

Common-mode Suppression Chokes

SCHAFFNER
energy efficiency and reliability



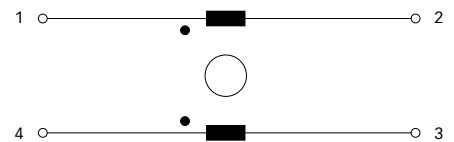
- Rated currents up to 5A
- Broadband attenuation characteristics
- Low magnetic leakage flux
- UL rated materials
- RoHS compliant



Technical specifications

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

Typical electrical schematic



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

Choke selection table

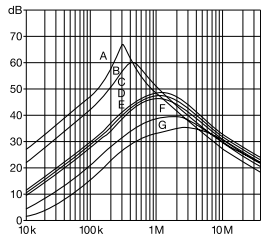
EV choke	EH choke	L nominal (±30%) [mH]	DC resistance R [mΩ]	Rated current I (50°C) [A]	Weight [g]
EV 20-0.3-02-33M	EH 20-0.3-02-33M	33	1780	0.3	10
EV 20-0.5-02-18M	EH 20-0.5-02-18M	18	725	0.5	10
EV 20-0.8-02-5M6	EH 20-0.8-02-5M6	5.6	245	0.8	10
EV 20-1.0-02-3M9	EH 20-1.0-02-3M9	3.9	168	1.0	10
EV 20-1.2-02-3M3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

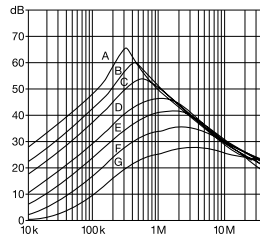
Per CISPR 17; 50Ω/50Ω asym

EV/EH 20 types



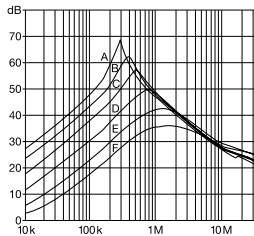
- A = 33mH
- B = 18mH
- C = 5.6mH
- D = 3.9mH
- E = 3.3mH
- F = 1.8mH
- G = 0.8mH

EV/EH 24 types



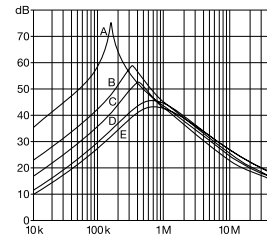
- A = 44mH
- B = 18mH
- C = 10mH
- D = 4.5mH
- E = 2.5mH
- F = 1.2mH
- G = 0.5mH

EV/EH 28 types



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

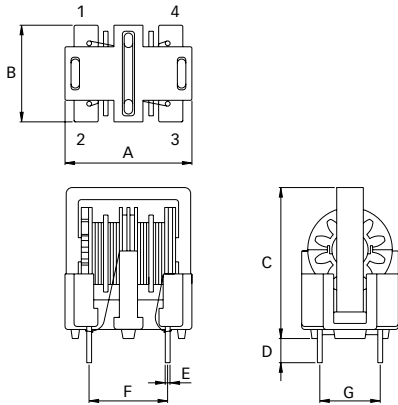
EV/EH 35 types



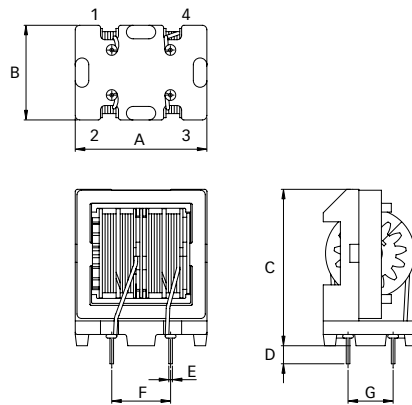
- A = 90mH
- B = 20mH
- C = 10mH
- D = 5mH
- E = 3.6mH

Mechanical data

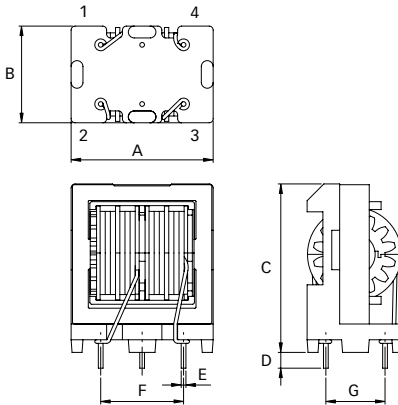
EV 20



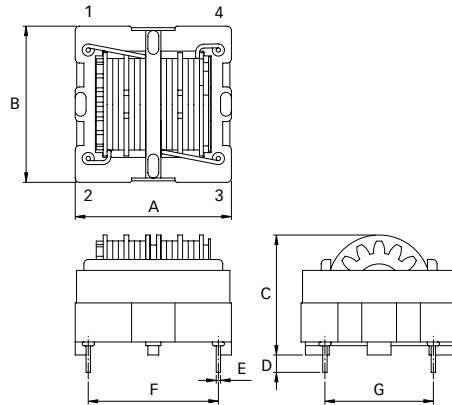
EV 24 and 28



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 = 25.4mm

* Tolerance is +1/-2mm

**Headquarters and
global innovation and
development center**

Schaffner Group
Nordstrasse 11
4542 Luterbach
Switzerland
T +41 32 681 66 26
F +41 32 681 66 30
info@schaffner.ch
www.schaffner.com

Sales and application centers

China
Schaffner EMC Ltd. Shanghai
Building 11, Lane 1365
East Kangqiao Road
Shanghai 201319
T +86 21 6813 9855
F +86 21 6813 9811
cschina@schaffner.com
www.schaffner.com

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

Finland
Schaffner Oy
Tynninkuja 7
08700 Lohja
T +358 19 35 72 71
F +358 19 32 66 10
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
112, Quai de Bezons
95103 Argenteuil
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@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.
Mitsui-Seimei Sangenjaya Bldg. 7F
1-32-12, Kamiyama, Setagaya-ku
Tokyo 154-0011
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
www.schaffner.jp

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 32 681 66 26
F +41 32 681 66 41
sales@schaffner.ch

Singapore
Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial
Estate
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 la Moraleja,
Alcobendas
28109 Madrid
T +34 618 176 133
spainsales@schaffner.com

Taiwan
Schaffner EMV Ltd.
6th Floor, No 413
Rui Guang Road
Neihu District
Taipei City 114
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
Lamphun 51000
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
Berkshire RG41 2PL
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
www.schaffner.uk.com

USA
Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey 08837
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffner.com/us

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June 2011

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