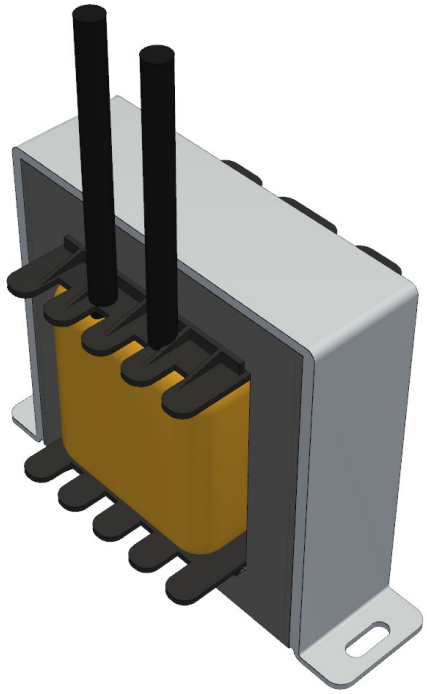
POWER INDUCTOR

90 µH · 63 A rms

EE110 gapped ferrite choke, Litz winding, U-bracket mounting

PRELIMINARY *Calculated design values – sample verification pending*



KEY DATA

90 µH ±6 % Inductance, 10 kHz / 1 V	**63 A rms** Rated current, 15 kHz ripple 40 %
120 A Isat L ≥ 80 %, 25 °C (93 A @100 °C)	**3.0 mΩ** DCR typ. 25 °C (max 3.3 mΩ)
19 K Temperature rise at 63 A rms	**2.70 kg** Total weight approx.

FEATURES

- Hi-pot 4.5 kV AC winding to core, insulation class F (155 °C)
- Rugged 2 mm steel U-bracket, 2 × M6 slot mounting
- Flying leads 300 ±10 mm above bracket top, 90° M6 ring lugs

Applications

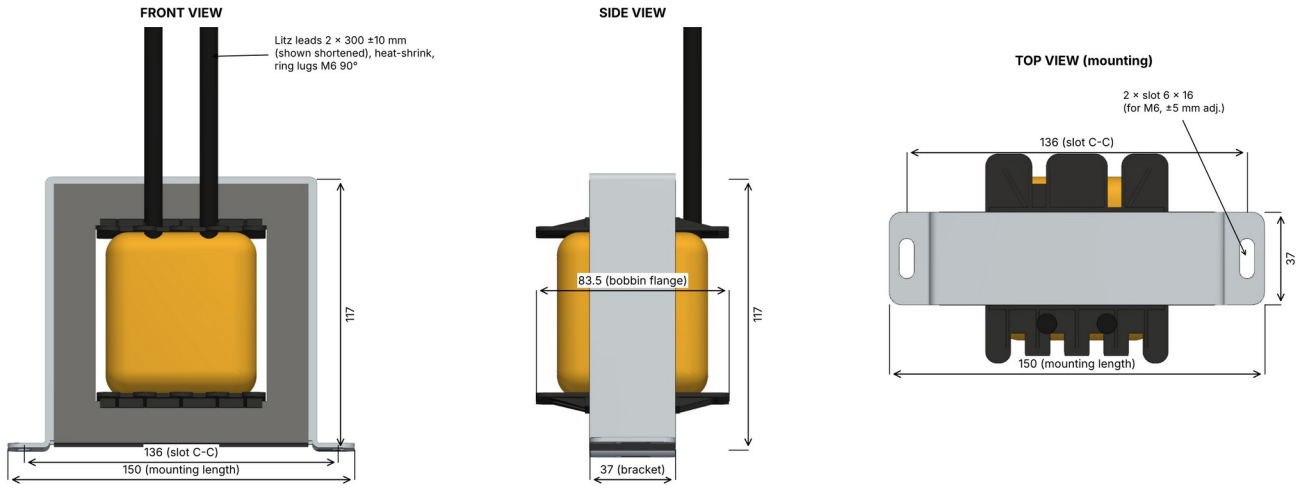
Boost / PFC and output filter chokes, inverter and DC/DC converters up to ≈ 20 kHz switching frequency.

Identification

Part number	Customer no.	Revision / date	Status
FI01-EE110-01	NA	R0.1 / 2026-08-11	Preliminary

Specifications are subject to change without notice. Values marked "calc." are design calculations to be confirmed on first samples.

