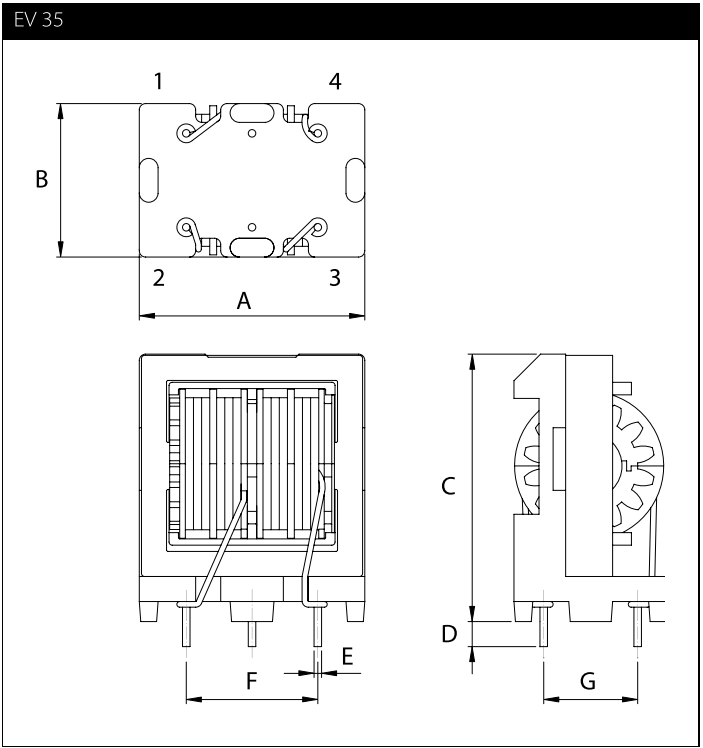
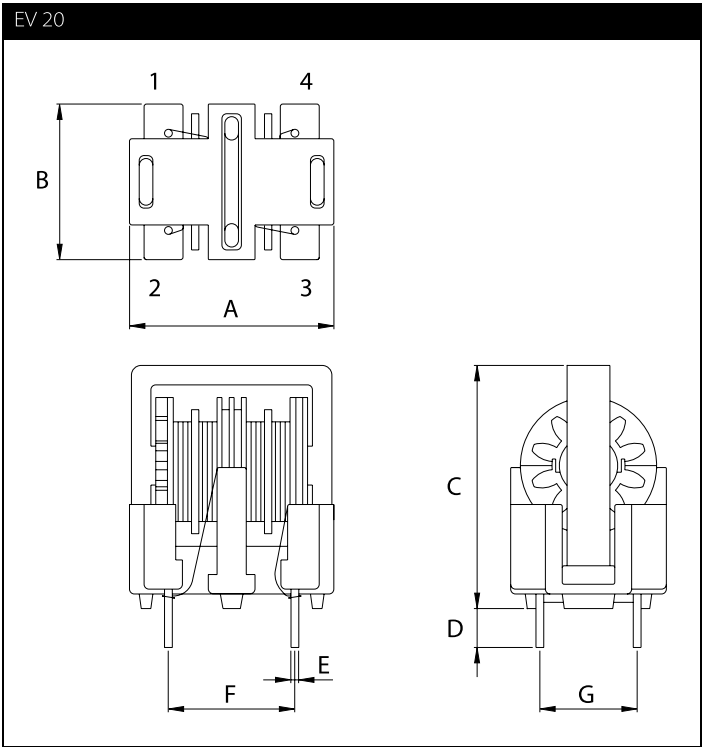
- A = 36mH
- B = 20mH
- C = 11mH
- D = 5mH
- E = 2.3mH
- F = 1.1mH

EV/EH 35 types



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

Mechanical data



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

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



Headquarters, global innovation and development center

Switzerland

Schaffner Group

Nordstrasse 11
4542 Luterbach
T +41 32 6816 626
F +41 32 6816 630
info@schaffner.com
<http://www.schaffner.com>



Sales and application centers

China

Schaffner EMC Ltd. Shanghai

T20-3, No 565 Chuangye Road
Pudong New Area
201201 Shanghai
T +86 21 3813 9500
F +86 21 3813 9501 / 02
cschina@schaffner.com
<http://www.schaffner.com.cn/>

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 19 35 72 71
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.

