



itacoil[®]web

efficient magnetics

MARKET LEADER IN THE DEVELOPMENT OF LLC INTEGRATED RESONANT TRANSFORMERS

1ST ITALIAN MANUFACTURER OF PCB TRANSFORMERS WITH ISO9000 CERTIFIED QUALITY SYSTEM

NOVEMBER 2019





UNI EN ISO 9001 CERTIFIED QUALITY SYSTEM

Our company is the first Italian manufacturer of PCB transformers with a ISO9000 certified quality system.

Our long experience in this sector and our participation as **CEI Member** in the works of the **Technical Committee 96** in charge of developing norm **EN61558** for transformers, allows us to offer you specific competence and visibility about future issues.

Founded in 1909, CEI - Comitato Elettrotecnico Italiano – is the Italian institution, formally recognised by the Italian Government and by the European Union, that prepares and publishes technical standards in the electrical, electronic and telecommunication fields.



We use clean energy from renewable sources for a sustainable development.

The European Union promotes, develops and guarantees the production of electrical energy from renewable sources through the RECS (Renewable Energy Certificate System) program. The RECS is an international certification program which currently involves manufacturers, traders, organizations and certification societies which operate in the electricity sector in 18 European countries. With the RECS certificate, Lifegate SpA certifies and guarantees that the energy it provides comes from renewable sources, which do not deplete resources nor cause irreversible damages to the environment.

All our products are made according to RoHS EU Directive and to REACH EU Regulation. ^(*)

^(*) referring to the Candidate List of Substances of Very High Concern (SVHC) in force at the date of revision of this document, from the information in our hands.



Assistance with Safety Agency Approvals

Where required, our products are designed to meet the most common IEC-EN-UL safety standards. For non-certified products, we support our Customers to achieve the approval of their final product providing the necessary safety data.

Following the agreement reached by the main European Certification bodies (ENEC agreement approved by the Cenelec Mark Committee) the mark ENEC has been created (ENEC stands for European Norms Electrical Certification).

This mark can be applied to some product categories, as for example safety transformers. It is exclusively granted to those manufacturers who have a Certified Quality System according to the norm ISO9000. This mark is acknowledged by the bodies listed below.

Beside representing a guaranteed quality standard of the products and compliance with the norms, this is also the best European passport for your equipment, since having the ENEC mark means practically having 22 marks.



IMQ Italy	VDE Germany	LCIE France	Electrosuisse Switzerland
OVE Austria	INTERTEK SEMKO Sweden	UL Int I DEMKO Denmark	SGS FIMKO Finland
NEMKO Norway	KEMA Netherlands	CERTIF Portugal	SGS BELGIUM Belgium
MEEI Hungary	ITCL UK	BSI UK	EZU' Czech Rep.
AENOR Spain	TRPS Germany	ELOT Greece	SIQ Slovenia
	SNCH Luxembourg	TüV Süd PS Germany	

ITACOIL srl
Via Delle Gerole, 7
20867 Caponago MB - Italy
A4 Highway MILAN-VENICE, exit Agrate Brianza

Tel. + 39.02.95745131
Fax + 39.02.95745133
E-mail contatto@itacoilmail.it
Web site www.itacoilweb.com



New products



LLC Resonant Transformer 115W
page 10



Common Mode inductors EMI/EMC
page 61



Common mode inductors EMI/EMC
page 59

Company profile.....	4	UI series U3010 - 6.0VA.....	45
1. POWER FERRITE TRANSFORMERS.....	5	UI series U3016 - 10VA.....	46
Power ferrite transformers for SMPS.....	5	UI series U3910 - 14VA.....	47
High power ferrite transformers for SMPS.....	5	UI series U3913 - 18VA.....	48
Flyback transformers size table.....	6	UI series U3917 - 24VA.....	49
2. LLC INTEGRATED RESONANT TRANSFORMERS.....	8	UI series U3921 - 30VA.....	50
Resonant transformers sizes table.....	10	UI series U4817 - 40VA.....	51
SRL series for SMPS with PFC - 18...42Vdc.....	12	UI series U4826 - 60VA.....	52
SRL series for SMPS with PFC - 48...120Vdc.....	13	10. INDUCTORS FOR ACTIVE PFC.....	53
SRL series for SMPS without PFC - 18...42Vdc.....	14	SFL series - Multiple PFC inductors - transition mode 87-290W.....	54
SRL series for SMPS without PFC - 48...110Vdc.....	15	SFL series - PFC inductors - transition mode 50-100W.....	55
3. MEASURING TRANSFORMERS.....	16	SFL series - PFC inductors - transition mode 95-170W.....	56
SVL series - voltage transformers - 90V...440V.....	17	SFL series - PFC inductors - transition mode 200-400W.....	57
SHL series - AC-DC current sensor 38A - 90A.....	18	11. COMMON MODE INDUCTORS.....	58
SBT series - 50/60Hz current sensor - 19.2A.....	19	SCLU09 series - 2x1.5mH/2.1A ... 2x68mH/310mA.....	59
SBT series - 50/60Hz current sensor - 62A...83A.....	20	SCLU10 series - 2x1.5mH/2.85A ... 2x68mH/450mA.....	60
SDL series - 50/60Hz split core current sensor - 73A.....	21	SCQ16 series - 2x10mH/1.6A ... 2x100mH/520mA.....	61
SDL series - 50/60Hz split core current sensor - 105A...225A.....	22	SCT1305 series - 2x1mH/2.0A ... 2x39mH/300mA.....	62
SBT and SDL DIN rail mount EN60715 - 35/7,5mm - up to 225A.....	23	SCT1409 series - 2x3.3mH/1.82A ... 2x68mH/400mA.....	63
4. PULSE TRANSFORMERS.....	24	SCT2213 series - 2x1mH/12A ... 2x39mH/1.745A.....	64
5. IGNITION TRANSFORMERS.....	24	SCLE08 series - 2x0.5mH/1.39A ... 2x120mH/90mA.....	65
6. SIGNAL TRANSFORMERS WITH GALVANIC SEPARATION.....	24	SCLE16(V) series - 2x1mH/2.3A ... 2x120mH/240mA.....	66
7. POWER LINE COMMUNICATION TRANSFORMERS.....	25	SCLE20V series - 2x1mH/3.5A ... 2x68mH/440mA.....	67
SML series - power line communication.....	25	SCLE25 series - 2x2.2mH/4A ... 2x68mH/760mA.....	68
8. SAFETY TRANSFORMERS.....	26	12. POWER INDUCTORS.....	69
EI series 1005 - 0.65VA.....	27	SLD0608 series - 10µH...10mH 2.6A...80mA.....	70
EI series 1010 - 1.0VA.....	28	SLD0810 series - 10µH...10mH 4A...140mA.....	71
EI series 1011 - 1.5VA h22.1.....	29	SLD0912 series - 10µH...10mH 5A...170mA.....	72
EI series 1012 - 1.5VA h24.3.....	30	SLD1215 series - 10µH...10mH 9A...270mA.....	73
EI series 1013 - 1.9VA.....	31	SLD1618 series - 47µH...10mH 5.1A...390mA.....	74
EI series 1015 - 2.0VA.....	32	13. SMOOTHING INDUCTORS.....	75
EI series 1019 - 2.3VA h29.7.....	33	SLD-SLR series - 4.7µH - 2.75A...13.5A.....	75
EI series 1207 - 2.3VA h21.7.....	34	14. SMD POWER INDUCTORS.....	76
EI series 1018 - 3.0VA h29.7.....	35	SLDS0703 series - 10µH...1.0mH 1.7A...160mA.....	76
EI series 1024 - 3.0VA h34.4.....	36	SLDS0704 series - 10µH...1.0mH 1.8A...180mA.....	77
EI series 1023 - 4.0VA.....	37	SLDS1204 series - 3.9µH...330µH 6.5A...500mA.....	78
EI series 1214 - 4.1VA.....	38	SLDS1205 series - 1.3µH...1.0mH 8.0A...400mA.....	79
EI series 1414 - 5.5VA.....	39	SLDS1207 series - 1.2µH...1.0mH 9.8A...550mA.....	80
EI series 1220 - 6.0VA.....	40	15. DESIGN KIT.....	81
EI series 1616 - 11VA.....	41	SXK001 - Inductors design kit.....	81
EI series 1620 - 15VA.....	42	16. EVALUATION BOARDS.....	82
EI series 1625 - 18.5VA.....	43	Original evaluation boards.....	82
9. LOW PROFILE SAFETY TRANSFORMERS.....	44	Improved evaluation boards.....	83
UI series U3007 - 4.0VA.....	44	17. GENERAL TERMS OF SALE & TECHNICAL NOTES.....	84



- **We design, produce and market efficient magnetic components.**
- **We are technological leader in the design and production of resonant transformers.**
- We are the first Italian company to produce ISO9000-certified PCB transformers.
- We participate, as a current IEC Member, in the Technical Committee regarding the development of the EN61558 Standard for transformers.
- We rely on a flexible and dynamic organisation.
- We produce both in Italy with highly automated lines and in low-cost areas.
- We inspect using refined statistical analysis techniques and artificial vision systems.
- The automations and software are realised internally optimising all the company's activities.
- We design magnetic components using our own unique-on-the-market proprietary software.
- **We offer the best energy efficiency, dimensional and economic results.**
- **We minimize the customer's development times and costs.**
- We supply a quick prototyping service.
- We can offer a highly skilled consultancy and electronic design service regarding SMPS, also resonant.
- We have redesigned the magnetic components, thus improving efficiency, dimensions, etc. of the most popular LLC resonant demo-boards.
- We collaborate with the main manufacturers of semiconductors* for the development of demo-boards and special projects.



*All brand names stated herein are the property of the respective businesses



- **Progettiamo, produciamo e commercializziamo componenti magnetici efficienti.**
- **Siamo leader tecnologici nella progettazione e produzione di trasformatori risonanti.**
- Siamo il primo produttore italiano di trasformatori da circuito stampato certificato ISO9000.
- Partecipiamo al comitato tecnico normatore della norma EN61558 per i trasformatori in qualità di membro effettivo CEI.
- Disponiamo di una struttura leggera e dinamica.
- Produciamo sia in Italia con linee altamente automatizzate che in area low-cost.
- Collaudiamo utilizzando raffinate tecniche di analisi statistica e sistemi di visione artificiale.
- Realizziamo internamente le automazioni ed i software ottimizzando ogni attività aziendale.
- Progettiamo i componenti magnetici con software proprietario unico sul mercato.
- **Offriamo i migliori risultati di efficienza energetica, dimensionale ed economica.**
- **Riduciamo al minimo i tempi ed i costi di sviluppo del cliente.**
- Forniamo un servizio di prototipazione rapida.
- Possiamo offrire un servizio di consulenza e di progettazione elettronica di grande competenza di SMPS, anche risonanti.
- Abbiamo ridisegnato i magnetici migliorando l'efficienza, dimensioni, ecc. delle più popolari demo-board risonanti LLC.
- Collaboriamo con i principali produttori di semiconduttori* allo sviluppo di demo-boards e progetti speciali.



*Tutti i marchi qui citati sono di proprietà dei rispettivi proprietari

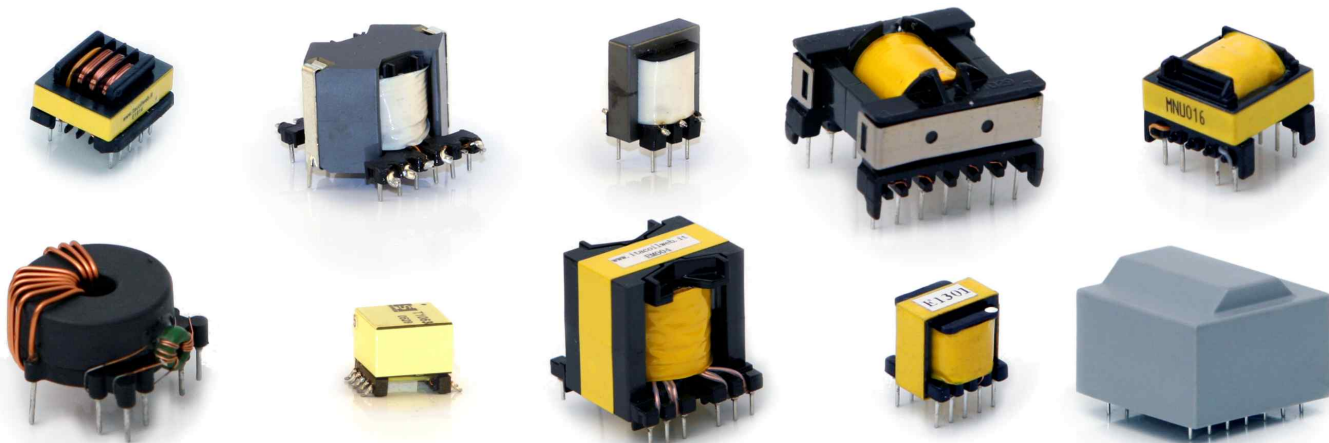


Since many transformer applications require custom solutions our company has developed extensive experience in tailoring its products and services to meet specific customer requirements.

We offer the complete range of Ferrite Transformers designed to your specifications, including Switch Mode, Flyback etc. with ferrite or others magnetic materials core.

We can supply them in each size available on the market, whether linear or toroidal and for THD or SMD assembly.

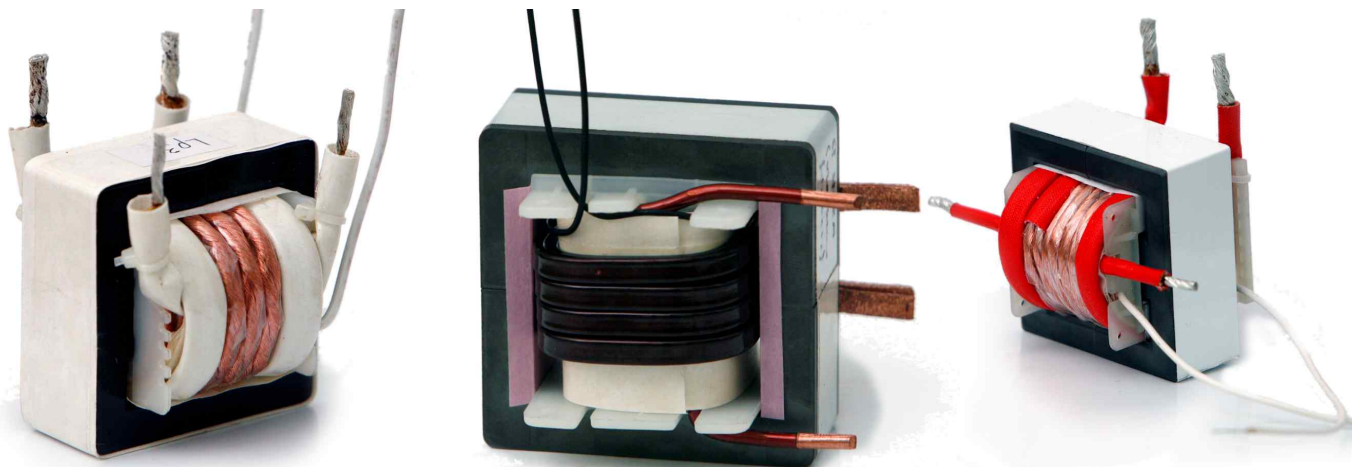
Windings can be made of litz wire, flat wire or wire with reinforced insulation (T.I.W.), if needed for safety and technical requirements.



High power ferrite transformers for SMPS

We specialise in the design and manufacture of transformers with ferrite or others magnetic materials core, produced in accordance with each specific application requirement and power up to many kVA.

Windings can be made of litz wire, flat wire or wire with reinforced insulation (T.I.W.), if needed for safety and technical requirements.



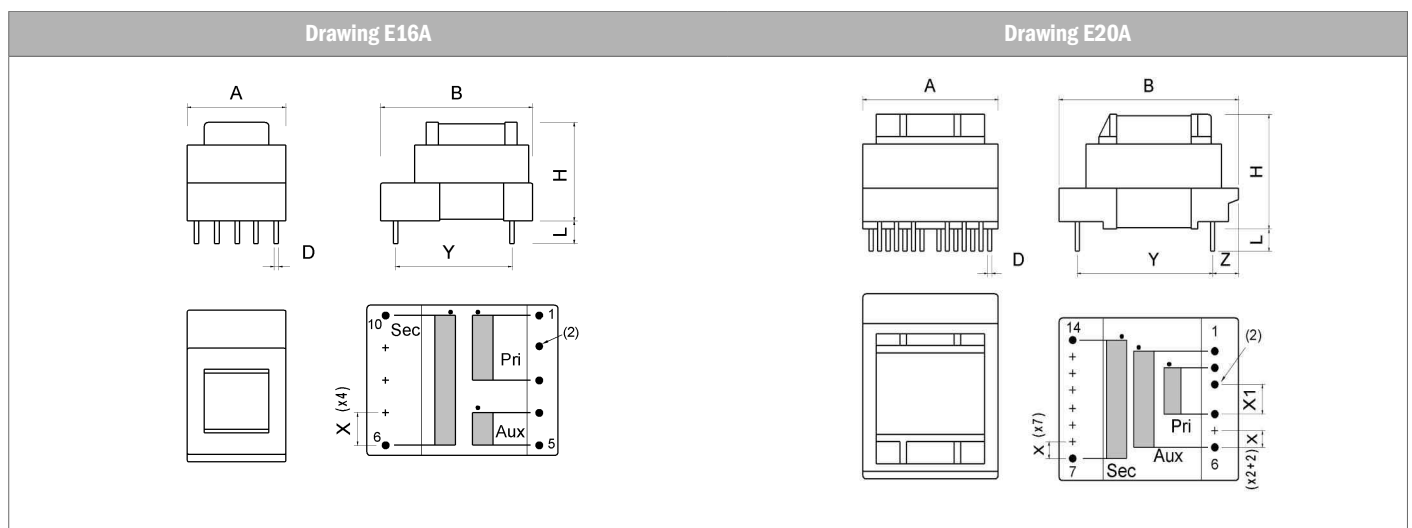
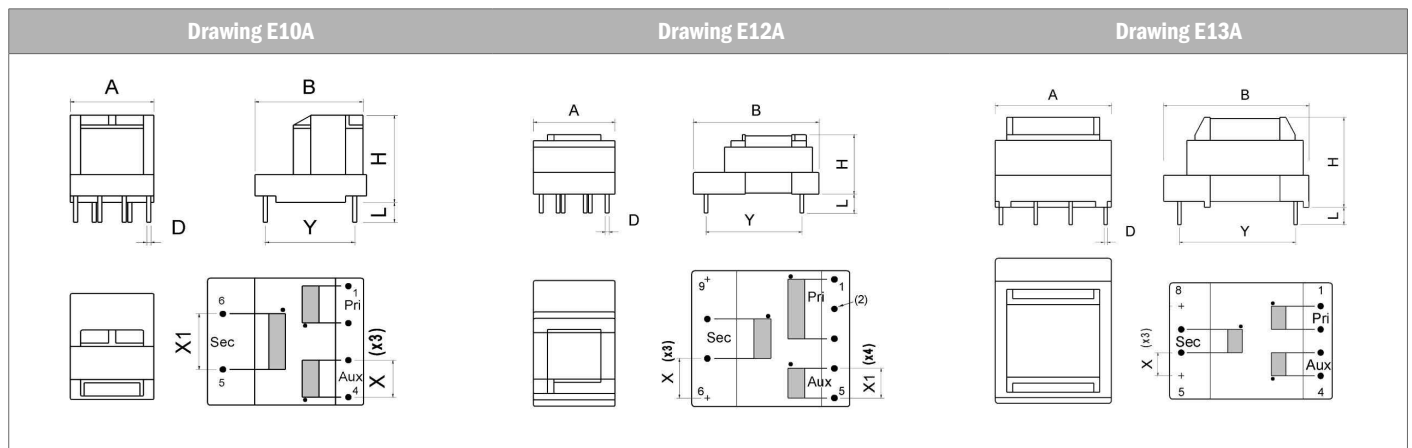
Flyback transformers size table

- Preferential size table for flyback and similar low power custom transformers
- Suitable for converters based on any flyback controller
- High creepage/clearance for reinforced insulation to meet your safety requirements



Flyback size table 0 - 25W

Layout	Power ¹	Dimensions (mm)								Creepage Clearance	.stp file Download
		A max	B max	H max	X typ	X1 typ	Y typ	L min	D typ		
Dwg. E10A	0-2W	12,5	16,3	13,6	3,0	5,0	12,2	2,5	∅ 0,5	>7mm	
Dwg. E12A	2-6W	14,2	20,6	10,3	3,5	2,72	15,35	2,5	∅ 0,6	>6mm	
Dwg. E13A	4-8W	14,8	19,3	14,7	3,8	--	12,5	3,5	∅ 0,5	>6mm	
Dwg. E16A	7-15W	17,3	19,3	14,2	3,2	--	15,5	2,8	∅ 0,7	>6mm	
Dwg. E20A	13-25W	21,7	25,6	16,6	2,5	5,0	20,0	2,5	□ 0,50	>6mm	

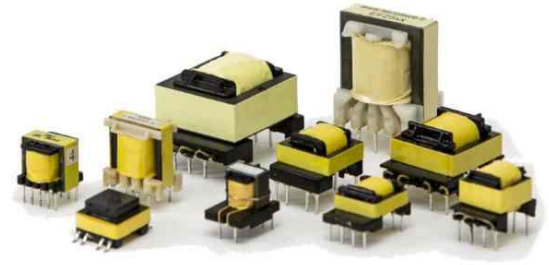


Pin layout bottom view

¹ For reference only; Power range refers to offline flyback converters; the actual max power depends on the design details and features. The power can be 20% or more higher in low input voltage or functional insulation flyback converters, 100% higher in push-pull converters.