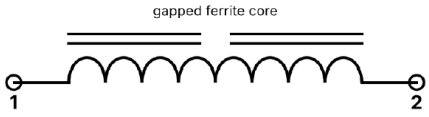
1 DIMENSIONS (MM)



Dimensions in mm, nominal. Bracket: 2 mm U-bracket (STEP: U_bracket_2mm). Bobbin: 21110007 (STEP: EE110_bobbin_21110007). Core EE110 shown simplified.

Dimension	Value (mm)
Mounting length (bracket flanges)	150
Mounting slots	2 × 6 × 16, C-C 136
Height (mounting plane to top)	117
Bracket width	37
Depth incl. bobbin / winding	83.5
Lead length (from top of bracket))	300 ±10

2 CIRCUIT DIAGRAM



Pin 1 – start of winding, Pin 2 – end of winding. Polarity not relevant for single-winding choke.

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3 ELECTRICAL SPECIFICATION

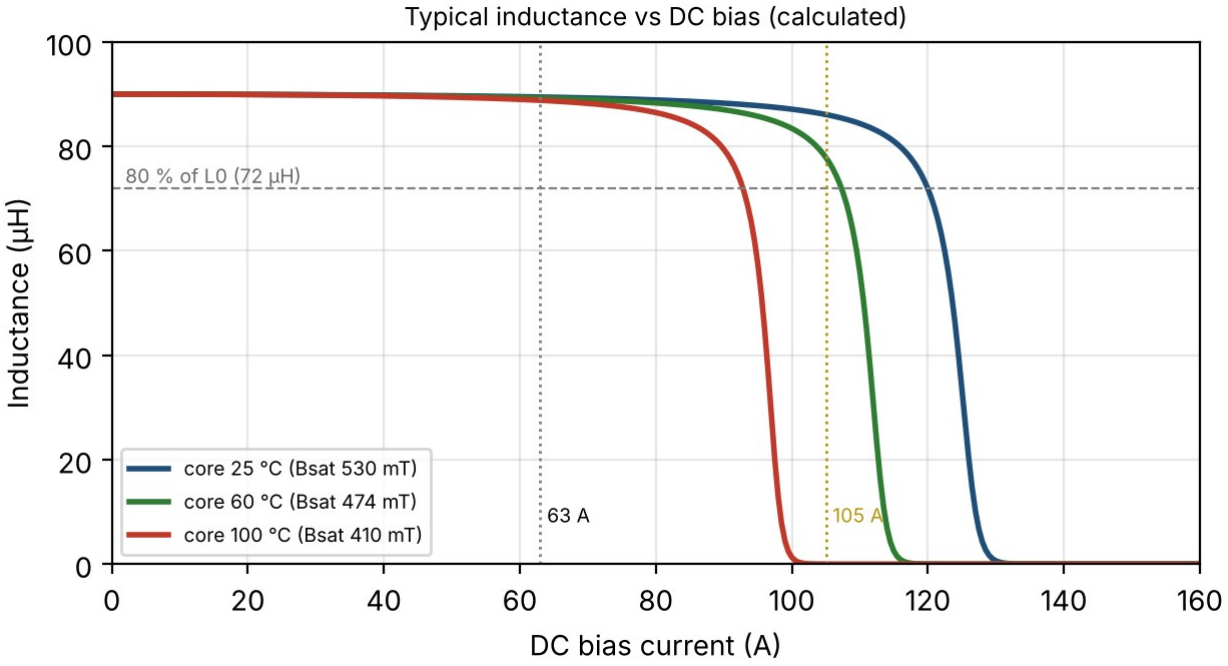
Parameter	Test condition	Pins	Limit	Remark
Inductance	10 kHz / 1 V, series, 0 A	1 – 2	90 µH ± 6 %	No-load measurement
Inductance at DC bias	63 A DC, core 25 °C	1 – 2	≥ 85 µH	typ. 89.5 µH (calc.)
DC resistance	25 °C, 4-wire at cable lugs	1 – 2	≤ 3.3 mΩ	typ. 3.0 mΩ (winding 2.5 + leads 0.47)
Hi-pot	50 Hz, 5 mA, 1 s	N1 – core	4500 V AC	No breakdown or flash-over
Rated current	DC/LF + 40 % pk-pk ripple, 15 kHz	1 – 2	63 A rms	Continuous, still air
Saturation current	L ≥ 80 % L0, core 25 / 60 / 100 °C	1 – 2	120 / 107 / 93 A	calc.; ≥ 105 A for core ≤ 67 °C (note 2)
Temperature rise	63 A rms, Ta 50 °C, still air	winding	ΔT ≈ 19 K	calc.; winding ≈ 69 °C (Ta 50), ≈ 106 °C (Ta 85)
Insulation class	—	—	F (155 °C)	Wire, bobbin, tapes, tubing

