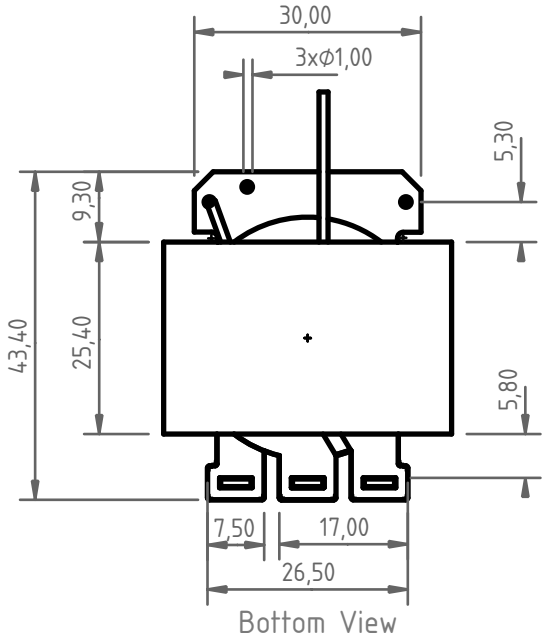
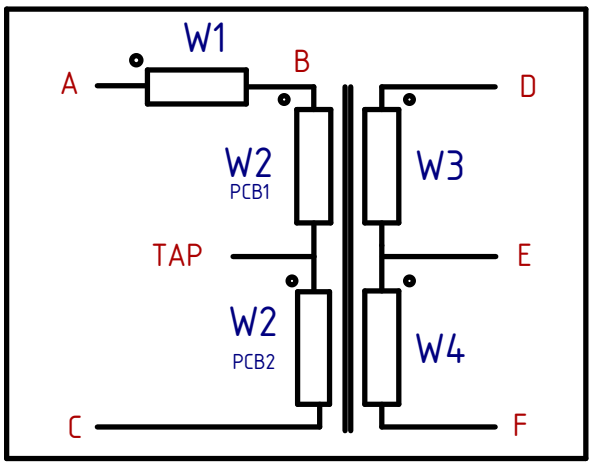
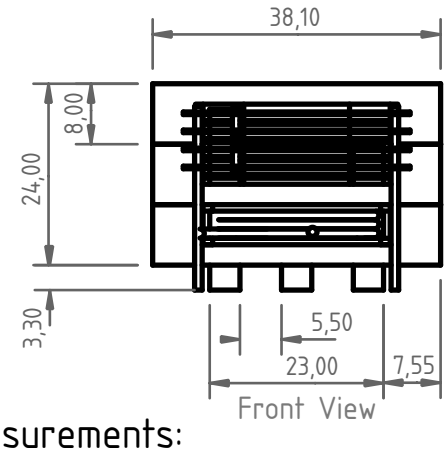
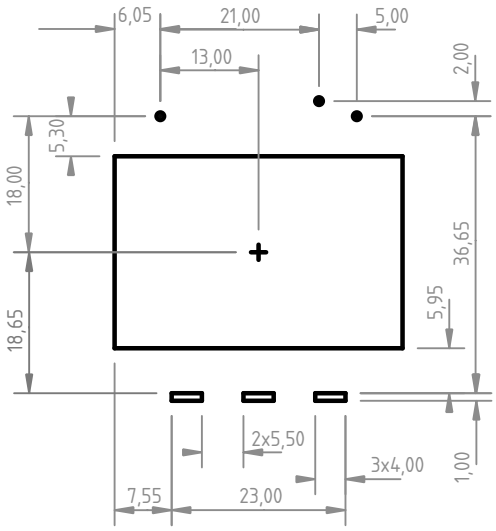


Electric Diagram





Layout



Measurements:

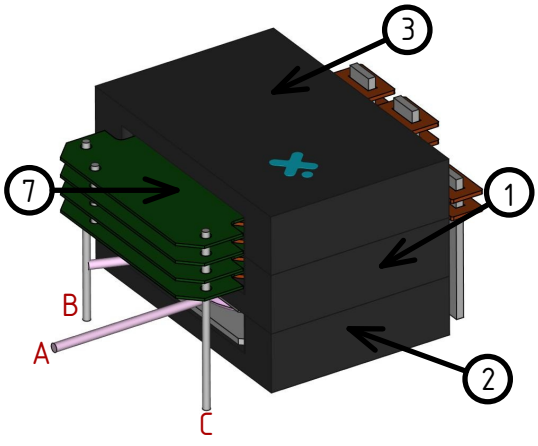
Start	End	Shorted @	RDC (mΩ) @25ºC	Nominal Inductance ± 8% (µH)
A	B		19.9	18 @100 kHz, 0.1 Vrms
B	C		64.95	277 @100 kHz, 0.1 Vrms
D	E		0.26	1.1 @100 kHz, 0.1 Vrms
E	F		0.26	1.1 @100 kHz, 0.1 Vrms

Testing:

Dielectric Strength	Voltage	Time (s)
(W1, W2, W3, W4)- Core	3 kVAC	60
W2 - (W3, W4)	3 kVAC	60