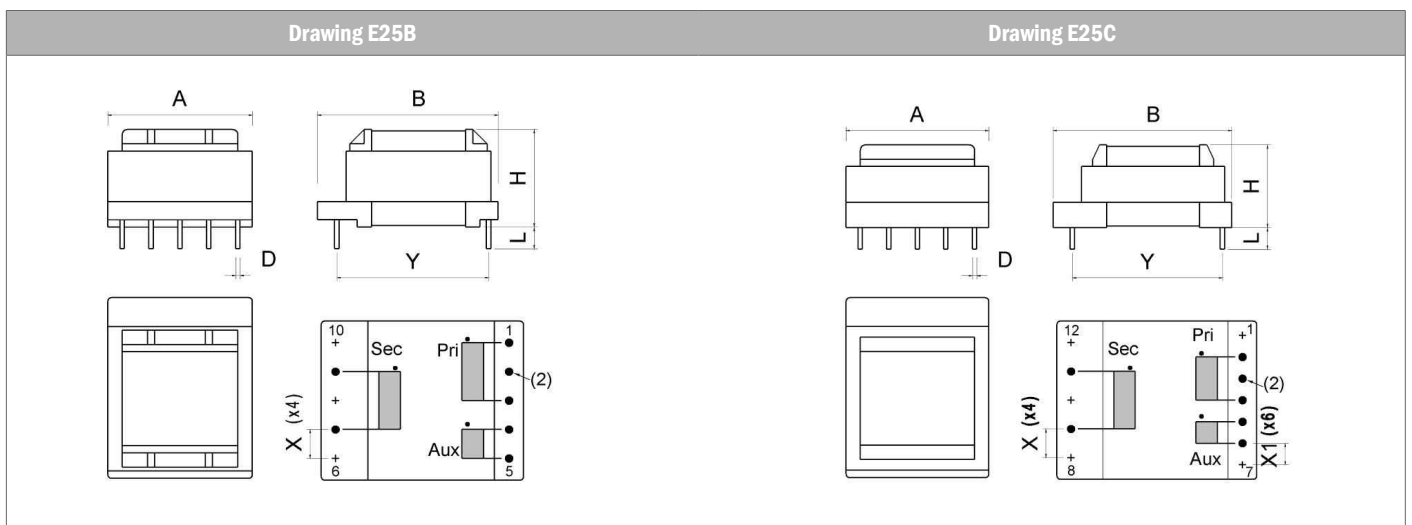
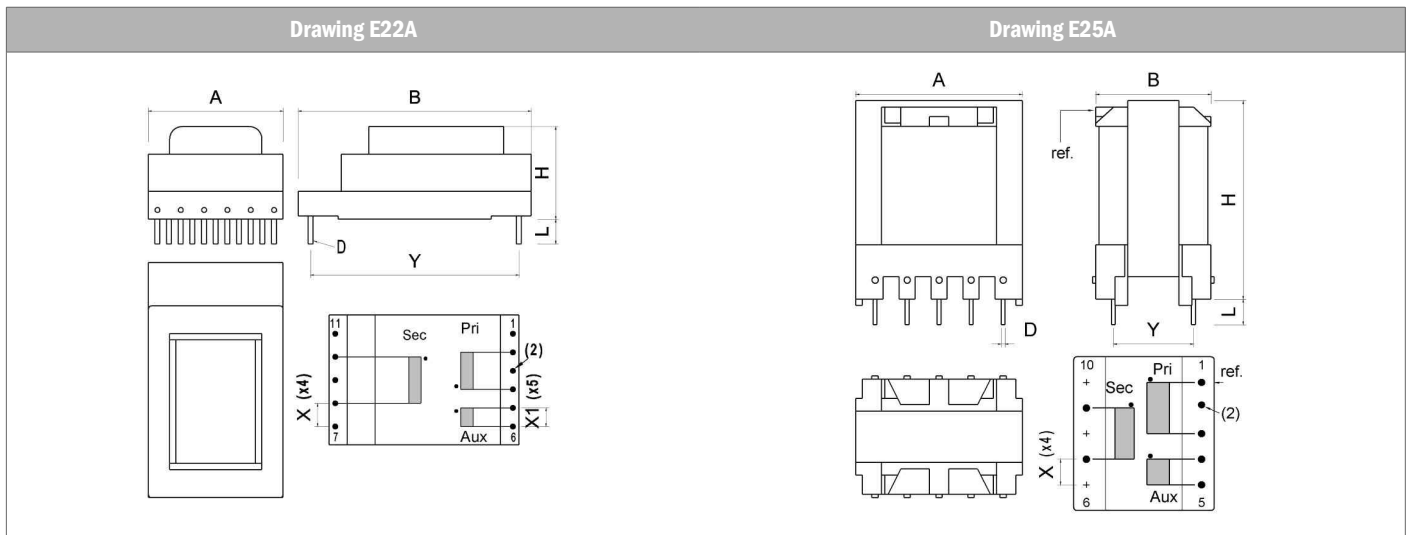
² Not to be connected.

- Preferential size table for flyback and similar low power custom transformers
- Suitable for converters based on any flyback controller
- High creepage/clearance for reinforced insulation to meet your safety requirements



Flyback size table 20 - 70W

Layout	Power ¹	Dimensions (mm)								Creepage Clearance	.stp file Download
		A max	B max	H max	X typ	X1 typ	Y typ	L min	D typ		
Dwg. E22A	20-40W	23,1	42,9	15,4	3,81	3,81	37,0	2,5	□ 0,70	>12mm	
Dwg. E25A	25-45W	26,7	19,4	31,7	5,00	--	12,5	3,5	□ 0,64	>6mm	
Dwg. E25C	25-45W	28,4	33,7	20,4	5,00	3,50	25,4	3,5	∅ 0,80	>7mm	
Dwg. E25B	40-70W	26,9	33,2	21,7	5,00	--	26,8	3,0	□ 0,64	>7mm	



Pin layout bottom view

¹ For reference only; Power range refers to offline flyback converters; the actual max power depends on the design details and features. The power can be 20% or more higher in low input voltage or functional insulation flyback converters, 100% higher in push-pull converters.

² Not to be connected.

WE ARE RECOGNIZED AS A MARKET LEADER IN THE DESIGN OF LLC INTEGRATED RESONANT TRANSFORMERS

What we provide our Customers is not only the most efficient magnetics.

We provide the best and fastest solution possible to a critical part of the resonant project, taking into account skin effect, proximity effect, structural limitations, full ZVS behaviour and so on.

In fact, thanks to our long experience in transformers' design&manufacturing and to the investments on a modelling software platform developed through the years, we can propose a wide range of standard off-the-shelf resonant tanks based on our LLC resonant transformers.



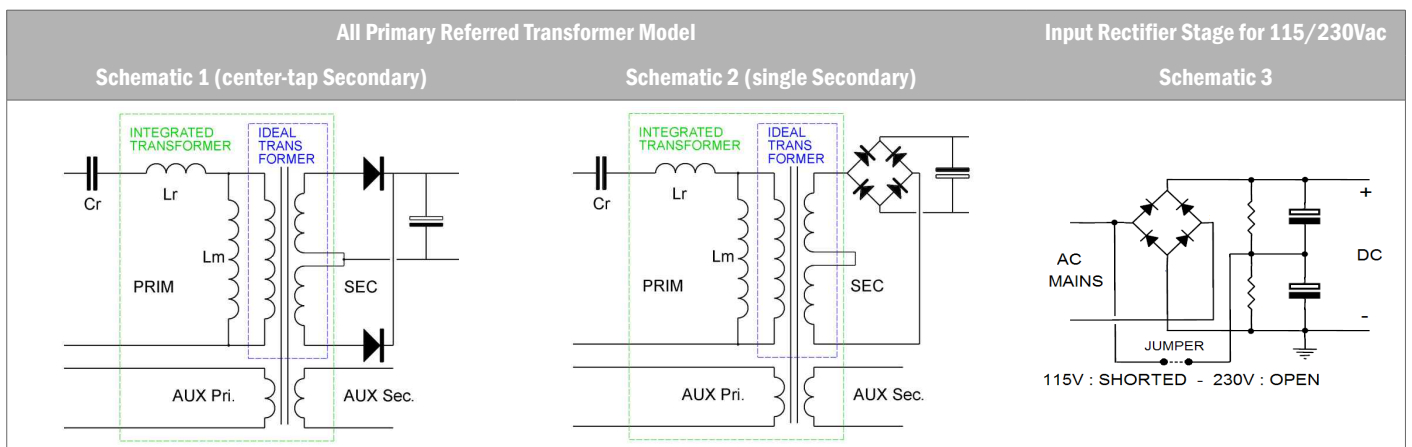
If you need help in resonant converter design we can provide a valuable technical support providing a just in time solution that fits your requirements.

We take also care of the PFC regulation stage designing optimized Inductors for active PFC Transition Mode, together with any other kind of magnetic component.

RESONANT BENEFITS VS. OTHER SMPS TOPOLOGIES

- Typical efficiency range of 94-96%. With synchronous rectification higher efficiency can be achieved;
- EMI friendly due to nearly sinusoidal waveforms;
- ZVS Zero-Voltage-Switching (soft-switching /ON transition) of the power MOSFET, with associated elimination of switching loss and component stress reduction;
- High efficiency also at no load with "burst mode" and "adaptive dead time" functions;
- High power peak easily supplied;
- Compact sizes.

LLC BASIC SCHEMATICS



RESONANT CUSTOMIZATION

In case no resonant tank matches your design requirements, we propose three options:

1. Tank customization

Using a standard transformer, when possible, we can design the tank, adapting it to the Customer's working conditions. At the end of the design we provide the theoretical functional data of the tank.

2. Full resonant customization

If tank customization is not possible or if best performances are a must, the resonant transformer is designed from scratch taking into consideration the Customer's requirements and design targets. For available sizes see the Sizes Table in the next page. The design and samples will be ready in a few working days.

3. SMPS design consultancy

In addition to the design of all magnetic components, we can provide our Customers a specific consultancy on the LLC resonant SMPS design.

	SMPS design	Full Customization	Tank Customization	Standard Tanks
Efficiency	++	++	+	+
Size	++	++	-	-
Temperature	++	++	+	+
Small Quantities	-	-	++	++
Pin-out adaptation	++	++	-	-
Additional windings (Aux, Sec,...)	++	++	-	-
Technical Support	SMPS consultancy	Magnetics and Tank design	Tank design	-
Resonant Design Form	N	Y	Y	N
SMPS specs	Y	N	N	N

RESONANT CONTROLLERS

Our resonant transformers have been successfully used with all the most common resonant controllers:



ON Semiconductor

NCP13992
NCL30059
NCL30059B
NCP1398
NCP1395A
NCP1395B
NCP1396A
NCP1396B
NCP1397
NCP1910
NCL30051
MC34067
MC33067

FAIRCHILD
SEMICONDUCTOR
FAN7688
FAN7631
FAN7621
FAN7621S
FAN7621B
FSFR2100
FSFR1600US
FSFR1700US
FSFR1800US
FSFR2100US
FSFR1800HS
FSFR1700HS
FSFR1600XS
FSFR1700XS
FSFR1800XS
FSFR2100XS
FLS1600XS
FLS1700XS
FLS1800XS
FLS2100XS
FSFR2100U
FSFR2000
FSFR1800
FSFR1700
FSFR1600



STCMB1
STNRG011
L6699
L6599
L6598
L6585



TEA19161T
TEA1610T
TEA1611T
TEA1612T
TEA1713T
TEA1716T
SSL4120T



UCC25600
UCC256301
UCC256303
UCC256304
UCC29950
UCD3138



PLC810PG
LCS700HG
LCS701HG
LCS702HG
LCS703HG
LCS705HG
LCS708HG



IRS27951
IRS27952
IRS279524
IRS2548D
IRS2153
IRS21531



ICE1HS01G
ICE2HS01G
ICL5101
ICL5102

For more information about resonant switching power supplies see the following link/QR code:

<https://www.itacoilweb.com/llc-resonant-power-supplies/>



*All brands and trademarks mentioned are property of their respective owners.

Resonant transformers sizes table

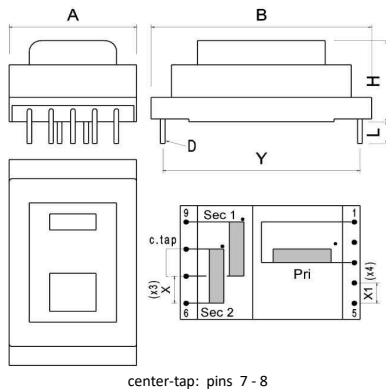
- Size table for standard and custom transformers for best performances on high efficiency LLC resonant power supply
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- High creepage/clearance/DTI for reinforced insulation to meet your safety needs
- Operating frequency 40KHz to 500KHz
- Integrated resonant inductor



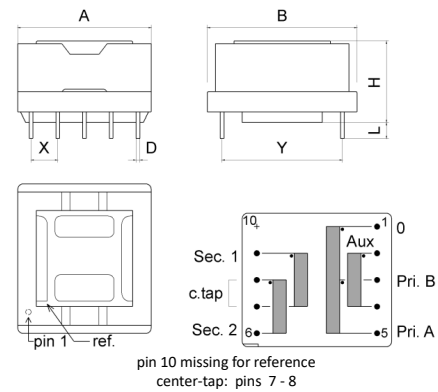
size table 115 - 240W

Max Continuous Power ¹	Layout	Dimensions (mm)										Basic Characteristics			.stp File Download	
		A max	B max	H max	H1 max	X typ	X1 typ	X2 typ	X3 typ	Y typ	L min	D typ	Dielectric Strength ²	Creepage ²		Clearance ²
115W	Dwg. 22A	23,2	39,4	16,5	--	5,08	15,2	3,8	15,2	33,5	2,5	□ 0,64	5.0KV	>6mm	>6mm	
115W	Dwg. 24A	26,4	28,9	16,1	--	5,0	22,5	--	--	22,5	2,5	□ 0,64	5.0KV	>6mm	>6mm	
190W	Dwg. 26B	26,7	28,9	20,7	--	5,0	22,5	--	--	22,5	2,5	□ 0,7	5.0KV	>6mm	>6mm	
240W	Dwg. 34A	36,1	36,6	25,6	--	5,5	28,0	--	--	28,0	3,0	∅ 0,8	5.0KV	>6mm	>6mm	

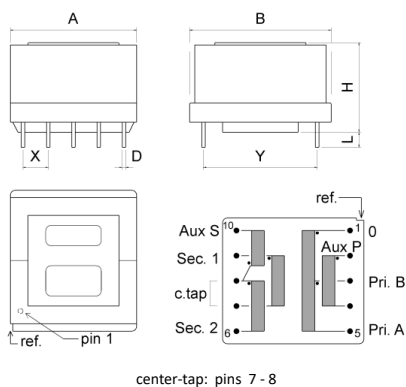
Drawing 22A (Pin layout bottom view)



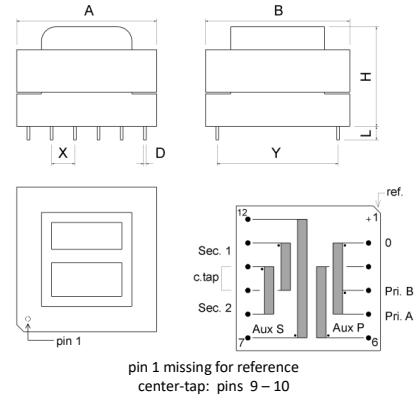
Drawing 24A (Pin layout bottom view)



Drawing 26B (pin layout bottom view)



Drawing 34A (Pin layout bottom view)



- The PCB layouts are referred to the standard products on next pages. The same layouts are strongly suggested for customized products too.
- or a consistent and customized design of the resonant converter and its magnetic components or for a check on the full tank consistency of a standard product in your actual working condition, please, fill in the "Resonant tank request form".
- Windings temperature should not exceed 100°C continuous and 115°C for brief times.
- In general, the resonant converters and transformers can be designed to supply temporary overload.
- All our standard resonant transformers meet the most common safety standards (EN60950, EN61558, etc.).
- We support our Customers to achieve Safety Agency approval of their final product providing the safety data of the transformers.
- For dual polarity output voltage the tank to be selected shall be with the same voltage and same total power. I.e. for ±24V 100W each branch use the tank with 24V 200W rating.

¹ Max output power as reference only, the design requirements can affect it. Higher peak power is possible.

² Between primary+aux to secondary, referred to the standard series. Improvable on customized products, the actual needs should be specified.

