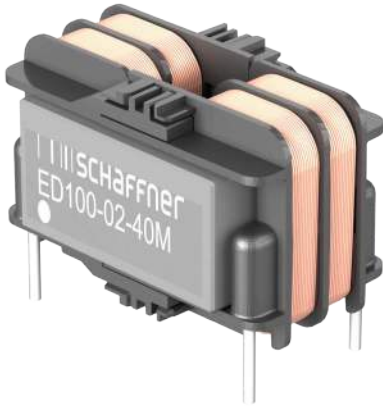


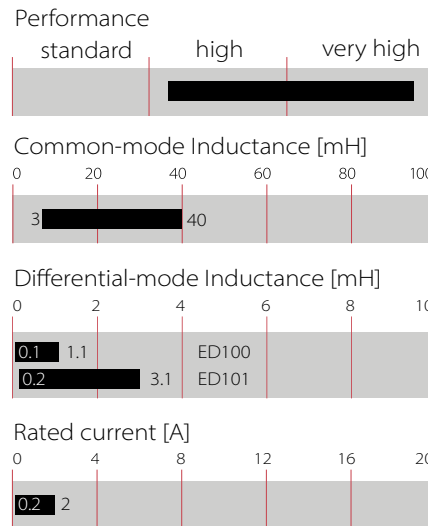
Current-compensated choke series for lighting applications



- Common and differential mode inductance
- Very high differential-mode inductance
- Rated currents up to 2 A
- Broadband attenuation characteristics



Performance indicators



Approvals & Compliances

ROHS

Lighting LED drivers need to be high in efficiency, low in cost and compliant to EMC regulations. The ED100 / ED101 series increases the efficiency of a LED driver circuit by reducing the need for X-capacitors. Thus, the power factor rises, and less unwanted reactive power is generated. The inductor is a combination of a strong common-mode inductance with a significant differential-mode inductance. It offers two filtering elements in one component. This helps the circuit designer to reduce the number of elements on the PCB, to reduce space requirement as well as lowering costs. Combined with the high MTBF value of the ED100 / ED101 series, a circuit design with reduced number of components profits for its overall reliability and lifetime.

Features and benefits

- Increases power factor
- Combination of common- and differential-mode inductances
- Rated currents up to 2 A
- Compact and light-weight
- Small PCB footprint

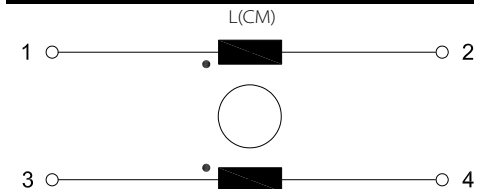
Technical specifications

Maximum continuous operating voltage	300 VAC, 50/60 Hz
Rated currents	0.2 to 2 A @ 65°C
Rated inductance	3 to 40 mH common-mode
Stray inductance	0.1 - 3.1 mH
Operating frequency	DC to 60 Hz
Temperature range (operation and storage)	-40°C to 125°C
Climatic class	40/125/56 acc. IEC 60068-1
High potential test voltage winding-to-winding @ 25°C	1500 VAC, 2 sec
Creepage and clearance distances	Creepage > 3 mm / Clearance > 2.5 mm between windings
Overvoltage category	II acc. IEC 60664-1
Design corresponding to	IEC 60938-1/-2
Inductance reduction (DC bias with IN)	Less than 10% at rated current
Cooling	AN - natural convection
Flammability corresponding to	UL 94 V-0
Altitude	Derating above 2,000 m
Protection category	IP 00
Pollution degree	PD2 acc. IEC 60664-1
MTBF	> 13,000,000 hours acc. MIL-HDBK-217
Vibration and shock	3M4 acc. IEC 60721-3-3

Typical applications

- Mains operated LED drivers
- Electronic ballasts
- Input filters for switch mode power supplies

