Bauteilname/Part Name:	**5808 Transformer EE16 184_15_15_R01**			
Artikelnummer/Part Number:	**1103603**			
Author: Autor:	Scherf, Marko	Date of last revision: Datum der letzten Revision:	22.01.2018	MS
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Related documents:				
Mitgeltende Dokumente:				

Document History/ Dokumentenhistorie:			
Revision (R) Draft (D)	Modification / Änderung	Date Datum	Author Autor
R01	**5808 Transformer EE16 184_15_15_R01**	22.01.2018	MS
R01_1	Artikelnummer vergeben	16.03.2018	SK

1. Image of an example

2. Material

Magnetic Core:	EE16/8/5, total air gap: 0.3mm (Al = 98nH)
Core material:	N87 (TDK/EPCOS) alternatively: Tridelta Mf102, Mf106 Kaschke K2006, K2008 EPCOS/TDK N97, N95 SAMWHA PL-7, PL-9, PL-11 Ferroxcube 3C90, 3C94, 3C95, 3C96 TDG TP4, TP4A, TP4D DMEGC DMR40, DMR44, DMR47
Conductor material:	- enameled copper wire, d_{cond}=0.18mm - enameled copper wire, d_{cond}=0.4mm (+/-0.05mm) - triple insulated wire, d_{cond}=0.4mm
Coil form:	horizontal, 8 Pin (sketch!)
Isolation:	polyester film 10mm x 36µm, tube

3. Isolation Requirements

Air and Creepage distance:	➔ chapter 4
Temperature class IEC85:	class B
Approval of the materials as „UL recognized component“:	yes
Inflammability of plastic parts:	UL-V1 or better
Comparative Tracking Index (CTI):	group III or better

4. Windings/ Construction

4.1. Winding table:

Pin		Number of turns	L [µH]	Conductor	Wind-ing	Comment
Start	End					
5		(46)		enameled copper wire, d_{cond}=0.18mm	P1(a)	inside, single layer
1 layer of insulation film 10mm x 36µm						
		(46)		enameled copper wire, d_{cond}=0.18mm	P1(b)	single layer
1 layer of insulation film 10mm x 36µm						
		(46)		enameled copper wire, d_{cond}=0.18mm	P1(c)	single layer
1 layer of insulation film 10mm x 36µm						
	6	(46) N_{tot}=184	3318	enameled copper wire, d_{cond}=0.18mm	P1(d)	single layer
1 layer of insulation film 10mm x 36µm						
7	8	15	22.1	en. copper wire, d_{cond}=0.4mm	P2	single layer, ends must be tubed
1 layer of insulation film 10mm x 36µm						
4	1	15	22.1	Triple insulated wire, d_{cond}=0.4mm	S	single layer
Cover insulation: 1 layer of insulation film 10mm x 36µm						

Isolation/ Clearance and creepage distances:

Assignment:

- P1/P2 belong to primary circuit
- S belongs to secondary circuit
- magnetic core is floating

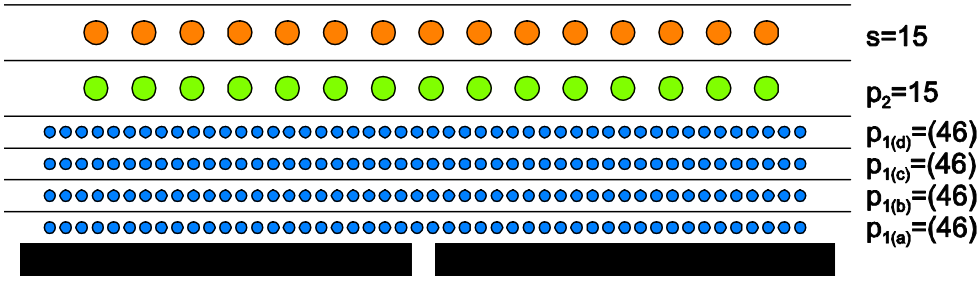
Safety insulation:

- valid for Px to S
- Cr 8.0mm
- Cl 6.4mm

Functional insulation:

- valid for
  - P1 to P2
  - P1 start-to-end
- Avoid close contact of enameled wires!
- bare wires/ pins: cr 2.0mm
- bare wires/ pins: cl 1.0mm

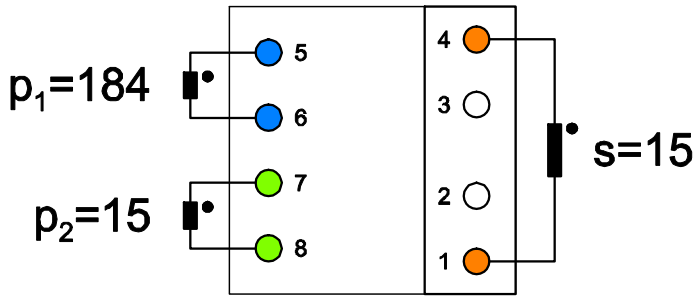
4.2. Sketch of Windings:



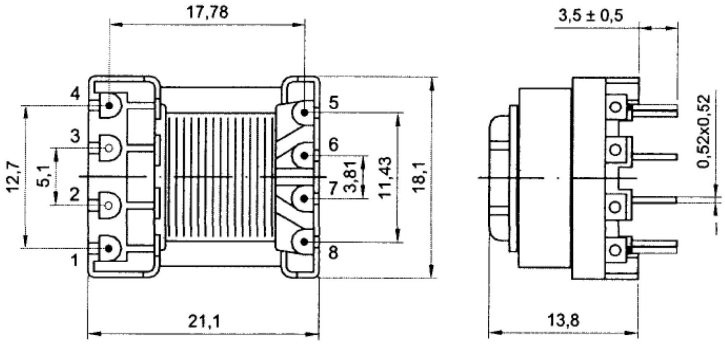
Turns number of P1 = 184

4.3. Sketch of Pin-Layout:

Top view



Remove Pins 2/3!
Finish: Part must be impregnated!



5. Checks

Inductance:	yes	Tolerance: +15/-15%
Polarity:	yes	
Turns ratio:	yes	
Test voltage:	Px to S	➔ 3750Vrms
	P1 to P2	➔ 500Vrms