Bill of materials:

Item	Qty.	Part	Description
1	1	Core	EQ38/8/25 Ferroxcube 3C98
2	1	Core	EQ38/8/25 Ferroxcube 3C98; Center leg air gap of 0.38 mm
3	1	Core	EQ38/8/25 Ferroxcube 3C98; Center leg air gap of 0.17 mm
4	1	Coil former	Custom; Ultramid A3X2G7 or eq.
5		Wire	Litz 225x0.05, G1, MW-79C, Single Silk Served, Ø = 1.19 mm
6	4	Copper stamp 1	Cu Stamp 1 of 8.5 mm x 0.5 mm
7	2	PCB 1	4 oz; Total dimensions: 8.85 mm x 0.8 mm
8	2	PCB 2	4 oz; Total dimensions: 8.85 mm x 0.8 mm
9		Sleeve	Adtech PTFE Sleeving ID=1.5 mm, 0.41 mm of thickness
10		Glue	Loctite, Cyanoacrelate adhesive
11		Tape	Terdur 32, 4 mm of width
12	18	Insulation sheets	Kapton-polyimide film of 0.05 mm of thickness
13	3	Conducting pins	Copper bars of Ø=1 mm
14	0	Conducting pins	Copper bars of 4 mm x 1 mm
15	1	Label Tag	PVC



This drawing follows the applicable international standardization UNE-EN-ISO 7200, UNE-EN-ISO 5457, UNE 1135 norms included but not limited. Insulation coordination according to IEC 60664 and IEC 60938-1.

All materials, coatings and processes must comply the international environmental related regulations according to RoHS 3. Non conductive parts must have UL94V0 approval.

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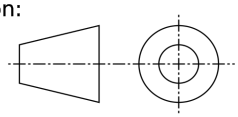
Created by: B. Munaiz

Units: mm

Checked by: L. Nicieza

Sheet: 1 of 3

Projection:



Title: EQ38/8/25

Date: 15/12/2020

Version: v01 r07

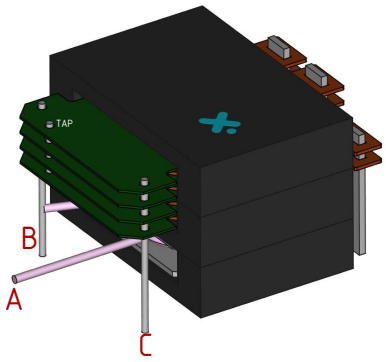
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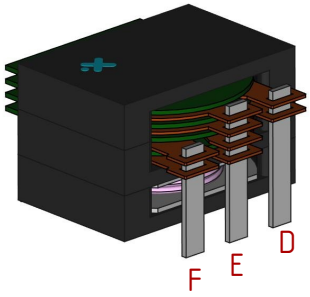
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Scale: 1:1

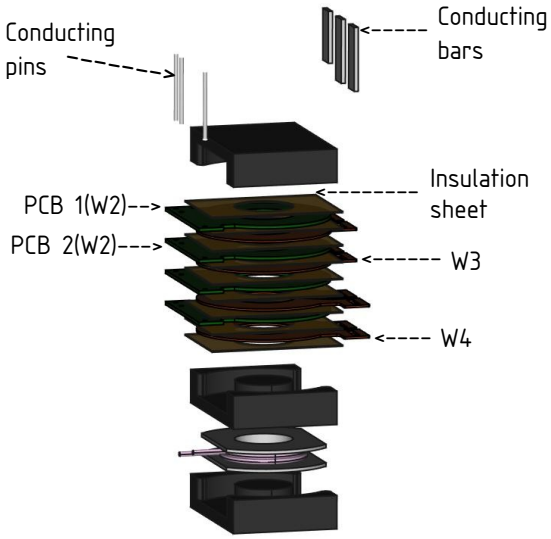
Tolerances: ±0.5

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Winding Schema



Notes:

1.INDUCTOR:
- Wind 3 turns of W1 clockwise. Starting from the top of the coil former wind downwards.
- Add a layer of tape for basic insulation.
- Wind 3 turns of W1 clockwise. Starting from bottom of the coil former wind upwards.
- Add 3 layers of tape for reinforced insulation.
* Sleeve wire terminals
* Leave flying terminal lead for W1 of 10 cm of length.

2.TRANSFORMER:
- Add 3 insulation sheets.
- First layer from top: introduce a PCB_1 (W2)
- Add 3 insulation sheets.
- Second layer from top: 1 turn of W3.
- Add 3 insulation sheets.
- Third layer from top: introduce a PCB_2 (W2)
- Add 3 insulation sheets.
- Fourth layer from top: 1 turn of W3.
- Add 3 insulation sheets.
- Fifth layer from top: introduce a PCB_1(W2)
- Add 3 insulation sheets.
- Sixth layer from top: 1 turn of W4.
- Add 3 insulation sheets.
- Seventh layer from top: introduce a PCB_2(W2)
- Add 3 insulation sheets.
- Eight layer from top: 1 turn of W4.
- Add 3 insulation sheets.