Typical electrical schematic



Choke selection table - ED100 - High Differential-Mode Inductance

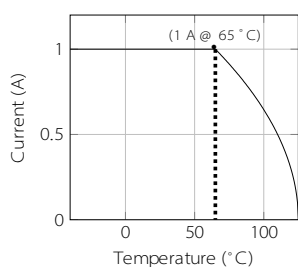
ED100 choke	Buy	Rated current I (@65°C) [A]	Common- Mode Inductance L (CM) (@10kHz) [mH]	Differential- Mode Inductance L (DM) (@10kHz) [mH]	DC resistance R (@25°C) [Ω]	Weight [g]
ED100-0.2-40M		0.2	40	1.1	10.0	10
ED100-0.3-27M		0.3	27	0.8	5.5	10
ED100-0.4-20M		0.4	20	0.6	3.7	10
ED100-0.5-15M		0.5	15	0.4	2.0	10
ED100-0.75-12M		0.75	12	0.3	1.2	11
ED100-1-9M0		1	9	0.3	0.6	12
ED100-1.25-7M0		1.25	7	0.2	0.4	13
ED100-1.5-5M0		1.5	5	0.1	0.3	13
ED100-2-3M0		2	3	0.1	0.2	13

Choke selection table - ED101 - Very High Differential-Mode Inductance

ED101 choke	Buy	Rated current I (@65°C) [A]	Common- Mode Inductance L (CM) (@10kHz) [mH]	Differential- Mode Inductance L (DM) (@10kHz) [mH]	DC resistance R (@25°C) [Ω]	Weight [g]
ED101-0.2-40M		0.2	40	3.1	10.0	11
ED101-0.3-27M		0.3	27	2.1	5.5	11
ED101-0.4-20M		0.4	20	1.5	3.7	11
ED101-0.5-15M		0.5	15	1.2	2.0	12
ED101-0.75-12M		0.75	12	0.9	1.2	12
ED101-1-9M0		1	9	0.7	0.6	13
ED101-1.25-7M0		1.25	7	0.5	0.4	14
ED101-1.5-5M0		1.5	5	0.4	0.3	14
ED101-2-3M0		2	3	0.2	0.2	14

Test conditions: Measuring frequency: 10 kHz; 50 mV; Inductance tolerance: +50%, -30%; Resistance tolerance: ±15% @ 25°C; Electrical characteristics @ 25°C: ±2°C;
Differential-mode inductance measurement between pin 1 and 2 (pin 3 and 4 shorted)
For mechanical tolerances refer to mechanical data section.

Current derating



Derating curve normalized to 1 A

Distribution inventory

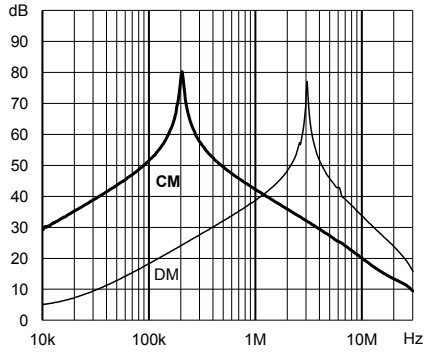
Up-to-date inventory levels for global distributors is available at