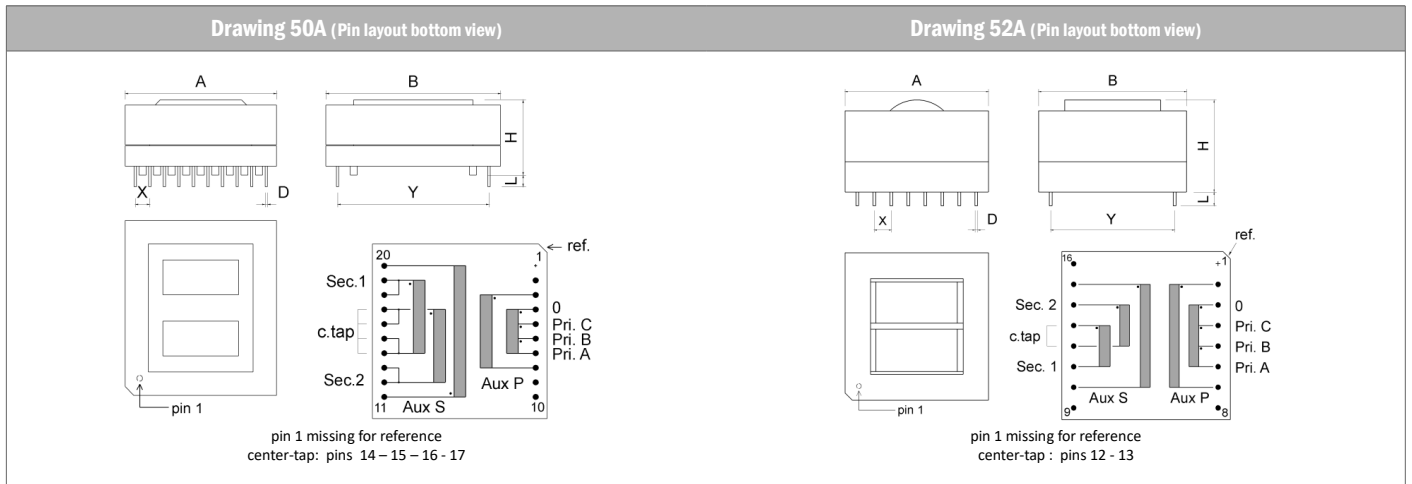
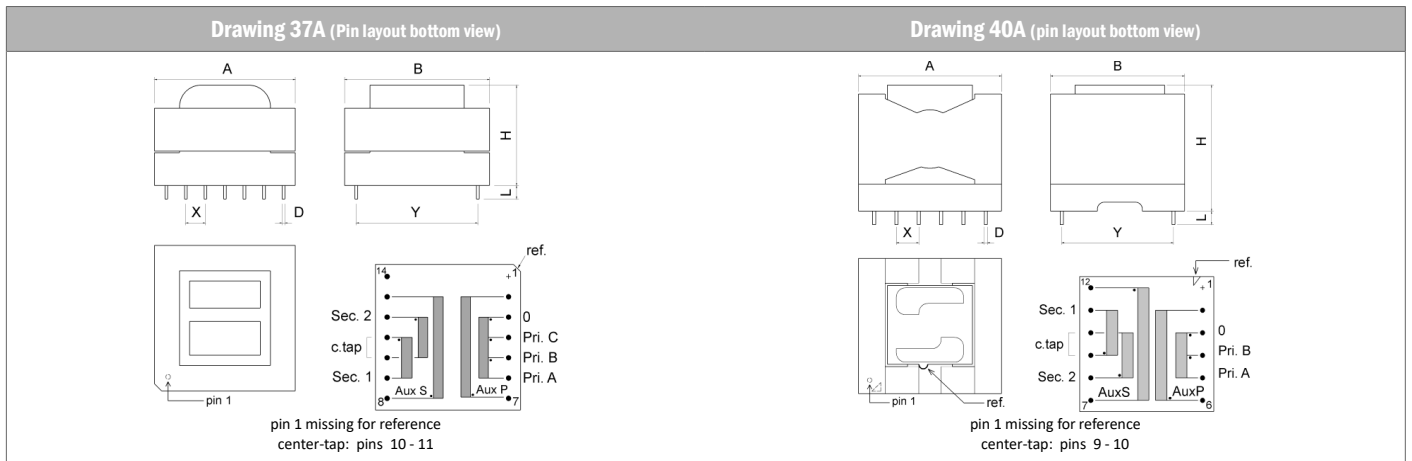
^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

- Size table for standard and custom transformers for best performances on high efficiency LLC resonant power supply
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- High creepage/clearance/DTI for reinforced insulation to meet your safety needs
- Operating frequency 40KHz to 500KHz
- Integrated resonant inductor



size table 300 - 700W

Max Continuous Power ¹	Layout	Dimensions (mm)								Basic Characteristics			.stp File Download
		A max	B max	H max	H1 max	X typ	Y typ	L min	D typ	Dielectric Strength ²	Creepage ²	Clearance ²	
300W	Dwg. 37A	43,2	44,5	31,5 ³	--	5,8	36,0	3,0	∅ 0,8	5.0KV	>8mm	>9mm	
400W	Dwg. 40A	33,6	32,8	33,4	--	5,0	25,0	2,5	∅ 0,8	5.0KV	>8mm	>8mm	
450W	Dwg. 50A	53,0	62,3	26,3	--	5,0	52,0	3,5	∅ 1,0	5.0KV	>10mm	>10mm	
700W	Dwg. 52A	53,6	56,7	38,3	--	5,5	44,8	3,5	∅ 1,0	5.0KV	>15mm	>6mm	



- The PCB layouts are referred to the standard products on next pages. The same layouts are strongly suggested for customized products too.
- or a consistent and customized design of the resonant converter and its magnetic components or for a check on the full tank consistency of a standard product in your actual working condition, please, fill in the "Resonant tank request form".
- Windings temperature should not exceed 100°C continuous and 115°C for brief times.
- In general, the resonant converters and transformers can be designed to supply temporary overload.
- All our standard resonant transformers meet the most common safety standards (EN60950, EN61558, etc.).
- We support our Customers to achieve Safety Agency approval of their final product providing the safety data of the transformers.
- For dual polarity output voltage the tank to be selected shall be with the same voltage and same total power. I.e. for ±24V 100W each branch use the tank with 24V 200W rating.

¹ Max output power as reference only, the design requirements can affect it. Higher peak power is possible.

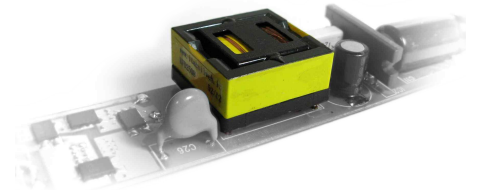
² Between primary+aux to secondary, referred to the standard series. Improvable on customized products, the actual needs should be specified.

³ Output voltage lower than 36Vdc could increase the max height up to 2mm.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

SRL series for SMPS with PFC - 18...42Vdc

- Transformers designed for best performances on high efficiency LLC resonant power supply with PFC pre-regulator stage
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- Integrated resonant inductor and extremely compact size
- Power supply efficiency up to 96% with the simplest hardware solutions, without synchronous rectification
- High creepage/clearance/DTI for reinforced insulation to meet EN61558, EN60950, etc.
- Usually on stock
- Custom versions on request



18...42Vdc - Tank table for SMPS with PFC

Tank Reference	Converter Ratings						Aux Pri ¹ (Vdc nom)	Aux Sec (Vdc nom)	Nominal Frequency	Layout (page 10-11)
	Output Voltage	Cont. Power	Max Power ²	Rated Input Voltage Range	Min Input Voltage ³	Nominal Input Voltage				
026.018.990.01	18Vdc	125W	990W	370..425Vdc	360Vdc	395Vdc	14,2Vdc 30mA	14,2Vdc 30mA	125KHz	Dwg. 26B
034.018.950.01	18Vdc	175W	950W	370..410Vdc	340Vdc	395Vdc	14,4Vdc 30mA	14,4Vdc 30mA	113KHz	Dwg. 34A
024.024.330.01	24Vdc	50W	330W	370..450Vdc	340Vdc	395Vdc	19,9Vdc 30mA	N/A	83KHz	Dwg. 24A
024.024.200.01	24Vdc	100W	200W	370..450Vdc	340Vdc	395Vdc	19,8Vdc 30mA	N/A	123KHz	Dwg. 24A
026.024.500.01	24Vdc	125W	500W	370..440Vdc	360Vdc	395Vdc	19Vdc 30mA	19Vdc 30mA	82KHz	Dwg. 26B
034.024.730.01	24Vdc	150W	730W	370..450Vdc	340Vdc	395Vdc	19,2Vdc 30mA	19,2Vdc 30mA	59KHz	Dwg. 34A
026.024.290.01	24Vdc	165W	290W	370..425Vdc	360Vdc	395Vdc	19Vdc 30mA	19Vdc 30mA	121KHz	Dwg. 26B
034.024.420.01	24Vdc	220W	420W	370..450Vdc	340Vdc	395Vdc	19,2Vdc 30mA	19,2Vdc 30mA	94KHz	Dwg. 34A
040.024.600.01	24Vdc	340W	600W	370..410Vdc	360Vdc	395Vdc	24Vdc 30mA	24Vdc 30mA	92KHz	Dwg. 40A
024.028.135.02	28,5Vdc	100W	135W	370..450Vdc	340Vdc	395Vdc	23,6Vdc 30mA	N/A	138KHz	Dwg. 24A
024.028.180.01	28,5Vdc	100W	180W	370..450Vdc	340Vdc	395Vdc	23,6Vdc 30mA	N/A	173KHz	Dwg. 24A
026.029.520.01	29Vdc	120W	520W	370..425Vdc	360Vdc	395Vdc	23Vdc 30mA	23Vdc 30mA	101KHz	Dwg. 26B
034.029.460.01	29Vdc	220W	460W	370..450Vdc	340Vdc	395Vdc	23,2Vdc 30mA	23,2Vdc 30mA	113KHz	Dwg. 34A
024.030.120.01	30Vdc	90W	120W	370..450Vdc	340Vdc	395Vdc	24,8Vdc 30mA	N/A	145KHz	Dwg. 24A
024.030.145.01	30Vdc	100W	145W	415..450Vdc	380Vdc	440Vdc	24,8Vdc 30mA	N/A	159KHz	Dwg. 24A
034.036.990.01	36Vdc	190W	990W	370..450Vdc	340Vdc	395Vdc	15,7Vdc 30mA	15,7Vdc 30mA	107KHz	Dwg. 34A
034.036.270.01	36Vdc	210W	270W	370..450Vdc	340Vdc	395Vdc	28,8Vdc 30mA	28,8Vdc 30mA	141KHz	Dwg. 34A
026.042.420.01	42Vdc	165W	420W	370..425Vdc	360Vdc	395Vdc	16,3Vdc 30mA	16,3Vdc 30mA	117KHz	Dwg. 26A

All the transformers for these tanks are on stock for immediate delivery.

- Test reports for standard tanks are available upon request.

- Above ratings are referred to a typical context, without cooling, with moderate temperature rise. Some parameters are interrelated, any change on one of them can affect the others.

Test properly or contact us for customized simulation analysis.

- Customized tanks can be defined both on standard and custom transformers to fit different operating conditions, see notes on page 8.

- Windings temperature should not exceed 110°C continuous, 120°C for short times.

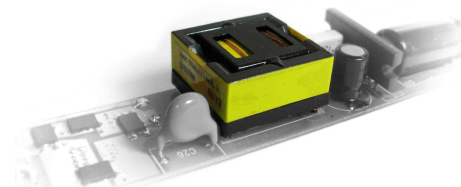
¹ The AuxPri voltage will raise with load increase.

² Max available power on the whole input DC range, usable within the above mentioned winding temperature limits.

³ Ripple and hold-up time requirements considered.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

- Transformers designed for best performances on high efficiency LLC resonant power supply with PFC pre-regulator stage
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- Integrated resonant inductor and extremely compact size
- Power supply efficiency up to 96% with the simplest hardware solutions, without synchronous rectification
- High creepage/clearance/DTI for reinforced insulation to meet EN61558, EN60950, etc.
- Usually on stock
- Custom versions on request



48...120Vdc - Tank table for SMPS with PFC

Tank Reference	Converter Ratings						Aux Pri ¹ (Vdc nom)	Aux Sec (Vdc nom)	Nominal Frequency	Layout (page 10-11)
	Output Voltage	Cont. Power	Max Power ²	Rated Input Voltage Range	Min Input Voltage ³	Nominal Input Voltage				
024.048.350.01	48Vdc	80W	350W	370..450Vdc	340Vdc	395Vdc	19,5Vdc 30mA	N/A	81KHz	Dwg. 24A
024.048.200.01	48Vdc	110W	200W	370..450Vdc	340Vdc	395Vdc	19,5Vdc 30mA	N/A	120KHz	Dwg. 24A
034.048.820.01	48Vdc	130W	820W	370..450Vdc	340Vdc	395Vdc	21Vdc 30mA	21Vdc 30mA	65KHz	Dwg. 34A
026.048.500.01	48Vdc	145W	500W	370..440Vdc	360Vdc	395Vdc	18,7Vdc 30mA	18,7Vdc 30mA	81KHz	Dwg. 26B
026.048.290.02	48Vdc	185W	290W	370..425Vdc	360Vdc	395Vdc	18,7Vdc 30mA	18,7Vdc 30mA	120KHz	Dwg. 26B
026.048.240.01	48Vdc	190W	240W	370..425Vdc	360Vdc	395Vdc	18,7Vdc 30mA	18,7Vdc 30mA	134KHz	Dwg. 26B
034.048.430.01	48Vdc	240W	430W	370..450Vdc	340Vdc	395Vdc	21Vdc 30mA	21Vdc 30mA	103KHz	Dwg. 34A
040.048.460.01	48Vdc	440W	460W	370..420Vdc	360Vdc	395Vdc	23,6Vdc 30mA	23,6Vdc 30mA	115KHz	Dwg. 40A
024.056.185.01	56Vdc	115W	185W	370..450Vdc	340Vdc	395Vdc	22,8Vdc 30mA	N/A	171KHz	Dwg. 24A
026.056.250.01	56Vdc	180W	250W	370..450Vdc	360Vdc	395Vdc	21,9Vdc 30mA	21,9Vdc 30mA	111KHz	Dwg. 26B
034.056.480.01	56Vdc	240W	480W	370..450Vdc	340Vdc	395Vdc	24,6Vdc 30mA	24,6Vdc 30mA	133KHz	Dwg. 34A
024.058.140.01	58Vdc	100W	140W	370..450Vdc	340Vdc	395Vdc	23,6Vdc 30mA	N/A	133KHz	Dwg. 24A
024.060.125.01	60Vdc	90W	125W	370..450Vdc	340Vdc	395Vdc	24,5Vdc 30mA	N/A	141KHz	Dwg. 24A
024.060.150.01	60Vdc	100W	150W	400..450Vdc	380Vdc	425Vdc	24,5Vdc 30mA	N/A	150KHz	Dwg. 24A
034.060.470.01	60Vdc	220W	470W	370..450Vdc	340Vdc	395Vdc	26,4Vdc 30mA	26,4Vdc 30mA	124KHz	Dwg. 34A
024.096.240.01	96Vdc	120W	240W	370..420Vdc	340Vdc	395Vdc	19,5Vdc 30mA	N/A	110KHz	Dwg. 24A
034.096.500.01	96Vdc	270W	500W	370..450Vdc	340Vdc	395Vdc	21Vdc 30mA	21Vdc 30mA	93KHz	Dwg. 34A
034.110.330.01	110Vdc	240W	330W	370..450Vdc	340Vdc	395Vdc	24,1Vdc 30mA	24,1Vdc 30mA	110KHz	Dwg. 34A
034.118.360.01	118Vdc	265W	360W	370..450Vdc	340Vdc	395Vdc	25,9Vdc 30mA	25,9Vdc 30mA	153KHz	Dwg. 34A
024.120.190.01	120Vdc	130W	190W	370..420Vdc	340Vdc	395Vdc	24,5Vdc 30mA	N/A	157KHz	Dwg. 24A

All the transformers for these tanks are on stock for immediate delivery.

- Test reports for standard tanks are available upon request.

- Above ratings are referred to a typical context, without cooling, with moderate temperature rise. Some parameters are interrelated, any change on one of them can affect the others.

Test properly or contact us for customized simulation analysis.

- Customized tanks can be defined both on standard and custom transformers to fit different operating conditions, see notes on page 8.

- Windings temperature should not exceed 110°C continuous, 120°C for short times.

¹ The AuxPri voltage will raise with load increase.

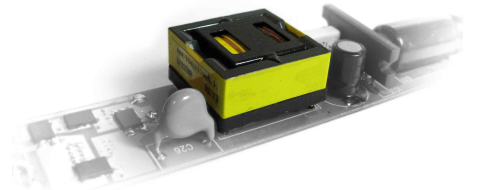
² Max available power on the whole input DC range, usable within the above mentioned winding temperature limits.

³ Ripple and hold-up time requirements considered.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

SRL series for SMPS without PFC - 18...42Vdc

- Transformers designed for best performances on high efficiency LLC resonant power supply without PFC pre-regulator stage
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- Power supply efficiency up to 94% with the simplest hardware solutions, without synchronous rectification
- Integrated resonant inductor and extremely compact size
- High creepage/clearance/DTI for reinforced insulation to meet EN61558, EN60950, etc.
- Usually on stock
- Custom versions on request



18...42Vdc - Tank table for SMPS without PFC

Tank Reference	Converter Ratings					Input DC Voltage Range ⁴	Aux Pri ¹ (Vdc nom)	Aux Sec (Vdc nom)	Nominal Frequency	Layout (page 10-11)
	Output Voltage	Cont. Power	Max Power ²	Mains AC Voltage Range ³						
				Open Jumper	Closed Jumper					
024.018.200.01	18Vdc	80W	200W	195-265Vac	97-132Vac	260..373Vdc	14,8Vdc 30mA	N/A	88KHz	Dwg. 24A
026.018.170.01	18Vdc	135W	170W	195-265Vac	97-132Vac	260..373Vdc	14,2Vdc 30mA	14,2Vdc 30mA	115KHz	Dwg. 26B
034.018.300.01	18Vdc	175W	300W	195-265Vac	97-132Vac	230..373Vdc	14,4Vdc 30mA	14,4Vdc 30mA	64KHz	Dwg. 34A
024.024.270.01	24Vdc	60W	270W	195-265Vac	97-132Vac	260..373Vdc	19,9Vdc 30mA	N/A	82KHz	Dwg. 24A
024.024.220.01	24Vdc	75W	220W	195-265Vac	97-132Vac	260..373Vdc	19,9Vdc 30mA	N/A	97KHz	Dwg. 24A
024.024.150.02	24Vdc	100W	150W	195-265Vac	97-132Vac	260..373Vdc	19,9Vdc 30mA	N/A	128KHz	Dwg. 24A
034.024.450.01	24Vdc	110W	450W	195-265Vac	97-132Vac	230..373Vdc	19,2Vdc 30mA	19,2Vdc 30mA	58KHz	Dwg. 34A
026.024.230.01	24Vdc	150W	230W	195-265Vac	97-132Vac	260..373Vdc	19Vdc 30mA	19Vdc 30mA	107KHz	Dwg. 26B
034.024.320.01	24Vdc	210W	320W	195-265Vac	97-132Vac	240..373Vdc	19,2Vdc 30mA	19,2Vdc 30mA	83KHz	Dwg. 34A
024.028.110.01	28,5Vdc	90W	110W	195-265Vac	97-132Vac	260..373Vdc	23,6Vdc 30mA	N/A	139KHz	Dwg. 24A
026.029.160.01	29Vdc	145W	160W	195-265Vac	97-132Vac	260..373Vdc	23Vdc 30mA	23Vdc 30mA	116KHz	Dwg. 26B
034.029.280.01	29Vdc	190W	280W	195-265Vac	97-132Vac	250..373Vdc	23,2Vdc 30mA	23,2Vdc 30mA	86KHz	Dwg. 34A
024.036.220.01	36Vdc	95W	220W	195-265Vac	97-132Vac	260..373Vdc	14,5Vdc 30mA	N/A	86KHz	Dwg. 24A
034.036.370.01	36Vdc	200W	370W	195-265Vac	97-132Vac	225..373Vdc	15,7Vdc 30mA	15,7Vdc 30mA	64KHz	Dwg. 34A
026.042.185.01	42Vdc	165W	185W	195-265Vac	97-132Vac	260..373Vdc	16,3Vdc 30mA	16,3Vdc 30mA	90KHz	Dwg. 26B

All the transformers for these tanks are on stock for immediate delivery.

- Test reports for standard tanks are available upon request.

- Above ratings are referred to a typical context, without cooling, with moderate temperature rise. Some parameters are interrelated, any change on one of them can affect the others.

Test properly or contact us for customized simulation analysis.

- Customized tanks can be defined both on standard and custom transformers to fit different operating conditions, see notes on page 8.

- Windings temperature should not exceed 110°C continuous, 120°C for short times.

¹ The AuxPri voltage will raise with load increase.

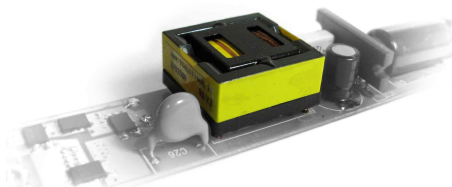
² Max available power on the whole input DC range, usable within the above mentioned winding temperature limits.

³ See schematic 3, page 7.