3.ASSEMBLY:
- Sold copper pins of 1mm of diameter to join the PCBs.
- Sold copper bars of 4mm x 1mm to connect W3 and W4 coils. Connect end of W1 to start of W2 (Point B).
* Make sure connection is strong for electrical conductivity.
- Introduce the transformer windings into two cores and join them with glue.
- Introduce the coil former for the inductor into one core and join it with glue to the transformer.
- Mark with identifying serial number label.

Winding:

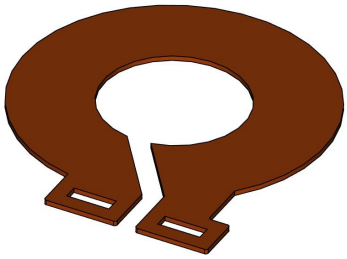
Winding	Start	End	Nº Turns	Nº Parallels	Wire	Wire length(mm)	Sleeve	Connector
W.1	A	B	6	1	Litz 225x0.05, G1, MW-79C, Single Silk Served, Ø = 1.19 mm		Yes	No
W.2	B	C	16	4	4 oz; Total dimensions: 8.85 mm x 0.8 mm		No	No
W.3	D	E	1	2	Cu Stamp 1 of 8.5 mm x 0.5 mm		No	No
W.4	E	F	1	2	Cu Stamp 1 of 8.5 mm x 0.5 mm		No	No

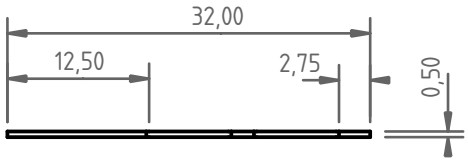
This drawing follows the applicable international standardization UNE-EN-ISO 7200, UNE-EN-ISO 5457, UNE 1135 norms included but not limited. Insulation coordination according to IEC 60664 and IEC 60938-1.

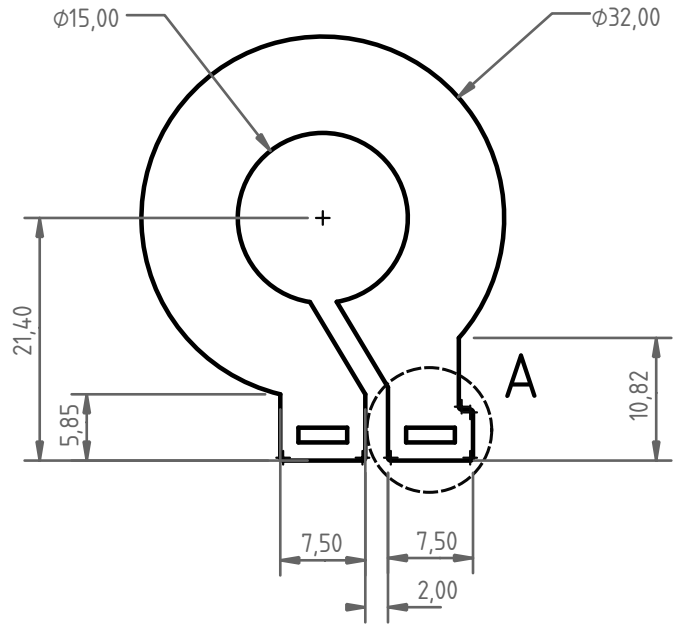
All materials, coatings and processes must comply the international environmental related regulations according to RoHS 3. Non conductive parts must have UL94V0 approval.

Designed by: Frenetic	Created by: B. Munaiz	Units: mm	Title: EQ38/8/25	Date: 15/12/2020
	Checked by: L. Nicieza	Sheet: 2 of 3		Version: v01 r07
	Projection:		Drawing code: 12005-04	
			Size: A4	Scale: / Tolerances:

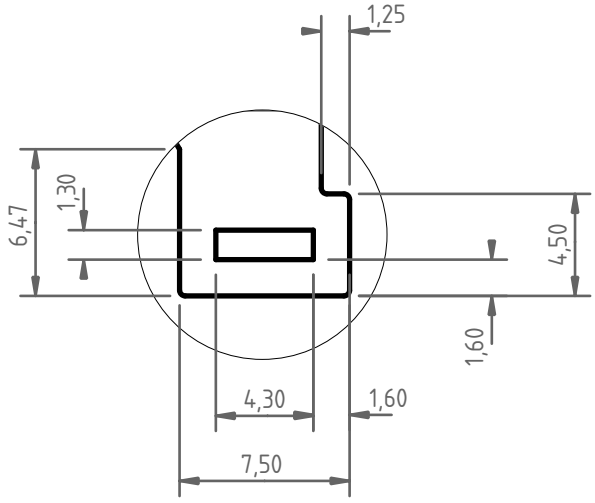
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Detail A



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All materials, coatings and processes must comply the international environmental related regulations according to RoHS 3. Non conductive parts must have UL94V0 approval.

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	Checked by: L. Nicieza	Sheet: 3 of 3		Version: v01 r07
	Projection:		Drawing code: 12005-04	
			Size: A4 / Scale: 3:2	Tolerances: ±2.5%

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