<https://products.schaffner.com/stock>

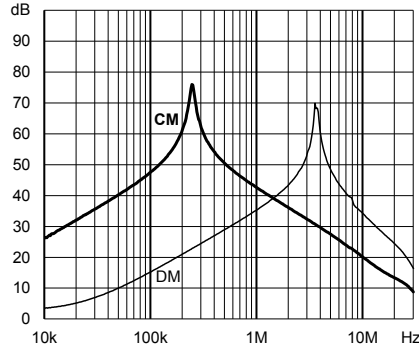


Typical choke attenuation - ED100 - High Differential-Mode Inductance

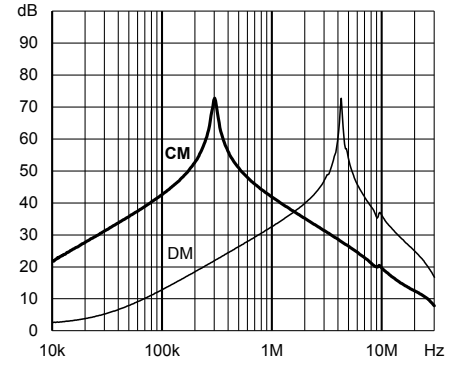
Per CISPR 17; 50 Ω/50 Ω asym



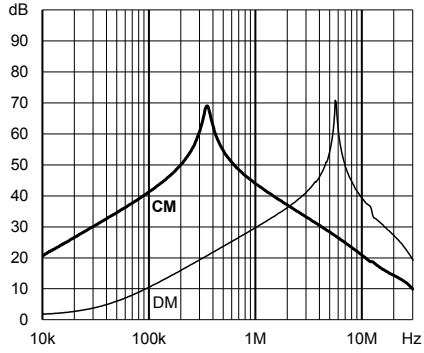
ED100-0.2-40M



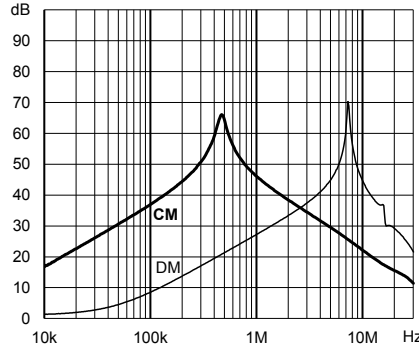
ED100-0.3-27M



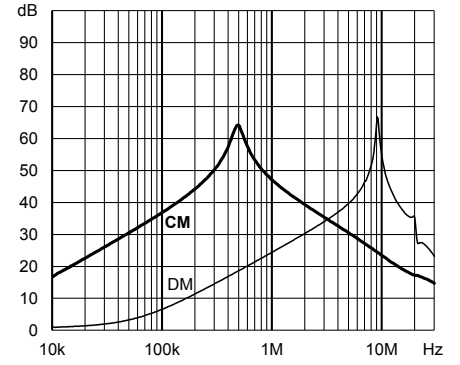
ED100-0.4-20M



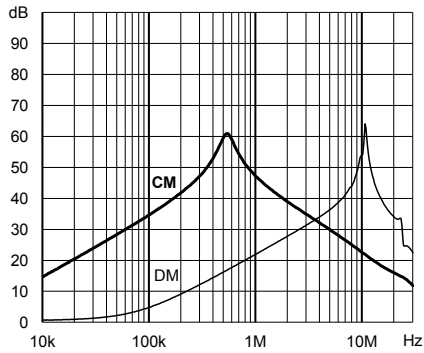
ED100-0.5-15M



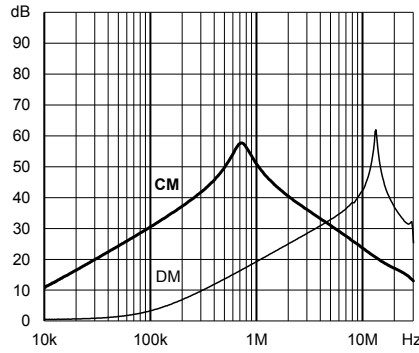
ED100-0.75-12M



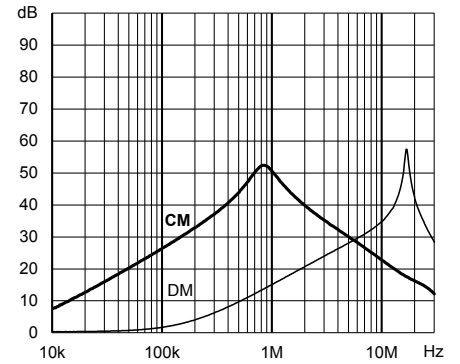