⁴ Ripple and hold-up time requirements considered.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

- Transformers designed for best performances on high efficiency LLC resonant power supply without PFC pre-regulator stage
- Suitable for converters based on any controller currently available on the market as shown in the Integrated resonant transformers introduction page
- Power supply efficiency up to 94% with the simplest hardware solutions, without synchronous rectification
- Integrated resonant inductor and extremely compact size
- High creepage/clearance/DTI for reinforced insulation to meet EN61558, EN60950, etc.
- Usually on stock
- Custom versions on request



48...110Vdc - Tank table for SMPS without PFC

Tank Reference	Converter Ratings						Aux Pri ¹ (Vdc nom)	Aux Sec (Vdc nom)	Nominal Frequency	Layout (page 10-11)
	Output Voltage	Cont. Power	Max Power ²	Mains AC Voltage Range ³		Input DC Voltage Range ⁴				
				Open Jumper	Closed Jumper					
024.048.280.01	48Vdc	70W	280W	195-265Vac	97-132Vac	260..373Vdc	19,5Vdc 30mA	N/A	80KHz	Dwg. 24A
024.048.230.01	48Vdc	90W	230W	195-265Vac	97-132Vac	260..373Vdc	19,5Vdc 30mA	N/A	94KHz	Dwg. 24A
024.048.155.01	48Vdc	110W	155W	195-265Vac	97-132Vac	260..373Vdc	19,5Vdc 30mA	N/A	124KHz	Dwg. 24A
034.048.560.01	48Vdc	140W	560W	195-265Vac	97-132Vac	245..373Vdc	21Vdc 30mA	21Vdc 30mA	65KHz	Dwg. 34A
026.048.230.01	48Vdc	175W	230W	195-265Vac	97-132Vac	260..373Vdc	18,7Vdc 30mA	18,7Vdc 30mA	102KHz	Dwg. 26B
034.048.360.01	48Vdc	230W	360W	195-265Vac	97-132Vac	245..373Vdc	21Vdc 30mA	21Vdc 30mA	94KHz	Dwg. 34A
024.056.130.01	56Vdc	90W	130W	195-306Vac	97-153Vac	260..430Vdc	22,8Vdc 30mA	N/A	124KHz	Dwg. 24A
026.056.165.01	56Vdc	160W	165W	195-265Vac	97-132Vac	260..373Vdc	21,9Vdc 30mA	21,9Vdc 30mA	115KHz	Dwg. 26B
034.056.310.01	56Vdc	210W	310W	195-265Vac	97-132Vac	240..373Vdc	24,6Vdc 30mA	24,6Vdc 30mA	90KHz	Dwg. 34A
034.075.400.01	75Vdc	220W	400W	195-265Vac	97-132Vac	235..373Vdc	16,4Vdc 30mA	16,4Vdc 30mA	62KHz	Dwg. 34A
034.096.360.01	96Vdc	230W	360W	195-265Vac	97-132Vac	230..373Vdc	21Vdc 30mA	21Vdc 30mA	86KHz	Dwg. 34A
034.110.270.01	110Vdc	190W	270W	195-265Vac	97-132Vac	235..373Vdc	24,1Vdc 30mA	24,1Vdc 30mA	101KHz	Dwg. 34A

All the transformers for these tanks are on stock for immediate delivery.

- Test reports for standard tanks are available upon request.

- Above ratings are referred to a typical context, without cooling, with moderate temperature rise. Some parameters are interrelated, any change on one of them can affect the others.

Test properly or contact us for customized simulation analysis.

- Customized tanks can be defined both on standard and custom transformers to fit different operating conditions, see notes on page 8.

- Windings temperature should not exceed 110°C continuous, 120°C for short times.

¹ The AuxPri voltage will raise with load increase.

² Max available power on the whole input DC range, usable within the above mentioned winding temperature limits.

³ See schematic 3, page 7.

⁴ Ripple and hold-up time requirements considered.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

Measuring transformers

Itacoil offers a wide range of standard and custom measuring transformers according to specific customer requirements:

Current Transformers - toroidal 50-60Hz – Precision amperometric toroidal transformers with amorphous or nanocrystalline cores suitable for measuring systems, which need small linearity and phase errors.

Current Transformers - toroidal for high-frequency - Amperometric toroidal transformers with ferrite cores are used for applications where the measurement of current in high-frequency circuits is required (inverters, welding machines, etc.), also for feedback/over current protection. Normally supplied epoxy encapsulated, whether for PCB or on cable installation.

Current Transformers - Linear - Amperometric linear transformers with magnetic steel or ferrite core, whether for current with 50-60Hz network frequency or high-frequency.

Most current transformers can be supplied for **DIN rail mount**.

Voltage Transformers – Transformers for voltage measurement, with a good linear output signal and galvanic separation up to 10kV.



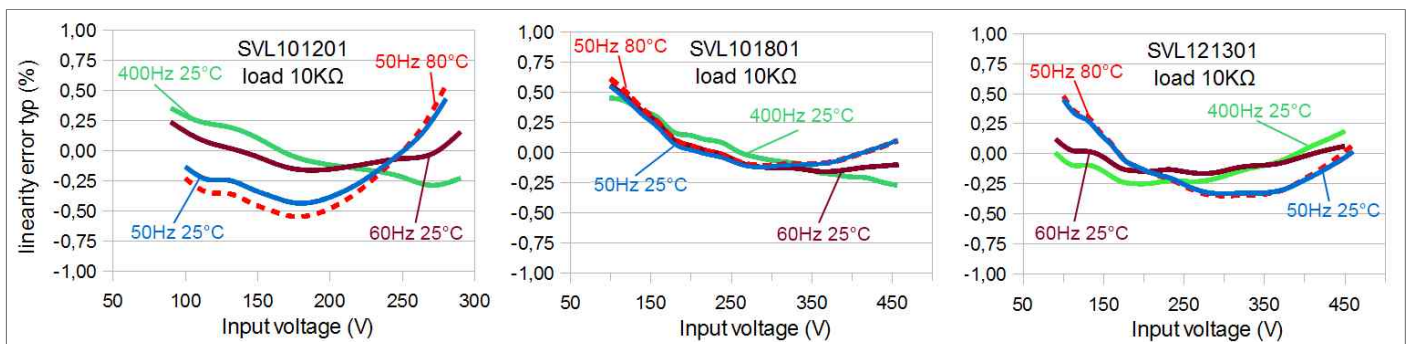
- High precision, 50...400Hz voltage measuring transformers
- Multi output voltage level
- Short circuit proof safety transformers, compliant to EN61558-1 and EN61558-2-6 up to the Max permissible input voltage³
- Max ambient temperature 80°C
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 100% tested
- Custom versions on request



ta80/B

Code	Input voltage			Linearity error ¹		Phase error ²		Input voltage (@nominal V input)	Recom- mended Load	Pri/Sec Dielectric strength	.stp file Download
	Nominal	Permissible range	Precision range	Typical	Max	Typical	Max				
SVL101201	230V	0...300V	90...265V	<±0.40%	<±0.65%	<±1.00°	<±1.70°	2,5-5,0-7,5-10V	10KΩ	5.0KV	
SVL101801 ³	400V	0...500V	180...440V	<±0.25%	<±0.50%	<±0.60°	<±1.00°	2,5-5,0-7,5-10V	10KΩ	5.0KV	
SVL121301	400V	0...500V	180...440V	<±0.25%	<±0.50%	<±0.75°	<±1.20°	2,5-5,0-7,5-10V	10KΩ	5.0KV	

Dimensions (mm)	SVL101201	SVL101801	SVL121301	Layout (bottom view)	Drawing
a max	32,6	33,1	41,5		
b max	28,0	28,6	35,5		
h max	24,3	29,7	27,5		
x typ	5,0	5,0	5,0		
y typ	20,0	20,0	25,0		



¹ Max errors at 50Hz (@25°C).

² For phase shift error compensation please contact our technical dept.

³ The compliance of SVL101801 to EN61558-1 and EN61558-2-6 standard is limited for use up to 300V max primary voltage. It can be used above 300V where the compliance to EN61558-1 and EN61558-2-6 is not required.

SHL series - AC-DC current sensor 38A - 90A

- Precision open loop AC/DC current sensor
- Cost effective solution in digital measuring equipment
- DC to 100KHz bandwidth and over
- Low and constant phase shift
- Low temperature drift
- Ambient temperature up to 60°C, 95°C with current derating
- Quick response time
- High insulation and creepage-clearance
- Custom versions on request from 2A to 100A on the same size

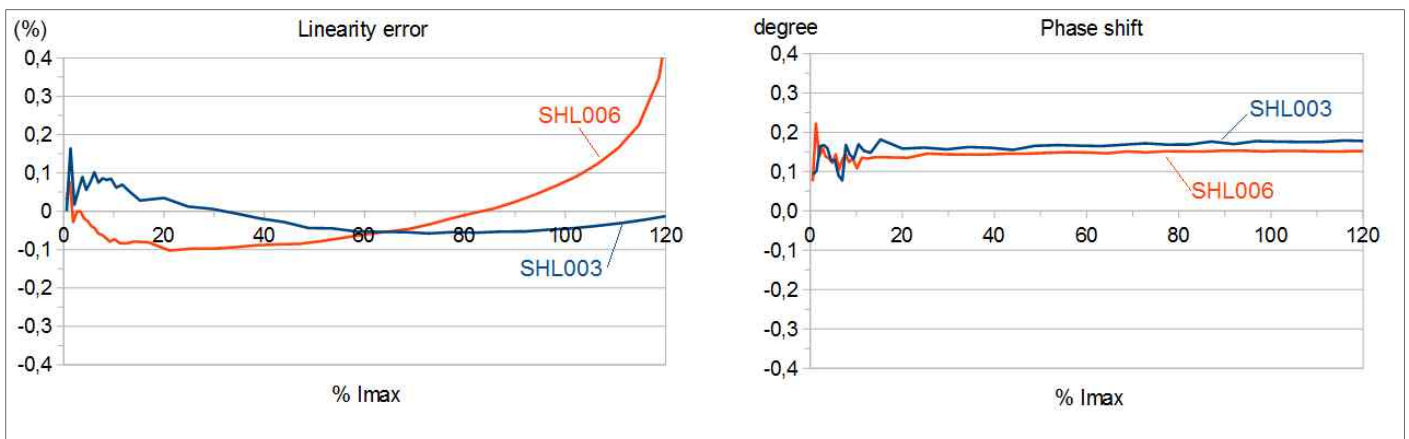


38A - 90A

PRELIMINARY

Code	Precision Input Current	Max Input Current	Typ linearity error ¹	Max linearity error ¹	Typ phase shift ²	Nominal Vout (Vs=5V)	Supply voltage (Vs)	Vdc Offset (quiescent voltage)	Typ Offset Temperature drift	Typ Gain Temperature drift	Creepage Clearance ³	In/Out Dielectric strenght ³
SHL003	38A	38A	±0,1%	±0,6%	0,15°	38 mV/A	3,3..5 Vdc	0,46...0,54*Vs	±0,35mV/°C	±0,022%/°C	8 mm	5 KV
SHL006	75A	90A	±0,2%	±0,6%	0,15°	6 mV/A	3,3..5 Vdc	0,46...0,54*Vs	±0,35mV/°C	±TBD%/°C	8 mm	5 KV

Dimensions	mm	Dimensions	mm	Drawing	.stp file Download
A max (∅)	13,8	D typ (∅)	0,8		
B max	7,4	D1 typ	0,25		
H max	18,0	D2 typ	0,50		
C min (∅)	7,0	L min	3,5		
E max	13,0	L1 min	10,0		
X typ	10,0	Y typ	5,0		
X1 typ	4,7	Y1 typ	4,0		
X2 typ	5,3	Y2 typ	1,27		



The showed errors and typical graphs are referred to 50/60Hz AC current measuring, Rb=10KΩ.

For precise measurements offset and gain compensation are required after primary conductor securing.

Vout is proportional to both input current and Vs, so it should be monitored by the systems or sufficiently stable.

With frequency over 10KHz sine the max current is derated of a factor $K_{(SHL003)} = -0,0074 * KHz + 1,073$.

For mono-directional DC current measurements use software compensation. With bi-directional DC current the linearity error increase +1% due to the hysteresis.

For mono-directional DC current the hysteresis error can be excluded performing the offset compensation after a first DC current pulse with same polarity.

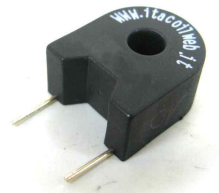
Supply current 12,5mA max. Allowed Rb range 5,6...47kΩ.

¹ Within precision input current range, 50-400Hz AC current.

² Within max input current range, 50Hz AC current.

³ Between pins and uninsulated primary conductor (not supplied).

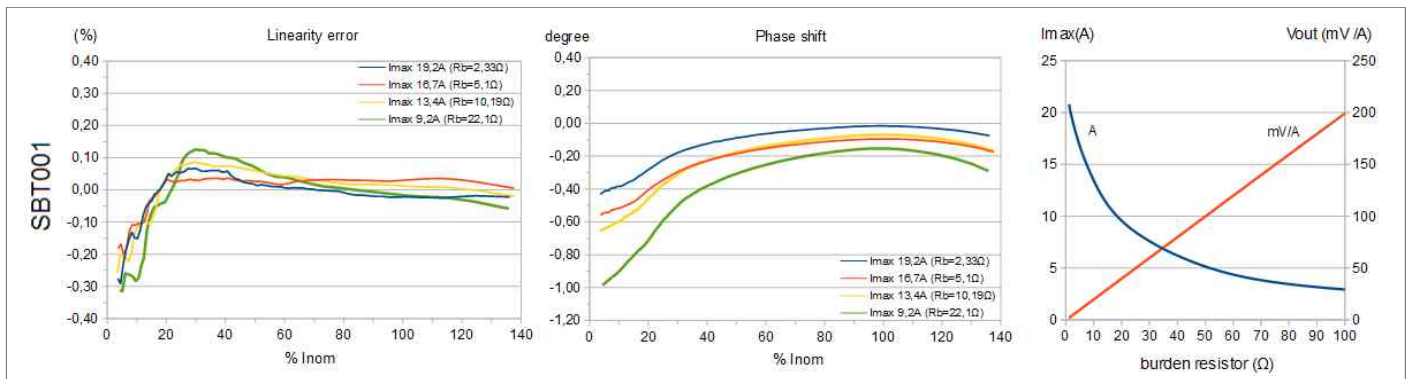
- High precision 50/60Hz current measuring transformers
- Encapsulated in UL94/V-0 epoxy resin
- High insulation between primary/secondary
- Custom versions on request



19.2A

Code	Best Accuracy				Highest Currents				Sec Turns	Pri/Sec Dielectric strength ⁴
	Max Input Current ¹	Nom Input Current ¹	Accuracy Class ²	Burden resistor ³	Max Input Current ¹	Nom Input Current ¹	Accuracy Class ²	Burden resistor ³		
SBT001	16,7A	13,9A	0,2-0,5 ⁵	5 Ω	19,2A	16A	0,2-0,5 ⁵	2,2 Ω	500	4KV

Dimensions	mm	Drawing	.stp file Download
a max	17,3		
b max	9,8		
h max	20,3		
c typ (∅)	5,0		
x typ	12,5		
l min	4,0		
d typ (∅)	0,8		



[Click here](#) (or QR code) to download the excel tool for calculating max current and output signal level in function of the burden resistor value.



¹ Accuracy range 5...120% of "Nom Input Current". Currents up to "Max Input Current" x 1,2 can be applied continuously.

Low current range measurement: it is suggested to increase primary turns number. It reduce proportionally Max/Nom input current and preserve the accuracy typical curves.

² Accuracy class at 50/60Hz (@20°C) as defined on CEI EN 60044-1/tab.11 (not the whole standard is applied since these items are designed as component of electronic equipment). Same accuracy class up to 50°C with 10% current de-rating.

³ Burden resistor values different than suggested values can be applied. It will affect Max/Nom current, output voltage and precision. See following typical graphs for reference.

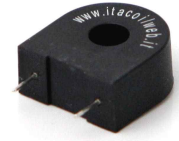
⁴ Between sec pins/primary hole internal surface.

⁵ Considering the the current amplitude only this product comply the 0,2 accuracy class. Where the phase shift too is considered the transformer comply the 0,5 class.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements have to be verified by the customer.

SBT series - 50/60Hz current sensor - 62A...83A

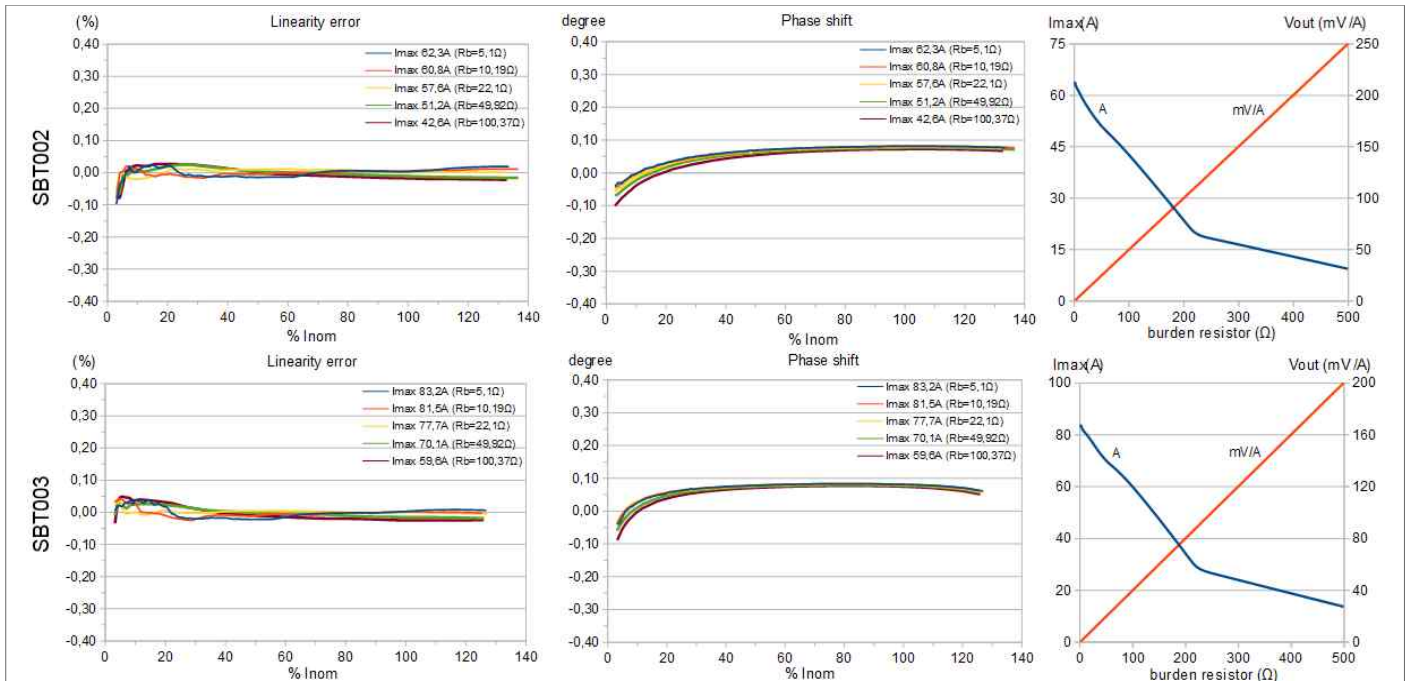
- Very high precision 50/60Hz current measuring transformers
- High output signal level to reduce noise-signal ratio
- High repeatability, actual curves close to typical
- Same accuracy class up to 50°C ambient temperature
- Encapsulated in UL94/V-0 epoxy resin
- High insulation between primary/secondary
- Custom versions on request



62A...83A

Code	Best Accuracy				Highest Currents				Sec Turns	Pri/Sec Dielectric strength ⁴
	Max Input Current ¹	Nom Input Current ¹	Accuracy Class ²	Burden resistor ³	Max Input Current ¹	Nom Input Current ¹	Accuracy Class ²	Burden resistor ³		
SBT002	51A	42,5A	0,1-0,2 ⁵	50 Ω	62A	51,6A	0,2	5 Ω	2000	4KV
SBT003	70A	58,3A	0,1-0,2 ⁵	50 Ω	83A	69,1A	0,2	5 Ω	2500	4KV

Dimensions	mm	Drawing	.stp file Download
a max	24,6		
b max	12,5		
h max	25,6		
c typ (∅)	8,0		
x typ	15,3		
l min	8,0		
d typ (∅)	0,8		



[Click here](#) to download the excel tool for calculating max current and output signal level in function of the burden resistor value.

¹ Accuracy range 5...120% of "Nom Input Current". Currents up to "Max Input Current" x 1,2 can be applied continuously.

Low current range measurement: it is suggested to increase primary turns number. It reduce proportionally Max/Nom input current and preserve the accuracy typical curves.

² Accuracy class at 50/60Hz (@20°C) as defined on CEI EN 60044-1/tab.11 (not the whole standard is applied since these items are designed as component of electronic equipment). The same accuracy class up to 50°C can be achieved with 10% current de-rating.

³ Burden resistor values different than suggested values can be applied. It will affect Max/Nom current, output voltage and precision. See following typical graphs for reference.

⁴ Between sec pins/primary hole internal surface.

⁵ Considering the the current amplitude only this product comply the 0,1 accuracy class. Where the phase shift too is considered the transformer comply the 0,2 class.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements have to be verified by the customer.