112 Quai de Bezons
Boîte postale 133
95100 Argenteuil
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

Italy

Schaffner EMC S.r.l.

Via Galileo Galilei 47
20092 Cinisello Balsamo (MI)
T +39 02 66 04 30 45/47
F +39 02 61 23 943
italysales@schaffner.com

Japan

Schaffner EMC K.K.

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

Singapore

Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial 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,
Alcobendas
Miniparc III, Edificio E
El Soto de la Moraleja
Alcobendas
28109 Madrid
M +34 618 176 133
T +34 917 912 900
F +34 917 912 901
spainsales@schaffner.com

Sweden

Schaffner EMC AB

Turebergstorg 1, 6
19147 Sollentuna
T +46 8 5792 1121 / 22
F +46 8 92 96 90
swedensales@schaffner.com

Switzerland

Schaffner EMV AG

Nordstrasse 11
4542 Luterbach
T +41 32 6816 626
F +41 32 6816 641
sales@schaffner.ch

Taiwan R.O.C.

Schaffner EMV Ltd.

6 Floor, No. 413
Rui Guang Road
114 Neihu District Taipei City
T +886 2 87525050
F +886 2 87518086
taiwansales@schaffner.com

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

UK

Schaffner Ltd.

5 Ashville Way
Molly Millars Lane
Wokingham
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
<http://www.schaffner.uk.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
<http://www.schaffner.com/us>

Schaffner MTC LLC

6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953
<http://www.schaffner-mtc.com>

Schaffner Trencos LLC

2550 Brookpark Road
44134 Cleveland, Ohio
T +1 216 741 5282
F +1 216 741 4860
<http://schaffner-trencos.com>

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

© 2014 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Schaffner:

<u>EH20-0.3-02-33M</u>	<u>EH20-0.8-02-5M6</u>	<u>EH20-1.0-02-3M9</u>	<u>EH20-1.2-02-3M3</u>	<u>EH20-1.5-02-1M8</u>	<u>EH20-2.0-02-0M8</u>
<u>EH24-0.5-02-44M</u>	<u>EH24-0.8-02-18M</u>	<u>EH24-1.0-02-10M</u>	<u>EH24-1.5-02-4M5</u>	<u>EH24-2.0-02-2M5</u>	<u>EH24-3.0-02-1M2</u>
<u>EH24-4.0-02-0M5</u>	<u>EH28-1.0-02-36M</u>	<u>EH28-1.5-02-20M</u>	<u>EH28-2.0-02-11M</u>	<u>EH28-3.0-02-5M0</u>	<u>EH28-4.0-02-2M3</u>
<u>EH28-5.0-02-1M1</u>	<u>EH35-1.0-02-90M</u>	<u>EH35-2.0-02-20M</u>	<u>EH35-3.0-02-10M</u>	<u>EH35-4.0-02-5M0</u>	<u>EH35-5.0-02-3M6</u>
<u>EV20-0.3-02-33M</u>	<u>EV20-0.5-02-18M</u>	<u>EV20-0.8-02-5M6</u>	<u>EV20-1.0-02-3M9</u>	<u>EV20-1.2-02-3M3</u>	<u>EV20-1.5-02-1M8</u>
<u>EV20-2.0-02-0M8</u>	<u>EV24-0.5-02-44M</u>	<u>EV24-0.5-02-44M-1</u>	<u>EV24-0.8-02-18M</u>	<u>EV24-1.0-02-10M</u>	<u>EV24-1.5-02-4M5</u>
<u>EV24-2.0-02-2M5</u>	<u>EV24-3.0-02-1M2</u>	<u>EV24-4.0-02-0M5</u>	<u>EV28-1.0-02-36M</u>	<u>EV28-1.5-02-20M</u>	<u>EV28-3.0-02-5M0</u>
<u>EV28-4.0-02-2M3</u>	<u>EV28-5.0-02-1M1</u>	<u>EV35-1.0-02-90M</u>	<u>EV35-2.0-02-20M</u>	<u>EV35-3.0-02-10M</u>	<u>EV35-4.0-02-5M0</u>
<u>EV35-5.0-02-3M6</u>	<u>EV28-2.0-02-11M</u>	<u>EH20-0.5-02-18M</u>			