ED100-1-9M0



ED100-1.25-7M0



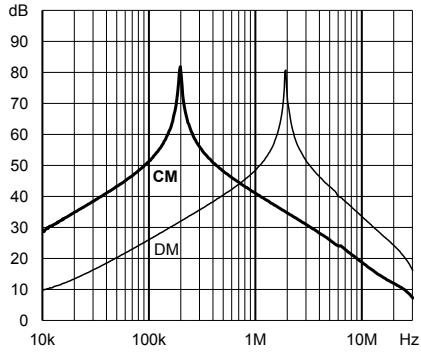
ED100-1.5-5M0



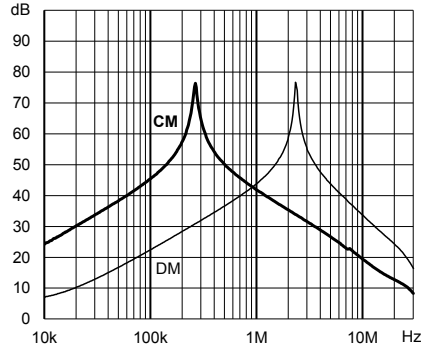
ED100-2-3M0

Typical choke attenuation - ED101 - Very High Differential-Mode Inductance

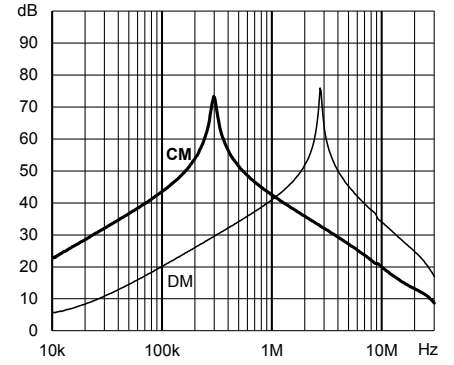
Per CISPR 17; 50 Ω/50 Ω asym



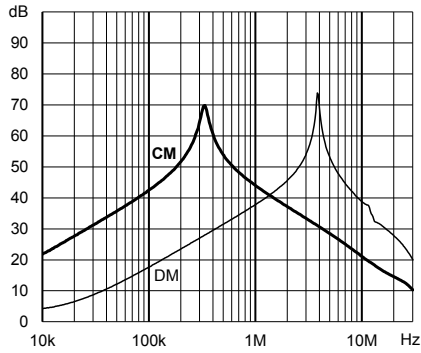
ED101-0.2-40M



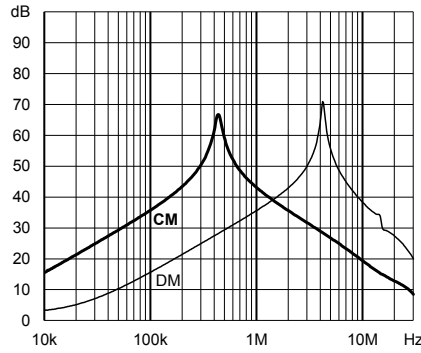
ED101-0.3-27M



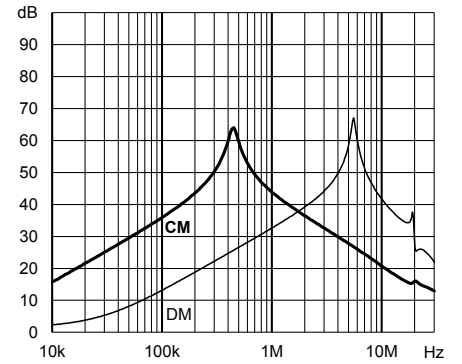
ED101-0.4-20M



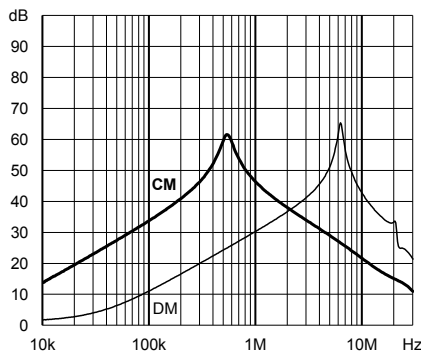
ED101-0.5-15M



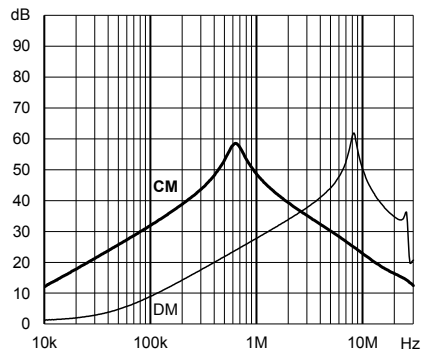