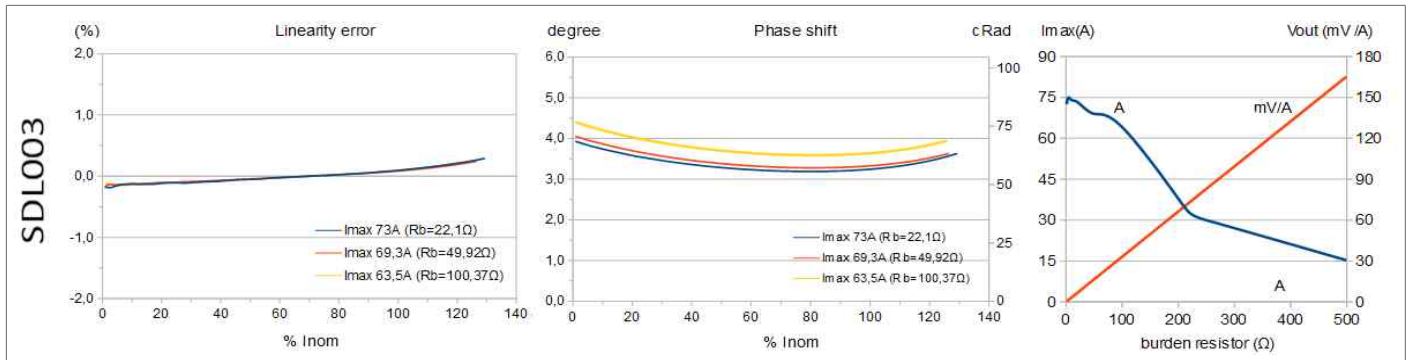
- High precision 50/60Hz split core current measuring transformers
- High output signal level to reduce noise-signal ratio
- High repeatability
- High insulation between primary/secondary



73A

Code	Max Input Current	Typ Linearity error	Max Linearity error	Burden resistor ¹	Sec Turns	Dielectric strength ²
SDL003	73A	0,35%	1,0%	22Ω	3000	1KV

Dimensions	mm	Drawing	.stp file Download
a max	26,4		
b max	27,9		
h max	42,4		
e typ	-		
c typ	10,0		
f typ	14,4		
g typ	6,2		
i typ	10,7		
l typ	400,0		



[Click here](#) (or QR code) to download the excel tool for calculating max current and output signal level in function of the burden resistor value.



¹ Burden resistor values different than suggested values can be applied. It will affect Max/Nom current, output voltage and precision. See typical graphs for reference.

² Between sec leads/primary hole internal surface.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements have to be verified by the customer.

SDL series - 50/60Hz split core current sensor - 105A...225A

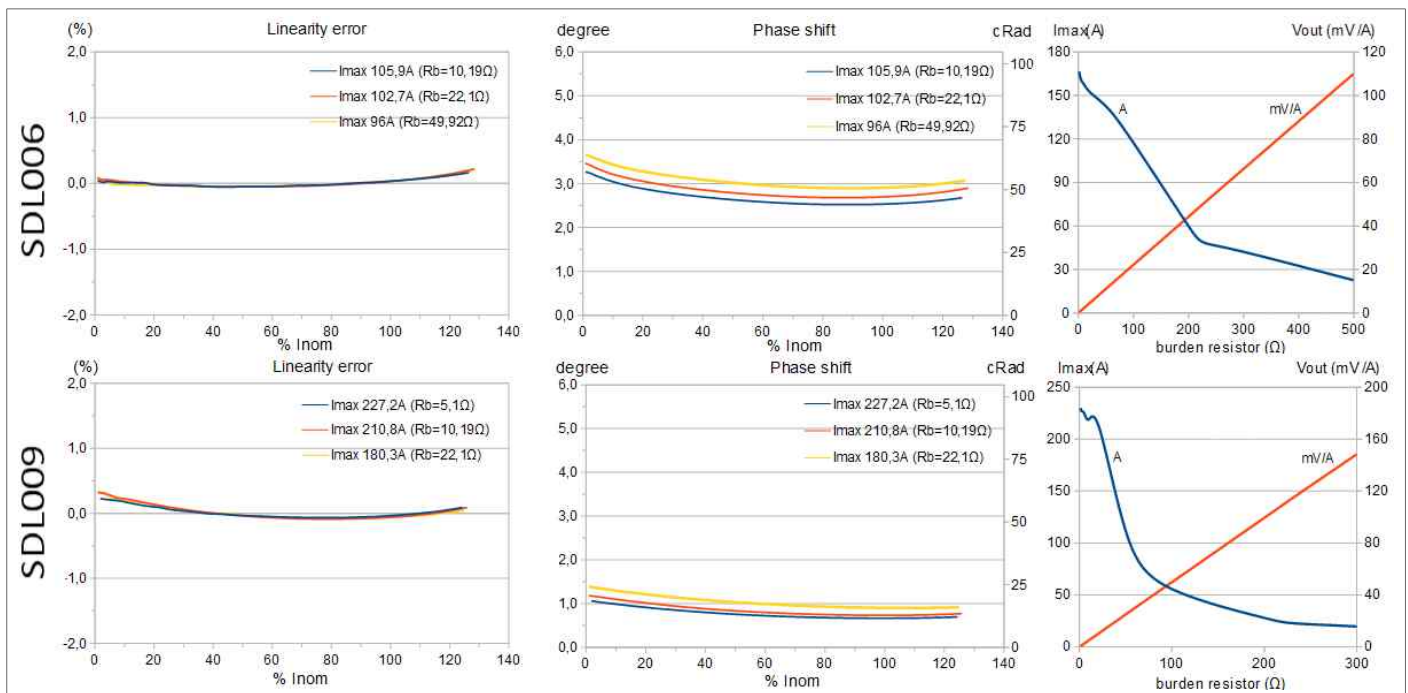
- High precision 50/60Hz split core current measuring transformers
- High output signal level to reduce noise-signal ratio
- High repeatability
- High insulation between primary/secondary



105A...225A

Code	Max Input Current	Typ Linearity error	Max Linearity error	Burden resistor ¹	Sec Turns	Dielectric strength ²	.stp file Download
SDL006	105A	0,35%	1,0%	10Ω	3000	1KV	
SDL009	225A	0,50%	1,0%	5Ω	2000	1KV	

Dimensions	SDL006 (mm)	SDL009 (mm)	Drawing
a max	33,9	49,0	
b max	31,4	34,5	
h max	44,6	67,3	
e typ	38,5	42,9	
c typ	16,3	24,2	
f typ	22,7	21,8	
g typ	8,7	13,1	
i typ	16,0	24,4	
l typ	400,0	730,0	



[Click here](#) to download the excel tool for calculating max current and output signal level in function of the burden resistor value.

¹ Burden resistor values different than suggested values can be applied. It will affect Max/Nom current, output voltage and precision. See typical graphs for reference.

² Between sec leads/primary hole internal surface.

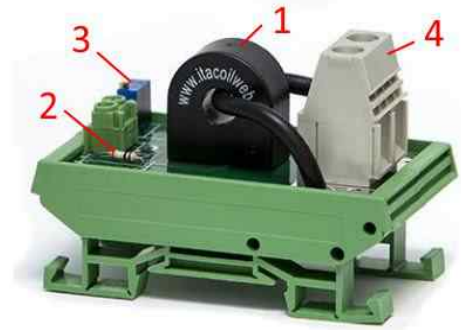
^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements have to be verified by the customer.

- Easy assembly precision current sensor for electric panels
- Flying cable or screw terminal primary versions
- Screw terminal output signal
- Various options available



Available options

- (1) Any current sensor of SBT and SBL series (see following table)
- (2) Burden resistor value and tolerance on request
- (3) Single-turn or multi-turn trimmer on request for on-site gain adjustment
- (4) Input circuit with 10A_{rms} max screw terminals, 50A_{rms} max screw terminals¹ or no screw terminals (free current sensor hole)²



Example of the version with SBT002 current sensor, 1 turn primary with 50A current screw terminal, gain adjustment trimmer

Dimensions

	mm	Drawing
A max	85.0	
B max	47.0	
H max	See the table	

Current Sensor type ³	I max input (A)	Without screw terminal (mm)	10A max input screw terminal (mm)	50A max input screw terminal (mm)	Split core (mm)
SBT001	16.7	49	49	57	
SBT002	51.0	54	54	57	
SBT003	70.0	54	54	57	
SDL003	73.0	71			71
SDL006	105.0	73			73
SDL009	225.0	96			96

¹ Multiple primary turns can be necessary to preserve output signal level and precision with currents much lower than max.

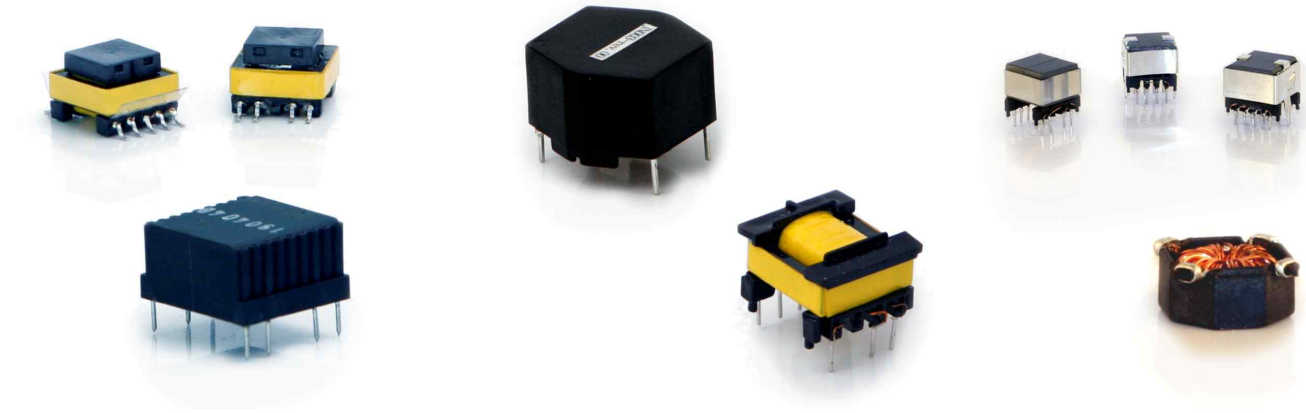
² Option not available for input currents higher than 50A continuous.

³ See the previous pages for the detailed characteristics of each current sensors.

Pulse transformers

Itacoil specializes in designing and manufacturing transformers for a wide range of applications such as

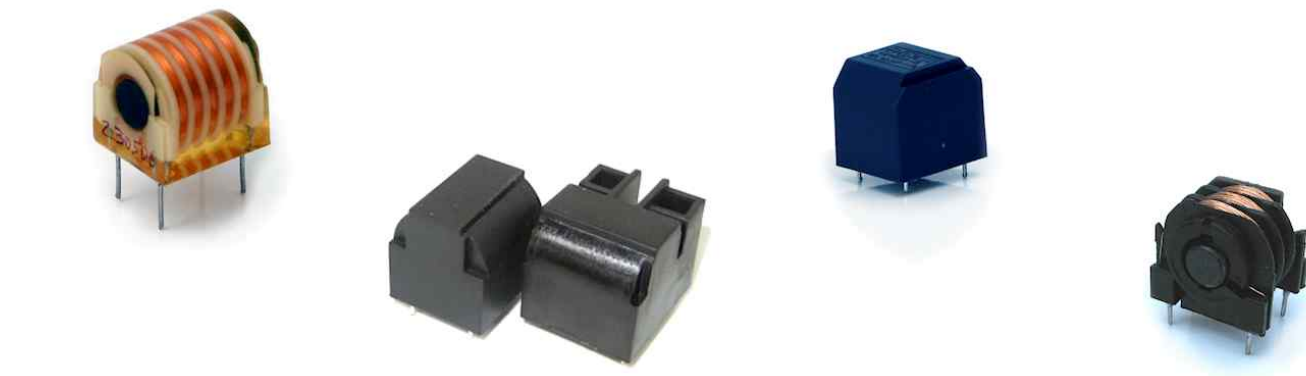
Linear or toroidal pulse transformers, for THD or SMD assembly and varied applications, such as TRIAC, IGBT and other power components' driving. We realize them in different sizes and customized features to better comply with electronic designers demands.



Ignition transformers

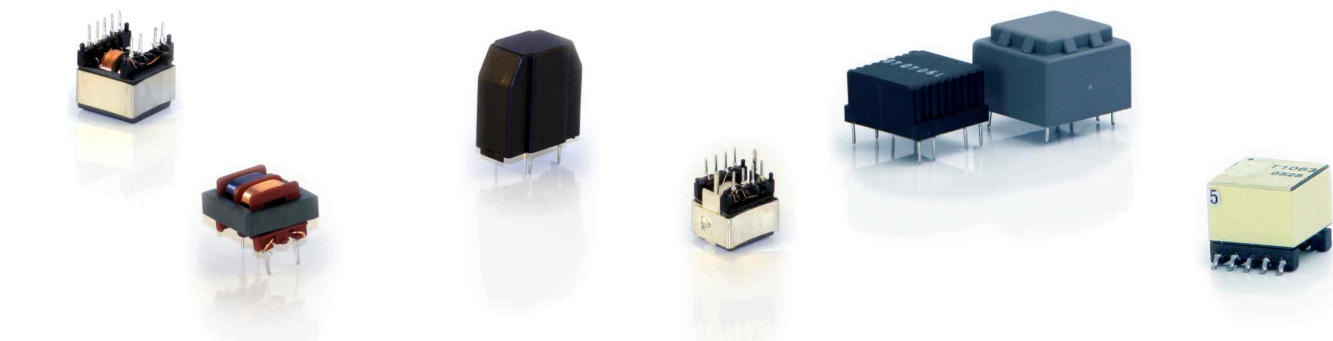
Pulse transformers with high-voltage output and cylindrical core (open magnetic circuit), generally driven by simple capacitive discharge circuits, for ignitors with 2 or 3 wires (flowing current), specific also for combustibles ignition, such as methane gas, GPL, etc.

They can be effectively used also in other applications, which need impulsive high-voltages, if necessary they can be rectified to obtain continuous voltage.

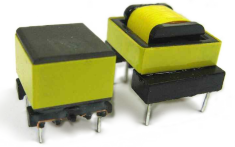


Signal transformers with galvanic separation

Transformers for THD or SMD assembly, utilized for signals transfer, voltage adjustment and/or galvanic separation for the most varied electronic applications. They can also be supplied with intrinsic safety compliant features (Ex), both in linear or toroidal version.



- Designed for FSK, PSK, OFDM, G3-PLC, etc. power line modem based on ST Microelectronics ST8500-ST75MM-STLD1-ST2100-STCOM-STCOMET, Maxim MAX298x-MAX299x-MAX7049, Teridian 71M6xxx, Echelon PL31x0, Cypress CY8CPLC10-CY8CLED16P01, Texas Instruments PGA112AIDGSxx-OPA564AIDWPR, TMS320F28xx, AFE031, NXP TDA5051, etc.
- Small footprint
- Wide operating frequency range 10-500kHz¹
- Up to 6000V Pri-Sec dielectric strength
- 80°C max ambient temperature
- Custom versions on request



Code	Primary Inductance ²	Turns Ratio ³	Primary V _μ Sec ⁴	DC bias max ⁵	Leakage induct. typ ²	DCR Prim max	DCR Sec max	Pri-Sec Dielectric Strength	Creepage min ⁶	Pri-Sec Capacitance typ ⁷
SMLEP1301	1030 μH ±30%	1:1	28	22 mA	2,0 μH	215 mΩ	215 mΩ	3,0 kV	3,0 mm	15 pF
SMLEP1302	610 μH ±30%	1:(1+1)	21	39 mA	2,0 μH	153 mΩ	2x118 mΩ	3,0 kV	3,0 mm	15 pF
SMLEP1303	1395 μH ±30%	1:(1+1)	32	33 mA	2,4 μH	455 mΩ	2x350 mΩ	3,0 kV	3,0 mm	12 pF
SMLE1601	990 μH -25% +50%	1:1	32	43 mA	2,7 μH	293 mΩ	233 mΩ	6,0 kV	6,0 mm	15 pF
SMLE1602	730 μH ±35%	1:(1+1)	19	43 mA	3,1 μH	310 mΩ	2x375 mΩ	6,0 kV	6,0 mm	25 pF

Dimensions (mm)		Drawing	SMLEP1301 (bottom view)	SMLEP1302-03 (bottom view)	.stp file Download
a max	14,3				
b max	14,5				
h max	13,2				
x typ	5,0				
y typ	10,0				
d typ	□ 0,5				
l min	2,5				

Dimensions (mm)		Drawing	SMLE1601 (bottom view)	SMLE1602 (bottom view)	.stp file Download
a max	17,3				
b max	19,2				
h max	14,2				
x typ	3,2				
y typ	15,5				
d typ	∅ 0,7				
l min	2,8				

- Actual temperature of the transformers should not exceed 100°C. Windings DCR value in the worst condition must be ≤ (DCR at 20°C * 1,3). Measure it immediately after thermal rising, it increases quickly.

¹ Except SMLE1602, whose working frequency range is 10-200kHz.

² Primary inductance tested @100kHz-1V.

³ Each winding can be used as primary or as secondary, for example to have turns ratio 1:2 or 2:1.

⁴ Max voltage-time area with bidirectional signals.

⁵ Superimposed DC current max for pri inductance tolerance within +30/-50%.

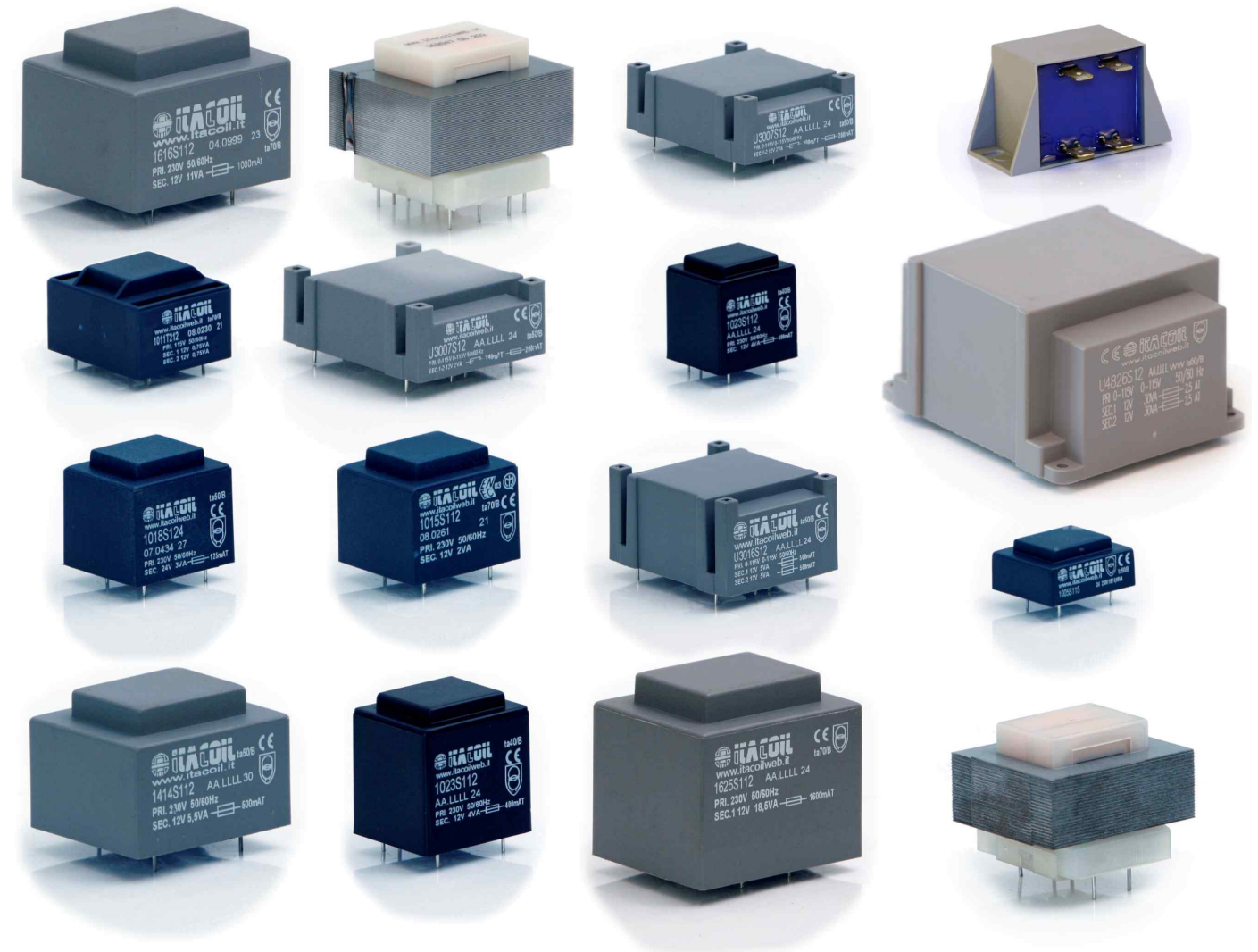
⁶ 6mm creepage/clearance to meet most safety requirements. Actual needs have to be checked before use.