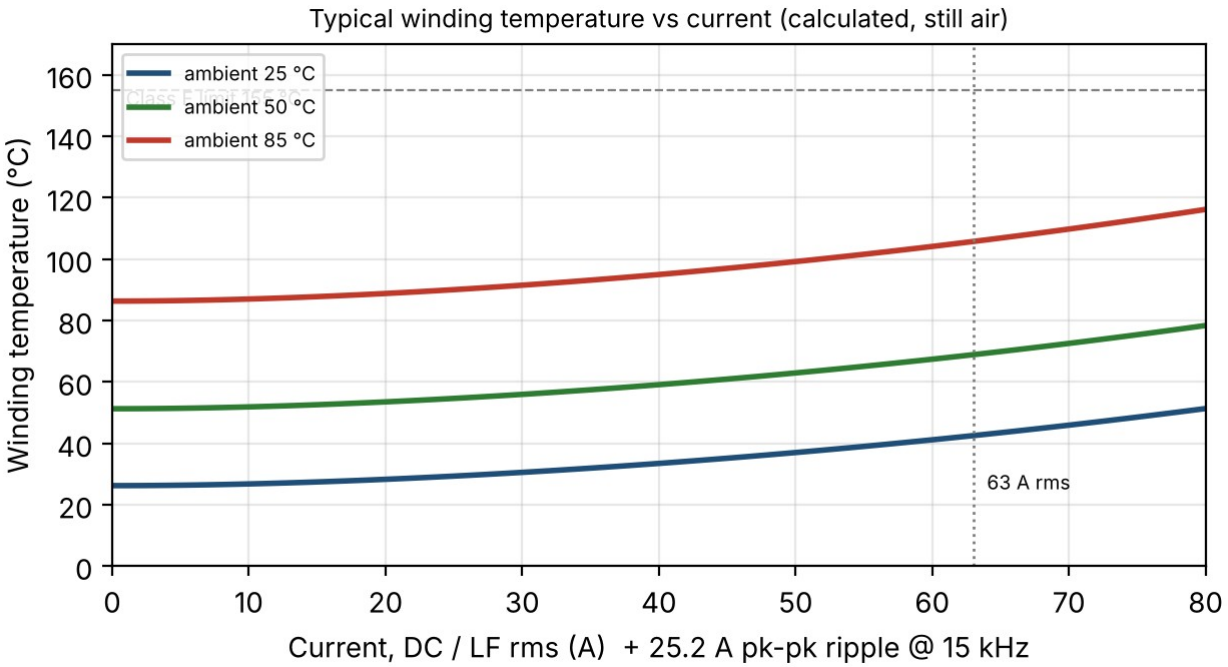
Notes

3.1 PERFORMANCE DATA (CALC., TA = 50 °C)

Parameter	Value	Condition / basis
Peak flux density	330 mT	63 A + ½ × 25.2 A ripple
Ripple flux swing ΔB (peak)	55 mT	15 kHz
Copper loss, winding (hot)	11.9 W	I_eff = 63.5 A (incl. ripple)
Copper loss, leads (2 × 300 mm)	2.1 W	outside core
Core loss	0.27 W	Steinmetz
Winding temperature at Ta 25 / 50 / 85 °C	42 / 69 / 106 °C	natural convection
Total loss	**14.2 W**	

4 TYPICAL CHARACTERISTICS (CALC.)





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5 MARKING AND PACKAGING

Item	Requirement
Label	ICD&C / FI01-EE110-01 / YY/WW (date code)
Packaging	Packed 4pcs, protected against mechanical shock (ferrite core) + brackets 16pcs

5 CHANGE RECORD

Date	Rev.	Change	Reason	By
2026-08-11	R0.1	All – initial version	Initial version	EH

6 APPROVAL

	Name	Date	Signature
Prepared			
Checked			
Approved (customer)			

Remark: always work to the latest revision of this datasheet.