ED101-0.75-12M



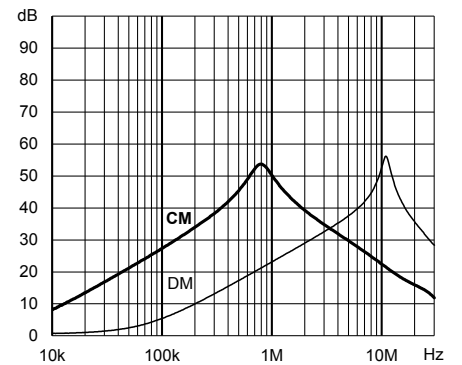
ED101-1-9M0



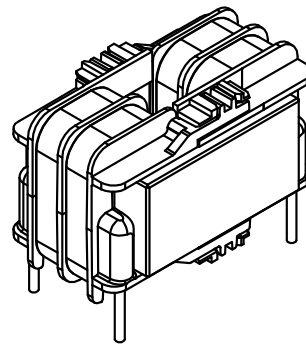
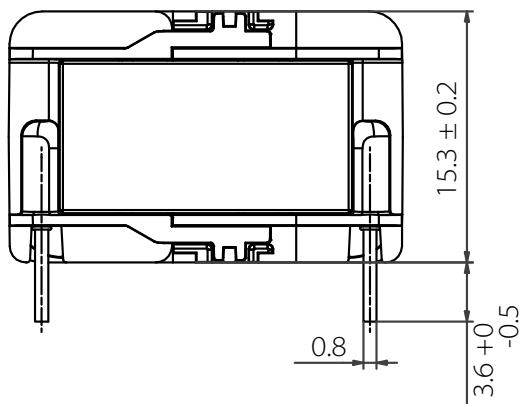
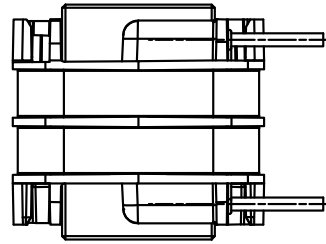
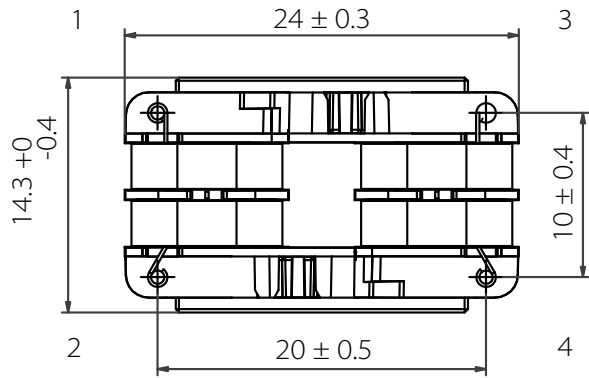
ED101-1.25-7M0



ED101-1.5-5M0



ED101-2-3M0

Mechanical data - ED100 / ED101

For dimensions [mm] without tolerances: ISO2768-m/EN22768-m applies

Pin material: Steel (base), Cu (under plating), Sn (final plating $6\mu\text{m}$)

Pin 1 marked with "dot" on label



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