⁷ Prim./Sec. capacitance tested @100kHz-1V.

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

Safety transformers

We offer a range of laminated transformers designed upon customer's specification using the most up-to-date designs, materials, and manufacturing techniques. Beside Standard mains transformers, EI series and UI series (low profile), as here illustrated we produce laminated transformers with special features according to the customer's safety and technical requirements. Also "on air" version for atypical frequencies, intrinsic safety applications, etc.



- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request also with ta70/B



0.65 VA - t_a50/B

Code	Primary (50-60Hz)	Secondary ¹	Layout	Overload Protection
1005S106	230V	6V - 108 mA	Drawing 1	inherently short-circuit proof
1005S109	230V	9V - 72 mA	Drawing 1	inherently short-circuit proof
1005S112	230V	12V - 54 mA	Drawing 1	inherently short-circuit proof
1005S115	230V	15V - 43 mA	Drawing 1	inherently short-circuit proof
1005S118	230V	18V - 36 mA	Drawing 1	inherently short-circuit proof
1005S124	230V	24V - 27 mA	Drawing 1	inherently short-circuit proof
1005S206	230V	2x 6V - 54 mA	Drawing 2	inherently short-circuit proof
1005S209	230V	2x 9V - 36 mA	Drawing 2	inherently short-circuit proof
1005S212	230V	2x 12V - 27 mA	Drawing 2	inherently short-circuit proof
1005S215	230V	2x 15V - 22 mA	Drawing 2	inherently short-circuit proof
1005T106	115V	6V - 108 mA	Drawing 1	inherently short-circuit proof
1005T109	115V	9V - 72 mA	Drawing 1	inherently short-circuit proof
1005T112	115V	12V - 54 mA	Drawing 1	inherently short-circuit proof
1005T115	115V	15V - 43 mA	Drawing 1	inherently short-circuit proof
1005T118	115V	18V - 36 mA	Drawing 1	inherently short-circuit proof
1005T124	115V	24V - 27 mA	Drawing 1	inherently short-circuit proof
1005T206	115V	2x 6V - 54 mA	Drawing 2	inherently short-circuit proof
1005T209	115V	2x 9V - 36 mA	Drawing 2	inherently short-circuit proof
1005T212	115V	2x 12V - 27 mA	Drawing 2	inherently short-circuit proof
1005T215	115V	2x 15V - 22 mA	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,4				
b max	27,7				
h max	15,2				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,48).

EI series 1010 - 1.0VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request also with ENEC-IMQ mark



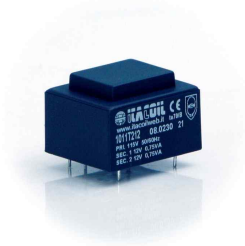
1.0 VA - t_a70/B **(1.2VA - t_a50/B**

Code	Primary (50-60Hz)	Secondary ¹ t_a70°	Secondary ¹ (t_a50°)	Layout	Overload Protection
1010S106	230V	6V - 166 mA	(6V - 200 mA)	Drawing 1	inherently short-circuit proof
1010S109	230V	9V - 111 mA	(9V - 133 mA)	Drawing 1	inherently short-circuit proof
1010S112	230V	12V - 83 mA	(12V - 100 mA)	Drawing 1	inherently short-circuit proof
1010S115	230V	15V - 66 mA	(15V - 80 mA)	Drawing 1	inherently short-circuit proof
1010S118	230V	18V - 55 mA	(18V - 66 mA)	Drawing 1	inherently short-circuit proof
1010S124	230V	24V - 41 mA	(24V - 50 mA)	Drawing 1	inherently short-circuit proof
1010S206	230V	2x 6V - 83 mA	(2x 6V - 100 mA)	Drawing 2	inherently short-circuit proof
1010S209	230V	2x 9V - 55 mA	(2x 9V - 66 mA)	Drawing 2	inherently short-circuit proof
1010S212	230V	2x 12V - 41 mA	(2x 12V - 50 mA)	Drawing 2	inherently short-circuit proof
1010S215	230V	2x 15V - 33 mA	(2x 15V - 40 mA)	Drawing 2	inherently short-circuit proof
1010T106	115V	6V - 166 mA	(6V - 200 mA)	Drawing 1	inherently short-circuit proof
1010T109	115V	9V - 111 mA	(9V - 133 mA)	Drawing 1	inherently short-circuit proof
1010T112	115V	12V - 83 mA	(12V - 100 mA)	Drawing 1	inherently short-circuit proof
1010T115	115V	15V - 66 mA	(15V - 80 mA)	Drawing 1	inherently short-circuit proof
1010T118	115V	18V - 55 mA	(18V - 66 mA)	Drawing 1	inherently short-circuit proof
1010T124	115V	24V - 41 mA	(24V - 50 mA)	Drawing 1	inherently short-circuit proof
1010T206	115V	2x 6V - 83 mA	(2x 6V - 100 mA)	Drawing 2	inherently short-circuit proof
1010T209	115V	2x 9V - 55 mA	(2x 9V - 66 mA)	Drawing 2	inherently short-circuit proof
1010T212	115V	2x 12V - 41 mA	(2x 12V - 50 mA)	Drawing 2	inherently short-circuit proof
1010T215	115V	2x 15V - 33 mA	(2x 15V - 40 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,6				
b max	28,0				
h max	22,1				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,46).

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



1.5 VA - t_a70/B (1.6VA - t_a50/B)

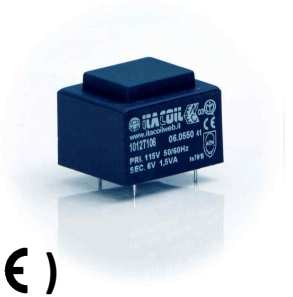
Code	Primary (50-60Hz)	Secondary ¹ t_a70°	Secondary ¹ (t_a50°)	Layout	Overload Protection
1011S106	230V	6V - 250 mA	(6V - 267 mA)	Drawing 1	inherently short-circuit proof
1011S109	230V	9V - 167 mA	(9V - 178 mA)	Drawing 1	inherently short-circuit proof
1011S112	230V	12V - 125 mA	(12V - 133 mA)	Drawing 1	inherently short-circuit proof
1011S115	230V	15V - 100 mA	(15V - 107 mA)	Drawing 1	inherently short-circuit proof
1011S118	230V	18V - 83 mA	(18V - 89 mA)	Drawing 1	inherently short-circuit proof
1011S124	230V	24V - 63 mA	(24V - 67 mA)	Drawing 1	inherently short-circuit proof
1011S206	230V	2x 6V - 125 mA	(2x 6V - 133 mA)	Drawing 2	inherently short-circuit proof
1011S209	230V	2x 9V - 83 mA	(2x 9V - 89 mA)	Drawing 2	inherently short-circuit proof
1011S212	230V	2x 12V - 63 mA	(2x 12V - 67 mA)	Drawing 2	inherently short-circuit proof
1011S215	230V	2x 15V - 50 mA	(2x 15V - 53 mA)	Drawing 2	inherently short-circuit proof
1011T106	115V	6V - 250 mA	(6V - 267 mA)	Drawing 1	inherently short-circuit proof
1011T109	115V	9V - 167 mA	(9V - 178 mA)	Drawing 1	inherently short-circuit proof
1011T112	115V	12V - 125 mA	(12V - 133 mA)	Drawing 1	inherently short-circuit proof
1011T115	115V	15V - 100 mA	(15V - 107 mA)	Drawing 1	inherently short-circuit proof
1011T118	115V	18V - 83 mA	(18V - 89 mA)	Drawing 1	inherently short-circuit proof
1011T124	115V	24V - 63 mA	(24V - 67 mA)	Drawing 1	inherently short-circuit proof
1011T206	115V	2x 6V - 125 mA	(2x 6V - 133 mA)	Drawing 2	inherently short-circuit proof
1011T209	115V	2x 9V - 83 mA	(2x 9V - 89 mA)	Drawing 2	inherently short-circuit proof
1011T212	115V	2x 12V - 63 mA	(2x 12V - 67 mA)	Drawing 2	inherently short-circuit proof
1011T215	115V	2x 15V - 50 mA	(2x 15V - 53 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,6				
b max	28,0				
h max	22,1				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,52).

EI series 1012 - 1.5VA h24.3

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ, length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request also with ENEC-IMQ mark



1.5 VA - $t_a 70/B$ (1.7VA - $t_a 50/B$)

Code	Primary (50-60Hz)	Secondary ¹ $t_a 70^\circ$	Secondary ¹ ($t_a 50^\circ$)	Layout	Overload Protection
1012S106	230V	6V - 250 mA	(6V - 283 mA)	Drawing 1	inherently short-circuit proof
1012S109	230V	9V - 167 mA	(9V - 188mA)	Drawing 1	inherently short-circuit proof
1012S112	230V	12V -125 mA	(12V -141 mA)	Drawing 1	inherently short-circuit proof
1012S115	230V	15V -100 mA	(15V -113 mA)	Drawing 1	inherently short-circuit proof
1012S118	230V	18V - 83 mA	(18V - 94 mA)	Drawing 1	inherently short-circuit proof
1012S124	230V	24V - 63 mA	(24V - 70 mA)	Drawing 1	inherently short-circuit proof
1012S206	230V	2x 6V - 125 mA	(2x 6V - 141 mA)	Drawing 2	inherently short-circuit proof
1012S209	230V	2x 9V - 83 mA	(2x 9V - 94 mA)	Drawing 2	inherently short-circuit proof
1012S212	230V	2x 12V - 63 mA	(2x 12V - 70 mA)	Drawing 2	inherently short-circuit proof
1012S215	230V	2x 15V - 50 mA	(2x 15V - 57 mA)	Drawing 2	inherently short-circuit proof
1012T106	115V	6V - 250 mA	(6V - 283 mA)	Drawing 1	inherently short-circuit proof
1012T109	115V	9V - 167 mA	(9V - 188mA)	Drawing 1	inherently short-circuit proof
1012T112	115V	12V -125 mA	(12V -141 mA)	Drawing 1	inherently short-circuit proof
1012T115	115V	15V -100 mA	(15V -113 mA)	Drawing 1	inherently short-circuit proof
1012T118	115V	18V - 83 mA	(18V - 94 mA)	Drawing 1	inherently short-circuit proof
1012T124	115V	24V - 63 mA	(24V - 70 mA)	Drawing 1	inherently short-circuit proof
1012T206	115V	2x 6V - 125 mA	(2x 6V - 141 mA)	Drawing 2	inherently short-circuit proof
1012T209	115V	2x 9V - 83 mA	(2x 9V - 94 mA)	Drawing 2	inherently short-circuit proof
1012T212	115V	2x 12V - 63 mA	(2x 12V - 70 mA)	Drawing 2	inherently short-circuit proof
1012T215	115V	2x 15V - 50 mA	(2x 15V - 57 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,6				
b max	28,0				
h max	24,3				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,62).

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



1.9 VA - $t_a 70/B$ (2.1 VA - $t_a 50/B$)

Code	Primary (50-60Hz)	Secondary ¹ $t_a 70^\circ$	Secondary ¹ ($t_a 50^\circ$)	Layout	Overload Protection
1013S106	230V	6V - 316 mA	(6V - 350 mA)	Drawing 1	inherently short-circuit proof
1013S109	230V	9V - 211 mA	(9V - 233 mA)	Drawing 1	inherently short-circuit proof
1013S112	230V	12V - 158 mA	(12V - 175 mA)	Drawing 1	inherently short-circuit proof
1013S115	230V	15V - 126 mA	(15V - 140 mA)	Drawing 1	inherently short-circuit proof
1013S118	230V	18V - 105 mA	(18V - 116 mA)	Drawing 1	inherently short-circuit proof
1013S124	230V	24V - 79 mA	(24V - 87 mA)	Drawing 1	inherently short-circuit proof
1013S206	230V	2x 6V - 158 mA	(2x 6V - 175 mA)	Drawing 2	inherently short-circuit proof
1013S209	230V	2x 9V - 105 mA	(2x 9V - 116 mA)	Drawing 2	inherently short-circuit proof
1013S212	230V	2x 12V - 79 mA	(2x 12V - 87 mA)	Drawing 2	inherently short-circuit proof
1013T106	115V	6V - 316 mA	(6V - 350 mA)	Drawing 1	inherently short-circuit proof
1013T109	115V	9V - 211 mA	(9V - 233 mA)	Drawing 1	inherently short-circuit proof
1013T112	115V	12V - 158 mA	(12V - 175 mA)	Drawing 1	inherently short-circuit proof
1013T115	115V	15V - 126 mA	(15V - 140 mA)	Drawing 1	inherently short-circuit proof
1013T118	115V	18V - 105 mA	(18V - 116 mA)	Drawing 1	inherently short-circuit proof
1013T124	115V	24V - 79 mA	(24V - 87 mA)	Drawing 1	inherently short-circuit proof
1013T206	115V	2x 6V - 158 mA	(2x 6V - 175 mA)	Drawing 2	inherently short-circuit proof
1013T209	115V	2x 9V - 105 mA	(2x 9V - 116 mA)	Drawing 2	inherently short-circuit proof
1013T212	115V	2x 12V - 79 mA	(2x 12V - 87 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,6				
b max	28,0				
h max	24,3				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,75).

EI series 1015 - 2.0VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request also with ENEC-IMQ mark



2.0 VA - $t_a 70/B$ (2.2VA - $t_a 50/B$)

Code	Primary (50-60Hz)	Secondary ¹ $t_a 70^\circ$	Secondary ¹ ($t_a 50^\circ$)	Layout	Overload Protection
1015S106	230V	6V - 333 mA	(6V - 366 mA)	Drawing 1	inherently short-circuit proof
1015S109	230V	9V - 222 mA	(9V - 244 mA)	Drawing 1	inherently short-circuit proof
1015S112	230V	12V - 166 mA	(12V - 183 mA)	Drawing 1	inherently short-circuit proof
1015S115	230V	15V - 133 mA	(15V - 146 mA)	Drawing 1	inherently short-circuit proof
1015S118	230V	18V - 111 mA	(18V - 122 mA)	Drawing 1	inherently short-circuit proof
1015S124	230V	24V - 83 mA	(24V - 91 mA)	Drawing 1	inherently short-circuit proof
1015S206	230V	2x 6V - 166 mA	(2x 6V - 183 mA)	Drawing 2	inherently short-circuit proof
1015S209	230V	2x 9V - 111 mA	(2x 9V - 122 mA)	Drawing 2	inherently short-circuit proof
1015S212	230V	2x 12V - 83 mA	(2x 12V - 91 mA)	Drawing 2	inherently short-circuit proof
1015S215	230V	2x 15V - 67 mA	(2x 15V - 73 mA)	Drawing 2	inherently short-circuit proof
1015T106	115V	6V - 333 mA	(6V - 366 mA)	Drawing 1	inherently short-circuit proof
1015T109	115V	9V - 222 mA	(9V - 244 mA)	Drawing 1	inherently short-circuit proof
1015T112	115V	12V - 166 mA	(12V - 183 mA)	Drawing 1	inherently short-circuit proof
1015T115	115V	15V - 133 mA	(15V - 146 mA)	Drawing 1	inherently short-circuit proof
1015T118	115V	18V - 111 mA	(18V - 122 mA)	Drawing 1	inherently short-circuit proof
1015T124	115V	24V - 83 mA	(24V - 91 mA)	Drawing 1	inherently short-circuit proof
1015T206	115V	2x 6V - 166 mA	(2x 6V - 183 mA)	Drawing 2	inherently short-circuit proof
1015T209	115V	2x 9V - 111 mA	(2x 9V - 122 mA)	Drawing 2	inherently short-circuit proof
1015T212	115V	2x 12V - 83 mA	(2x 12V - 91 mA)	Drawing 2	inherently short-circuit proof
1015T215	115V	2x 15V - 67 mA	(2x 15V - 73 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,6				
b max	28,0				
h max	27,4				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,52).

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



2.3 VA - t_a70/B

Code	Primary (50-60Hz)	Secondary ¹	Layout	Overload Protection
1019S106	230V	6V - 383 mA	Drawing 1	inherently short-circuit proof
1019S109	230V	9V - 256 mA	Drawing 1	inherently short-circuit proof
1019S112	230V	12V - 192 mA	Drawing 1	inherently short-circuit proof
1019S115	230V	15V - 153 mA	Drawing 1	inherently short-circuit proof
1019S118	230V	18V - 128 mA	Drawing 1	inherently short-circuit proof
1019S124	230V	24V - 96 mA	Drawing 1	inherently short-circuit proof
1019S206	230V	2x 6V - 192 mA	Drawing 2	inherently short-circuit proof
1019S209	230V	2x 9V - 128 mA	Drawing 2	inherently short-circuit proof
1019S212	230V	2x 12V - 96 mA	Drawing 2	inherently short-circuit proof
1019S215	230V	2x 15V - 77 mA	Drawing 2	inherently short-circuit proof
1019T106	115V	6V - 383 mA	Drawing 1	inherently short-circuit proof
1019T109	115V	9V - 256 mA	Drawing 1	inherently short-circuit proof
1019T112	115V	12V - 192 mA	Drawing 1	inherently short-circuit proof
1019T115	115V	15V - 153 mA	Drawing 1	inherently short-circuit proof
1019T118	115V	18V - 128 mA	Drawing 1	inherently short-circuit proof
1019T124	115V	24V - 96 mA	Drawing 1	inherently short-circuit proof
1019T206	115V	2x 6V - 192 mA	Drawing 2	inherently short-circuit proof
1019T209	115V	2x 9V - 128 mA	Drawing 2	inherently short-circuit proof
1019T212	115V	2x 12V - 96 mA	Drawing 2	inherently short-circuit proof
1019T215	115V	2x 15V - 77 mA	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	33,1				
b max	28,6				
h max	29,7				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,45).

EI series 1207 - 2.3VA h21.7

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



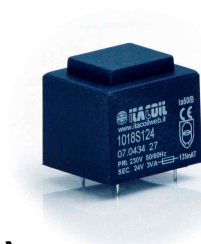
2.3 VA - t_a70/B (2.5 VA - t_a40/B)

Code	Primary (50-60Hz)	Secondary ¹ (t_a70°)	Secondary ¹ (t_a40°)	Layout	Overload Protection
1207S106	230V	6V - 383 mA	(6V - 416 mA)	Drawing 1	inherently short-circuit proof
1207S109	230V	9V - 256 mA	(9V - 277 mA)	Drawing 1	inherently short-circuit proof
1207S112	230V	12V - 192 mA	(12V - 208 mA)	Drawing 1	inherently short-circuit proof
1207S115	230V	15V - 153 mA	(15V - 166 mA)	Drawing 1	inherently short-circuit proof
1207S118	230V	18V - 128 mA	(18V - 138 mA)	Drawing 1	inherently short-circuit proof
1207S124	230V	24V - 96 mA	(24V - 104 mA)	Drawing 1	inherently short-circuit proof
1207S206	230V	2x 6V - 192 mA	(2x 6V - 208 mA)	Drawing 2	inherently short-circuit proof
1207S209	230V	2x 9V - 128 mA	(2x 9V - 138 mA)	Drawing 2	inherently short-circuit proof
1207S212	230V	2x 12V - 96 mA	(2x 12V - 104 mA)	Drawing 2	inherently short-circuit proof
1207S215	230V	2x 15V - 77 mA	(2x 15V - 83 mA)	Drawing 2	inherently short-circuit proof
1207T106	115V	6V - 383 mA	(6V - 416 mA)	Drawing 1	inherently short-circuit proof
1207T109	115V	9V - 256 mA	(9V - 277 mA)	Drawing 1	inherently short-circuit proof
1207T112	115V	12V - 192 mA	(12V - 208 mA)	Drawing 1	inherently short-circuit proof
1207T115	115V	15V - 153 mA	(15V - 166 mA)	Drawing 1	inherently short-circuit proof
1207T118	115V	18V - 128 mA	(18V - 138 mA)	Drawing 1	inherently short-circuit proof
1207T124	115V	24V - 96 mA	(24V - 104 mA)	Drawing 1	inherently short-circuit proof
1207T206	115V	2x 6V - 192 mA	(2x 6V - 208 mA)	Drawing 2	inherently short-circuit proof
1207T209	115V	2x 9V - 128 mA	(2x 9V - 138 mA)	Drawing 2	inherently short-circuit proof
1207T212	115V	2x 12V - 96 mA	(2x 12V - 104 mA)	Drawing 2	inherently short-circuit proof
1207T215	115V	2x 15V - 77 mA	(2x 15V - 83 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	41,4				
b max	34,9				
h max	21,7				
x typ	5,0				
y typ	25,0				

¹ Rated voltage (No load voltage x 1,52).

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



3.0 VA - t_a50/B



(2.8 VA - t_a70/B



Code	Primary (50-60Hz)	Secondary ¹ (t _a 50°)	Secondary ¹ (t _a 70°)	Layout	Output fuses t _a 50° (t _a 70°) ²
1018S106	230V	6V - 500 mA	(6V - 467 mA)	Drawing 1	fuse 500 mA (500mA)
1018S109	230V	9V - 333 mA	(9V - 311 mA)	Drawing 1	fuse 400 mA (315mA)
1018S112	230V	12V - 250 mA	(12V - 233 mA)	Drawing 1	fuse 250 mA (250mA)
1018S115	230V	15V - 200 mA	(15V - 187 mA)	Drawing 1	fuse 200 mA (200mA)
1018S118	230V	18V - 167 mA	(18V - 156 mA)	Drawing 1	fuse 200 mA (160mA)
1018S124	230V	24V - 125 mA	(24V - 117 mA)	Drawing 1	fuse 125 mA (125mA)
1018S206	230V	2x 6V - 250 mA	(2x 6V - 233 mA)	Drawing 2	2 fuses 250 mA (250mA)
1018S209	230V	2x 9V - 167 mA	(2x 9V - 156 mA)	Drawing 2	2 fuses 200 mA (160mA)
1018S212	230V	2x 12V - 125 mA	(2x 12V - 117 mA)	Drawing 2	2 fuses 125 mA (125mA)
1018S215	230V	2x 15V - 100 mA	(2x 15V - 93 mA)	Drawing 2	2 fuses 100 mA (100mA)
1018T106	115V	6V - 500 mA	(6V - 467 mA)	Drawing 1	fuse 500 mA (500mA)
1018T109	115V	9V - 333 mA	(9V - 311 mA)	Drawing 1	fuse 400 mA (315mA)
1018T112	115V	12V - 250 mA	(12V - 233 mA)	Drawing 1	fuse 250 mA (250mA)
1018T115	115V	15V - 200 mA	(15V - 187 mA)	Drawing 1	fuse 200 mA (200mA)
1018T118	115V	18V - 167 mA	(18V - 156 mA)	Drawing 1	fuse 200 mA (160mA)
1018T124	115V	24V - 125 mA	(24V - 117 mA)	Drawing 1	fuse 125 mA (125mA)
1018T206	115V	2x 6V - 250 mA	(2x 6V - 233 mA)	Drawing 2	2 fuses 250 mA (250mA)
1018T209	115V	2x 9V - 167 mA	(2x 9V - 156 mA)	Drawing 2	2 fuses 200 mA (160mA)
1018T212	115V	2x 12V - 125 mA	(2x 12V - 117 mA)	Drawing 2	2 fuses 125 mA (125mA)
1018T215	115V	2x 15V - 100 mA	(2x 15V - 93 mA)	Drawing 2	2 fuses 100 mA (100mA)

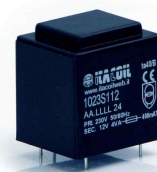
Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	33,1				
b max	28,6				
h max	29,7				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,70).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

EI series 1024 - 3.0VA h34.4

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



3.0 VA - t_a70/B



(3,2 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹ t_a70°	Secondary ¹ (t_a50°)	Layout	Overload Protection
1024S106	230V	6V - 500 mA	(6V - 533 mA)	Drawing 1	inherently short-circuit proof
1024S109	230V	9V - 333 mA	(9V - 355 mA)	Drawing 1	inherently short-circuit proof
1024S112	230V	12V - 250 mA	(12V - 266 mA)	Drawing 1	inherently short-circuit proof
1024S115	230V	15V - 200 mA	(15V - 213 mA)	Drawing 1	inherently short-circuit proof
1024S118	230V	18V - 167 mA	(18V - 177 mA)	Drawing 1	inherently short-circuit proof
1024S124	230V	24V - 125 mA	(24V - 133 mA)	Drawing 1	inherently short-circuit proof
1024S206	230V	2x 6V - 250 mA	(2x 6V - 266 mA)	Drawing 2	inherently short-circuit proof
1024S209	230V	2x 9V - 167 mA	(2x 9V - 177 mA)	Drawing 2	inherently short-circuit proof
1024S212	230V	2x 12V - 125 mA	(2x 12V - 133 mA)	Drawing 2	inherently short-circuit proof
1024S215	230V	2x 15V - 100 mA	(2x 15V - 107 mA)	Drawing 2	inherently short-circuit proof
1024T106	115V	6V - 500 mA	(6V - 533 mA)	Drawing 1	inherently short-circuit proof
1024T109	115V	9V - 333 mA	(9V - 355 mA)	Drawing 1	inherently short-circuit proof
1024T112	115V	12V - 250 mA	(12V - 266 mA)	Drawing 1	inherently short-circuit proof
1024T115	115V	15V - 200 mA	(15V - 213 mA)	Drawing 1	inherently short-circuit proof
1024T118	115V	18V - 167 mA	(18V - 177 mA)	Drawing 1	inherently short-circuit proof
1024T124	115V	24V - 125 mA	(24V - 133 mA)	Drawing 1	inherently short-circuit proof
1024T206	115V	2x 6V - 250 mA	(2x 6V - 266 mA)	Drawing 2	inherently short-circuit proof
1024T209	115V	2x 9V - 167 mA	(2x 9V - 177 mA)	Drawing 2	inherently short-circuit proof
1024T212	115V	2x 12V - 125 mA	(2x 12V - 133 mA)	Drawing 2	inherently short-circuit proof
1024T215	115V	2x 15V - 100 mA	(2x 15V - 107 mA)	Drawing 2	inherently short-circuit proof

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,7				
b max	27,9				
h max	34,4				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,60).

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



4.0 VA - t_a40/B (3.7VA - t_a70/B)

Code	Primary (50-60Hz)	Secondary ¹ t_a40°	Secondary ¹ (t_a70°)	Layout	Output fuses t_a40° (t_a70°) ²
1023S106	230V	6V - 666 mA	(6V - 617 mA)	Drawing 1	fuse 800 mA (630mA)
1023S109	230V	9V - 444 mA	(9V - 411 mA)	Drawing 1	fuse 500 mA (500mA)
1023S112	230V	12V - 333 mA	(12V - 308 mA)	Drawing 1	fuse 400 mA (315mA)
1023S115	230V	15V - 266 mA	(15V - 247 mA)	Drawing 1	fuse 315 mA (250mA)
1023S118	230V	18V - 222 mA	(18V - 206 mA)	Drawing 1	fuse 250 mA (250mA)
1023S124	230V	24V - 166 mA	(24V - 154 mA)	Drawing 1	fuse 200mA (160mA)
1023S206	230V	2x 6V - 333 mA	(2x 6V - 308 mA)	Drawing 2	2 fuses 400 mA (315mA)
1023S209	230V	2x 9V - 222 mA	(2x 9V - 206 mA)	Drawing 2	2 fuses 250 mA (250mA)
1023S212	230V	2x 12V - 166 mA	(2x 12V - 154 mA)	Drawing 2	2 fuses 200 mA (160mA)
1023S215	230V	2x 15V - 133 mA	(2x 15V - 123 mA)	Drawing 2	2 fuses 150 mA (125mA)
1023T106	115V	6V - 666 mA	(6V - 617 mA)	Drawing 1	fuse 800 mA (630mA)
1023T109	115V	9V - 444 mA	(9V - 411 mA)	Drawing 1	fuse 500 mA (500mA)
1023T112	115V	12V - 333 mA	(12V - 308 mA)	Drawing 1	fuse 400 mA (315mA)
1023T115	115V	15V - 266 mA	(15V - 247 mA)	Drawing 1	fuse 315 mA (250mA)
1023T118	115V	18V - 222 mA	(18V - 206 mA)	Drawing 1	fuse 250 mA (250mA)
1023T124	115V	24V - 166 mA	(24V - 154 mA)	Drawing 1	fuse 200mA (160mA)
1023T206	115V	2x 6V - 333 mA	(2x 6V - 308 mA)	Drawing 2	2 fuses 400 mA (315mA)
1023T209	115V	2x 9V - 222 mA	(2x 9V - 206 mA)	Drawing 2	2 fuses 250 mA (250mA)
1023T212	115V	2x 12V - 166 mA	(2x 12V - 154 mA)	Drawing 2	2 fuses 200 mA (160mA)
1023T215	115V	2x 15V - 133 mA	(2x 15V - 123 mA)	Drawing 2	2 fuses 150 mA (125mA)

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	32,7				
b max	27,9				
h max	34,4				
x typ	5,0				
y typ	20,0				

¹ Rated voltage (No load voltage x 1,43).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

EI series 1214 - 4.1VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



4.1 VA - t_a70/B



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1214S106	230V	6V - 683 mA	Drawing 1	fuse 800 mA
1214S109	230V	9V - 455 mA	Drawing 1	fuse 500 mA
1214S112	230V	12V - 341 mA	Drawing 1	fuse 400 mA
1214S115	230V	15V - 273 mA	Drawing 1	fuse 315 mA
1214S118	230V	18V - 227 mA	Drawing 1	fuse 250 mA
1214S124	230V	24V - 170 mA	Drawing 1	fuse 200 mA
1214S206	230V	2x 6V - 341 mA	Drawing 2	2 fuses 400 mA
1214S209	230V	2x 9V - 227 mA	Drawing 2	2 fuses 250 mA
1214S212	230V	2x 12V - 170 mA	Drawing 2	2 fuses 200 mA
1214S215	230V	2x 15V - 137 mA	Drawing 2	2 fuses 150 mA
1214T106	115V	6V - 683 mA	Drawing 1	fuse 800 mA
1214T109	115V	9V - 455 mA	Drawing 1	fuse 500 mA
1214T112	115V	12V - 341 mA	Drawing 1	fuse 400 mA
1214T115	115V	15V - 273 mA	Drawing 1	fuse 315 mA
1214T118	115V	18V - 227 mA	Drawing 1	fuse 250 mA
1214T124	115V	24V - 170 mA	Drawing 1	fuse 200 mA
1214T206	115V	2x 6V - 341 mA	Drawing 2	2 fuses 400 mA
1214T209	115V	2x 9V - 227 mA	Drawing 2	2 fuses 250 mA
1214T212	115V	2x 12V - 170 mA	Drawing 2	2 fuses 200 mA
1214T215	115V	2x 15V - 137 mA	Drawing 2	2 fuses 150 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	41,5				
b max	35,5				
h max	27,5				
x typ	5,0				
y typ	25,0				

¹ Rated voltage (No load voltage x 1,44).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



5.5 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1414S106	230V	6V - 916 mA	Drawing 1	fuse 1000 mA
1414S109	230V	9V - 611 mA	Drawing 1	fuse 630 mA
1414S112	230V	12V - 458 mA	Drawing 1	fuse 500 mA
1414S115	230V	15V - 366 mA	Drawing 1	fuse 400 mA
1414S118	230V	18V - 305 mA	Drawing 1	fuse 315 mA
1414S124	230V	24V - 229 mA	Drawing 1	fuse 250 mA
1414S206	230V	2x 6V - 458 mA	Drawing 2	2 fuses 500 mA
1414S209	230V	2x 9V - 305 mA	Drawing 2	2 fuses 315 mA
1414S212	230V	2x 12V - 229 mA	Drawing 2	2 fuses 250 mA
1414S215	230V	2x 15V - 183 mA	Drawing 2	2 fuses 200 mA
1414S218	230V	2x 18V - 153 mA	Drawing 2	2 fuses 160 mA
1414T106	115V	6V - 916 mA	Drawing 1	fuse 1000 mA
1414T109	115V	9V - 611 mA	Drawing 1	fuse 630 mA
1414T112	115V	12V - 458 mA	Drawing 1	fuse 500 mA
1414T115	115V	15V - 366 mA	Drawing 1	fuse 400 mA
1414T118	115V	18V - 305 mA	Drawing 1	fuse 315 mA
1414T124	115V	24V - 229 mA	Drawing 1	fuse 250 mA
1414T206	115V	2x 6V - 458 mA	Drawing 2	2 fuses 500 mA
1414T209	115V	2x 9V - 305 mA	Drawing 2	2 fuses 315 mA
1414T212	115V	2x 12V - 229 mA	Drawing 2	2 fuses 250 mA
1414T215	115V	2x 15V - 183 mA	Drawing 2	2 fuses 200 mA
1414T218	115V	2x 18V - 153 mA	Drawing 2	2 fuses 160 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	45,4				
b max	38,3				
h max	31,9				
x typ	5,0				
y typ	25,0				

¹ Rated voltage (No load voltage x 1,26).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

EI series 1220 - 6.0VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



6.0 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1220S106	230V	6V - 1000 mA	Drawing 1	fuse 1000 mA
1220S109	230V	9V - 666 mA	Drawing 1	fuse 800 mA
1220S112	230V	12V - 500 mA	Drawing 1	fuse 500 mA
1220S115	230V	15V - 400 mA	Drawing 1	fuse 400 mA
1220S118	230V	18V - 333 mA	Drawing 1	fuse 400 mA
1220S124	230V	24V - 250 mA	Drawing 1	fuse 250 mA
1220S206	230V	2x 6V - 500 mA	Drawing 2	2 fuses 500 mA
1220S209	230V	2x 9V - 333 mA	Drawing 2	2 fuses 400 mA
1220S212	230V	2x 12V - 250 mA	Drawing 2	2 fuses 250 mA
1220S215	230V	2x 15V - 200 mA	Drawing 2	2 fuses 200 mA
1220S218	230V	2x 18V - 167 mA	Drawing 2	2 fuses 200 mA
1220T106	115V	6V - 1000 mA	Drawing 1	fuse 1000 mA
1220T109	115V	9V - 666 mA	Drawing 1	fuse 800 mA
1220T112	115V	12V - 500 mA	Drawing 1	fuse 500 mA
1220T115	115V	15V - 400 mA	Drawing 1	fuse 400 mA
1220T118	115V	18V - 333 mA	Drawing 1	fuse 400 mA
1220T124	115V	24V - 250 mA	Drawing 1	fuse 250 mA
1220T206	115V	2x 6V - 500 mA	Drawing 2	2 fuses 500 mA
1220T209	115V	2x 9V - 333 mA	Drawing 2	2 fuses 400 mA
1220T212	115V	2x 12V - 250 mA	Drawing 2	2 fuses 250 mA
1220T215	115V	2x 15V - 200 mA	Drawing 2	2 fuses 200 mA
1220T218	115V	2x 18V - 167 mA	Drawing 2	2 fuses 200 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	41,7				
b max	35,3				
h max	34,6				
x typ	5,0				
y typ	25,0				

¹ Rated voltage (No load voltage x 1,21).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: \varnothing 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



11 VA - t_a 70/B



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1616S106	230V	6V - 1833 mA	Drawing 1	fuse 2000 mA
1616S109	230V	9V - 1222 mA	Drawing 1	fuse 1250 mA
1616S112	230V	12V - 917 mA	Drawing 1	fuse 1000 mA
1616S115	230V	15V - 733 mA	Drawing 1	fuse 800 mA
1616S118	230V	18V - 611 mA	Drawing 1	fuse 630 mA
1616S124	230V	24V - 458 mA	Drawing 1	fuse 500 mA
1616S206	230V	2x 6V - 917 mA	Drawing 2	2 fuses 1000 mA
1616S209	230V	2x 9V - 611 mA	Drawing 2	2 fuses 630 mA
1616S212	230V	2x 12V - 458 mA	Drawing 2	2 fuses 500 mA
1616S215	230V	2x 15V - 367 mA	Drawing 2	2 fuses 400 mA
1616S218	230V	2x 18V - 306 mA	Drawing 2	2 fuses 315 mA
1616T106	115V	6V - 1833 mA	Drawing 1	fuse 2000 mA
1616T109	115V	9V - 1222 mA	Drawing 1	fuse 1250 mA
1616T112	115V	12V - 917 mA	Drawing 1	fuse 1000 mA
1616T115	115V	15V - 733 mA	Drawing 1	fuse 800 mA
1616T118	115V	18V - 611 mA	Drawing 1	fuse 630 mA
1616T124	115V	24V - 458 mA	Drawing 1	fuse 500 mA
1616T206	115V	2x 6V - 917 mA	Drawing 2	2 fuses 1000 mA
1616T209	115V	2x 9V - 611 mA	Drawing 2	2 fuses 630 mA
1616T212	115V	2x 12V - 458 mA	Drawing 2	2 fuses 500 mA
1616T215	115V	2x 15V - 367 mA	Drawing 2	2 fuses 400 mA
1616T218	115V	2x 18V - 306 mA	Drawing 2	2 fuses 315 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	51,2				
b max	43,0				
h max	37,8				
x typ	5,0				
y typ	27,5				

¹ Rated voltage (No load voltage x 1,22).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

EI series 1620 - 15VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



15 VA - $t_a 70/B$



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1620S106	230V	6V - 2500 mA	Drawing 1	fuse 2500 mA
1620S109	230V	9V - 1667 mA	Drawing 1	fuse 1600 mA
1620S112	230V	12V - 1250 mA	Drawing 1	fuse 1250 mA
1620S115	230V	15V - 1000 mA	Drawing 1	fuse 1000 mA
1620S118	230V	18V - 833 mA	Drawing 1	fuse 800 mA
1620S124	230V	24V - 625 mA	Drawing 1	fuse 630 mA
1620S206	230V	2x 6V - 1250 mA	Drawing 2	2 fuses 1250 mA
1620S209	230V	2x 9V - 833 mA	Drawing 2	2 fuses 800 mA
1620S212	230V	2x 12V - 625 mA	Drawing 2	2 fuses 630 mA
1620S215	230V	2x 15V - 500 mA	Drawing 2	2 fuses 500 mA
1620S218	230V	2x 18V - 417 mA	Drawing 2	2 fuses 500 mA
1620T106	115V	6V - 2500 mA	Drawing 1	fuse 2500 mA
1620T109	115V	9V - 1667 mA	Drawing 1	fuse 1600 mA
1620T112	115V	12V - 1250 mA	Drawing 1	fuse 1250 mA
1620T115	115V	15V - 1000 mA	Drawing 1	fuse 1000 mA
1620T118	115V	18V - 833 mA	Drawing 1	fuse 800 mA
1620T124	115V	24V - 625 mA	Drawing 1	fuse 630 mA
1620T206	115V	2x 6V - 1250 mA	Drawing 2	2 fuses 1250 mA
1620T209	115V	2x 9V - 833 mA	Drawing 2	2 fuses 800 mA
1620T212	115V	2x 12V - 625 mA	Drawing 2	2 fuses 630 mA
1620T215	115V	2x 15V - 500 mA	Drawing 2	2 fuses 500 mA
1620T218	115V	2x 18V - 417 mA	Drawing 2	2 fuses 500 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	51,4				
b max	43,3				
h max	41,3				
x typ	5,0				
y typ	27,5				

¹ Rated voltage (No load voltage x 1,19).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request



18.5 VA - t_a70/B



Code	Primary (50-60Hz)	Secondary ¹	Layout	Output fuses ²
1625S106	230V	6V - 3083 mA	Drawing 1	fuse 3150 mA
1625S109	230V	9V - 2056 mA	Drawing 1	fuse 2000 mA
1625S112	230V	12V - 1542mA	Drawing 1	fuse 1600 mA
1625S115	230V	15V - 1233 mA	Drawing 1	fuse 1250 mA
1625S118	230V	18V - 1028 mA	Drawing 1	fuse 1000 mA
1625S124	230V	24V - 771 mA	Drawing 1	fuse 800 mA
1625S206	230V	2x 6V - 1542 mA	Drawing 2	2 fuses 1600 mA
1625S209	230V	2x 9V - 1028 mA	Drawing 2	2 fuses 1000 mA
1625S212	230V	2x 12V - 771 mA	Drawing 2	2 fuses 800 mA
1625S215	230V	2x 15V - 617 mA	Drawing 2	2 fuses 630 mA
1625S218	230V	2x 18V - 514 mA	Drawing 2	2 fuses 630 mA
1625T106	115V	6V - 3083 mA	Drawing 1	fuse 3150 mA
1625T109	115V	9V - 2056 mA	Drawing 1	fuse 2000 mA
1625T112	115V	12V - 1542mA	Drawing 1	fuse 1600 mA
1625T115	115V	15V - 1233 mA	Drawing 1	fuse 1250 mA
1625T118	115V	18V - 1028 mA	Drawing 1	fuse 1000 mA
1625T124	115V	24V - 771 mA	Drawing 1	fuse 800 mA
1625T206	115V	2x 6V - 1542 mA	Drawing 2	2 fuses 1600 mA
1625T209	115V	2x 9V - 1028 mA	Drawing 2	2 fuses 1000 mA
1625T212	115V	2x 12V - 771 mA	Drawing 2	2 fuses 800 mA
1625T215	115V	2x 15V - 617 mA	Drawing 2	2 fuses 630 mA
1625T218	115V	2x 18V - 514 mA	Drawing 2	2 fuses 630 mA

Dimensions	mm	Drawing 1 (bottom view)	Drawing 2 (bottom view)	Dimensions	.stp file Download
a max	50,6				
b max	42,7				
h max	45,7				
x typ	5,0				
y typ	27,5				

¹ Rated voltage (No load voltage x 1,20).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

UI series U3007 - 4.0VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x12mm



4.0 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3007S06	2x115V	2x 6V - 333 mA	2 fuses 400 mA
U3007S09	2x115V	2x 9V - 222 mA	2 fuses 250 mA
U3007S12	2x115V	2x 12V - 166 mA	2 fuses 200 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	53,7			
b max	44,4			
h max	19,5			
x typ	5,0			
y typ	35,0			
c typ	47,7			
d typ	37,7			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,72).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: \varnothing 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x12mm



6.0 VA - t_a 50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3010S06	2x115V	2x 6V - 500 mA	2 fuses 500 mA
U3010S09	2x115V	2x 9V - 333 mA	2 fuses 400 mA
U3010S12	2x115V	2x 12V - 250 mA	2 fuses 250 mA
U3010S15	2x115V	2x 15V - 200 mA	2 fuses 200 mA
U3010S18	2x115V	2x 18V - 167 mA	2 fuses 200 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	53,7			
b max	44,4			
h max	22,4			
x typ	5,0			
y typ	35,0			
c typ	47,7			
d typ	37,7			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,33).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

UI series U3016 - 10VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x12mm



10 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3016S06	2x115V	2x 6V - 833 mA	2 fuses 1000 mA
U3016S09	2x115V	2x 9V - 555 mA	2 fuses 630 mA
U3016S12	2x115V	2x 12V - 416 mA	2 fuses 500 mA
U3016S15	2x115V	2x 15V - 333 mA	2 fuses 400 mA
U3016S18	2x115V	2x 18V - 278 mA	2 fuses 315 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	53,7			
b max	44,4			
h max	28,4			
x typ	5,0			
y typ	35,0			
c typ	47,7			
d typ	37,7			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,35).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: \varnothing 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x16mm



14 VA - t_a 50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3910S06	2x115V	2x 6V - 1166 mA	2 fuses 1250 mA
U3910S09	2x115V	2x 9V - 777 mA	2 fuses 800 mA
U3910S12	2x115V	2x 12V - 583 mA	2 fuses 630 mA
U3910S15	2x115V	2x 15V - 466 mA	2 fuses 500 mA
U3910S18	2x115V	2x 18V - 389 mA	2 fuses 400 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	68,6			
b max	57,7			
h max	25,3			
x typ	5,0			
x1 typ	6,0			
y typ	45,0			
c typ	62,6			
d typ	50,2			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,33).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

UI series U3913 - 18VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x16mm



18 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3913S06	2x115V	2x 6V - 1500 mA	2 fuses 1600 mA
U3913S09	2x115V	2x 9V - 1000 mA	2 fuses 1000 mA
U3913S12	2x115V	2x 12V - 750 mA	2 fuses 800 mA
U3913S15	2x115V	2x 15V - 600 mA	2 fuses 630 mA
U3913S18	2x115V	2x 18V - 500 mA	2 fuses 500 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	68,6			
b max	57,7			
h max	28,2			
x typ	5,0			
x1 typ	6,0			
y typ	45,0			
d typ	50,2			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,28).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x16mm



24 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3917S06	2x115V	2x 6 V - 2000 mA	2 fuses 2000 mA
U3917S09	2x115V	2x 9 V - 1333 mA	2 fuses 1600 mA
U3917S12	2x115V	2x 12V - 1000 mA	2 fuses 1000 mA
U3917S15	2x115V	2x 15V - 800 mA	2 fuses 800 mA
U3917S18	2x115V	2x 18V - 667 mA	2 fuses 800 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	68,6			
b max	57,7			
h max	31,7			
x typ	5,0			
x1 typ	6,0			
y typ	45,0			
c typ	62,6			
d typ	50,2			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,22).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

UI series U3921 - 30VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 self-tapping screws 3x16mm



30 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U3921S06	2x115V	2x 6V - 2500 mA	2 fuses 2500 mA
U3921S09	2x115V	2x 9V - 1666 mA	2 fuses 2000 mA
U3921S12	2x115V	2x 12V - 1250 mA	2 fuses 1250 mA
U3921S15	2x115V	2x 15V - 1000 mA	2 fuses 1000 mA
U3921S18	2x115V	2x 18V - 883 mA	2 fuses 1000 mA

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	68,6			
b max	57,7			
h max	35,8			
x typ	5,0			
x1 typ	6,0			
y typ	45,0			
c typ	62,6			
d typ	50,2			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,19).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: Ø 0,9 mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 sheet-metal bolt Ø3x12mm



40 VA - t_a50/B



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U4817S06	2x115V	2x 6V - 3,33 A	2 fuses 4 A
U4817S09	2x115V	2x 9V - 2,22 A	2 fuses 2,5 A
U4817S12	2x115V	2x 12V - 1,66 A	2 fuses 2 A
U4817S15	2x115V	2x 15V - 1,33 A	2 fuses 1,6 A
U4817S18	2x115V	2x 18V - 1,11 A	2 fuses 1,25 A

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	84,0			
b max	70,4			
h max	38,8			
x typ	5,0			
x1 typ	7,0			
y typ	52,5			
c typ	75,0			
d typ	60,4			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,18).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

UI series U4826 - 60VA

- Safety transformers according to the European standard CEI EN 61558-1 and CEI EN 61558-2-6
- Primary and Secondary two chamber windings
- Epoxy encapsulated
- Marking on primary side
- Tin-plated phosphor bronze pins
- Pins size: $\varnothing 0,9$ mm typ , length 4mm min
- Only electrically used pins are mounted
- 5000V dielectric strength between primary and secondary windings
- 100% tested
- Custom versions on request
- Fixing with 4 sheet-metal bolt $\varnothing 3 \times 12$ mm



60 VA - $t_a 50/B$



Code	Primary (50-60Hz)	Secondary ¹	Output fuses ²
U4826S06	2x115V	2x 6V – 5,0 A	2 fuses 5,0 A
U4826S09	2x115V	2x 9V - 3,33 A	2 fuses 4,0 A
U4826S12	2x115V	2x 12V - 2,5 A	2 fuses 2,5 A
U4826S15	2x115V	2x 15V – 2,0 A	2 fuses 2,0 A
U4826S18	2x115V	2x 18V – 1,66 A	2 fuses 2,0 A

Dimensions	mm	Layout (bottom view)	Dimensions	.stp file Download
a max	84,0			
b max	70,4			
h max	47,9			
x typ	5,0			
x1 typ	7,0			
y typ	52,5			
c typ	75,0			
d typ	60,4			

230V / 2xVsec	230V / 2xIsec	115V / 2xVsec	115V / 2xIsec
Primary double voltage Secondary double voltage	Primary double voltage Secondary double current	Primary double current Secondary double voltage	Primary double current Secondary double current

¹ Rated voltage (No load voltage x 1,14).

² See the output fuses notes on back cover. Different overload protection are possible if the user performs proper tests to assure the relevant standard compliance.

Standard inductors for active PFCs are the most immediate solution for the PFC pre-regulators design.

They are usually in stock and they are best suited to a wide range of needs, covering the whole power range where the TM mode is the most effective solution. They have been designed for "Transition mode" PFCs (TM, sometimes called "Boundary" or "Critical" mode), however they are often also used in "Continuous mode" PFCs (CCM) with moderate power.

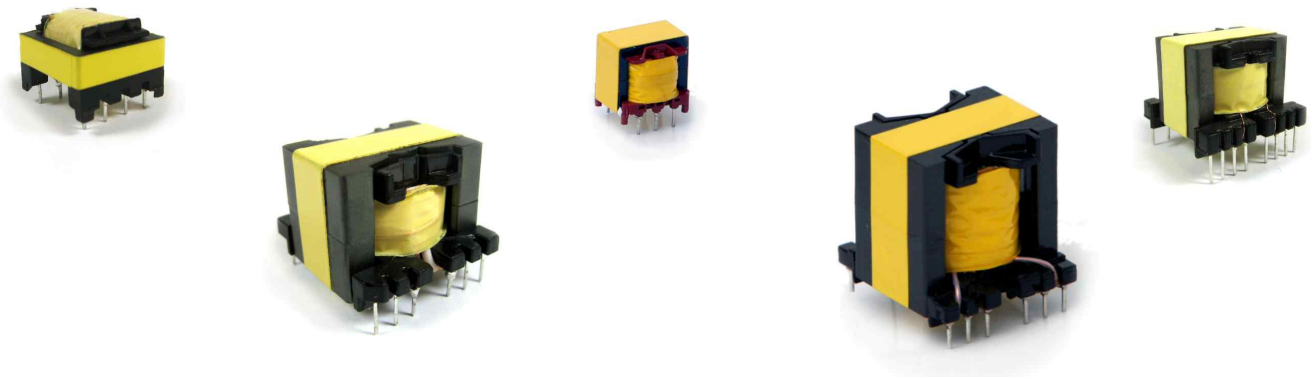
The multiple inductor is a component with various inductance values and consequent operating frequencies, allowing a flexible use in both applications and test environments.

Any other PFC inductor can be supplied as custom product, we also design inductors for continuous mode (CCM) PFC.

Our experience and proprietary softwares enable a fast service and an accurate design allowing

- Excellent power/dimensions ratio .
- Low losses, with benefits on temperature and efficiency.
- use with all popular PFC controllers.
- use for both World-Wide or European mains voltage ranges.

For a customized design of PFC inductors, please, request and fill in the [PFC Inductor Request form](#)



Our PFC Inductors have been successfully used with all the most common PFC controllers*:



L6585
L6561
L6562x
L6563x
L6564
L4981x



FAN7930
FAN7530
FAN7527B
FAN7529
FAN6961
FAN9611
FAN9612



TEA19162T
TEA1755x
TEA1742T
TEA1751x
TEA1752x
TEA1713T
TEA1716T
SSL4120T



UCC28060
UCC28061
UCC28064A
UCC28063A
UCC28063
UCC28061-Q1
UCC28061
UCC28060
UCC28056
UCC38051
UCC28051
UCC38050
UCC28050
UC3852
UC2852



NCP1601x
NCP1607x
NCP1608x
NCP1631x
MC33262x
MC34262x
MC33368x

*All brands and trademarks mentioned are property of their respective owners.

SFL series – Multiple PFC inductors - transition mode 87-290W

- **Multiple inductor for active PFC Transition-Critical-Boundary Mode**
- Suitable for Wide range and European range mains voltage
- Three inductance values for the best performances in a wide application range
- Four aux turns ratios available for bias and zero current detect
- Very good power/dimensions ratio
- Low power loss for high PFC efficiency and negligible inductance drop
- Also suitable for buck and boost converters
- Custom versions on request



Code	Inductance ¹	DCR Typ @20°C Main winding series	DCR Typ @20°C Aux winding series	Aux turns ratio	Main/Aux Dielectric Strength
SFLEV2501	333 – 546 - 798 µH	720 mΩ	660 mΩ	see table on bottom	1,0KV

Dimensions	mm	Layout (bottom view)	Drawing	.stp file Download
A max	26,9			
B max	27,8			
H max	21,1			
X typ	5,0			
Y typ	20,0			
L min	2,5			
D typ (□)	0,64			

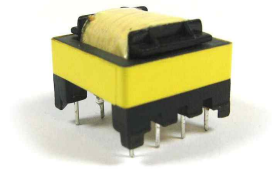
Input Voltage range ² (50-60Hz)	Inductance ¹ (pins)	Max Output Power ²	available Aux Ts ratio (pins)				Output Voltage Range
			1:16 (7-6)	1:11 (8-6)	1:9 (7-5)	1:7 (8-5)	
90...264Vac	327 µH (3-4)	135W	1:16 (7-6)	1:11 (8-6)	1:9 (7-5)	1:7 (8-5)	390...440Vdc
	550 µH (2-4)	105W	1:16 (7-6)	1:14 (8-6)	1:12 (7-5)	1:9 (8-5)	390...440Vdc
	798 µH (1-4)	87W	1:25 (7-6)	1:17 (8-6)	1:14 (7-5)	1:11 (8-5)	390...440Vdc
180...264Vac	327 µH (3-4)	290W	1:16 (7-6)	1:11 (8-6)	1:19 (7-5)	1:7 (8-5)	390...440Vdc
	550 µH (2-4)	220W	1:16 (7-6)	1:14 (8-6)	1:2 (7-5)	1:9 (8-5)	390...440Vdc
	798 µH (1-4)	180W	1:25 (7-6)	1:17 (8-6)	1:14 (7-5)	1:11 (8-5)	390...440Vdc

Our experience and proprietary software allow an optimal design considering parasitic currents effects and actual core loss, so achieving the best performance and size.

¹ Tested @10KHz-100mV, ±10% tolerance.

² Actual max power is affected by min. input voltage, output voltage and ambient temperature. The inductor should be properly tested in the actual application at worst conditions. Windings hot spot should not exceed 120°C.

- **Inductors for active PFC Transition-Critical-Boundary Mode**
- Suited for PFC converters based on the chips shown in the introduction page
- Excellent power/dimensions ratio
- Low power loss for high PFC efficiency and negligible inductance drop for best THD
- Suitable for Wide range and European range mains voltage
- Auxiliary winding for bias and zero current detect
- Also suitable for buck and boost converters
- Custom versions on request



Code	Inductance ¹	DCR Typ @20° C Main winding	DCR Typ @20° C Aux winding	Main/Aux Turns ratio	Main/Aux Dielectric Strength
SFLE2001	610 μH	690 mΩ	425 mΩ	10:1	1,0KV

Dimensions	mm	Layout (bottom view)	Drawing	.stp file Download
A max	22,2			
B max	21,5			
H max	16,6			
X typ	5,0			
Y typ	15,0			
L min	2,5			
D typ (∅)	0,7			

PFC inductor selection table for Transition Mode - Critical Mode - Boundary Mode pre-regulators

mains voltage range (50-60Hz)	Max Output Power ²	Output Voltage Range
85...264Vac	50W	395...450Vdc
180...264Vac	100W	395...450Vdc

The PCB layouts are referred to the standard products. The same are strongly suggested for customized products too.

- Our experience and proprietary software allow an optimal inductor design, considering skin effect, proximity effect, and actual core loss in spite of the complex current wave shape. This allows the best efficiency, size and so on.
- For customized products, fill in the "PFC inductor request form", we will support you for the best inductor definition, considering every detail including skin effect, proximity effect and size.
- Windings temperature should not exceed 100°C continuous, 115°C for brief times.

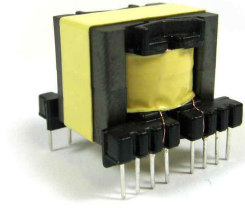
¹ Tolerances ±10% - Measured @10KHz-100mV

² Referred to 40°C max ambient temperature. Dependently to working conditions, actual max power could be higher than rated. Working with actual output power very lower than rated in combination with some input/output voltages, the power factor correction could result unsatisfactory. Contact our technical service for more info. Output power is related to each inductor (doubled on two phase interleaved configuration).

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

SFL series - PFC inductors - transition mode 95-170W

- Inductors for active PFC Transition-Critical-Boundary Mode
- Suited for PFC converters based on the chips shown in the introduction page
- Excellent power/dimensions ratio
- Low power loss for high PFC efficiency and negligible inductance drop for best THD
- Suitable for Wide range and European range mains voltage
- Auxiliary winding for bias and zero current detect
- Also suitable for buck and boost converters
- Custom versions on request



Code	Inductance ¹	DCR Typ @20°C Main winding	DCR Typ @20°C Aux winding	Main/Aux Turns ratio	Main/Aux Dielectric Strength
SFLPQ201601	330 µH	335 mΩ	295 mΩ	10:1	1,0KV

Dimensions	mm	Layout (bottom view)	Drawing	.stp file Download
A max	24,5			
B max	24,2			
H max	20,3			
X typ	5,0			
X1 typ	3,8			
X2 typ	2,5			
X3 typ	20,2			
X4 typ	20,0			
Y typ	20,3			
L min	3,0			
D typ (Ø)	0,6			

PFC inductor selection table for Transition Mode - Critical Mode - Boundary Mode pre-regulators

mains voltage range (50-60Hz)	Max Output Power ²	Output Voltage Range
85...264Vac	95W	395...450Vdc
180...264Vac	170W	395...450Vdc

The PCB layouts are referred to the standard products. The same are strongly suggested for customized products too.

-Our experience and proprietary software allow anoptimal inductor design, considering skin effect, proximity effect, and actual core loss in spite of the complex current wave shape. This allows the best efficiency, size and so on.

-For customized products, fill in the "PFC inductor request form", we will support you for the best inductor definition, considering every detail included skin effect, proximity effect and size.

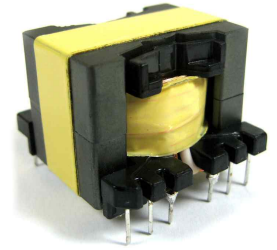
-Windings temperature should not exceed 100°C continuous, 115°C for brief times.

¹ Tolerances ±10% - Measured @10KHz-100mV

² Referred to 40°C max ambient temperature. Dependently to working conditions, actual max power could be higher than rated. Working with actual output power very lower than rated in combination with some input/output voltages, the power factor correction could result unsatisfactory. Contact our technical service for more info. Output power is related to each inductor (doubled on two phase interleaved configuration).

^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

- **Inductors for active PFC Transition-Critical-Boundary Mode**
- Suited for PFC converters based on the chips shown in the introduction page
- Excellent power/dimensions ratio
- Low power loss for high PFC efficiency and negligible inductance drop for best THD
- Suitable for Wide range and European range mains voltage
- Auxiliary winding for bias and zero current detect
- Also suitable for buck and boost converters
- Custom versions on request



Code	Inductance ¹	DCR Typ @20°C Main winding	DCR Typ @20°C Aux winding	Main/Aux Turns ratio	Main/Aux Dielectric Strength
SFLPQ262001	175 µH	105 mΩ	250 mΩ	8,5:1	1,0KV

Dimensions	mm	Layout (bottom view)	Drawing	.stp file Download
A max	28,0			
B max	30,5			
H max	21,8			
X typ	7,5			
X1 typ	3,8			
X2 typ	22,7			
Y typ	25,5			
L min	3,0			
D typ (Ø)	0,6			

PFC inductor selection table for Transition Mode - Critical Mode - Boundary Mode pre-regulators

mains voltage range (50-60Hz)	Max Output Power ²	Output Voltage Range
85...264Vac	200W	395...450Vdc
180...264Vac	400W	395...450Vdc

The PCB layouts are referred to the standard products. The same are strongly suggested for customized products too.

- Our experience and proprietary software allow an optimal inductor design, considering skin effect, proximity effect, and actual core loss in spite of the complex current wave shape. This allows the best efficiency, size and so on.
- For customized products, fill in the "PFC inductor request form", we will support you for the best inductor definition, considering every detail included skin effect, proximity effect and size.
- Windings temperature should not exceed 100°C continuous, 115°C for brief times.

¹ Tolerances ±10% - Measured @10KHz-100mV

² Referred to 40°C max ambient temperature. Dependently to working conditions, actual max power could be higher than rated. Working with actual output power very lower than rated in combination with some input/output voltages, the power factor correction could result unsatisfactory. Contact our technical service for more info. Output power is related to each inductor (doubled on two phase interleaved configuration).

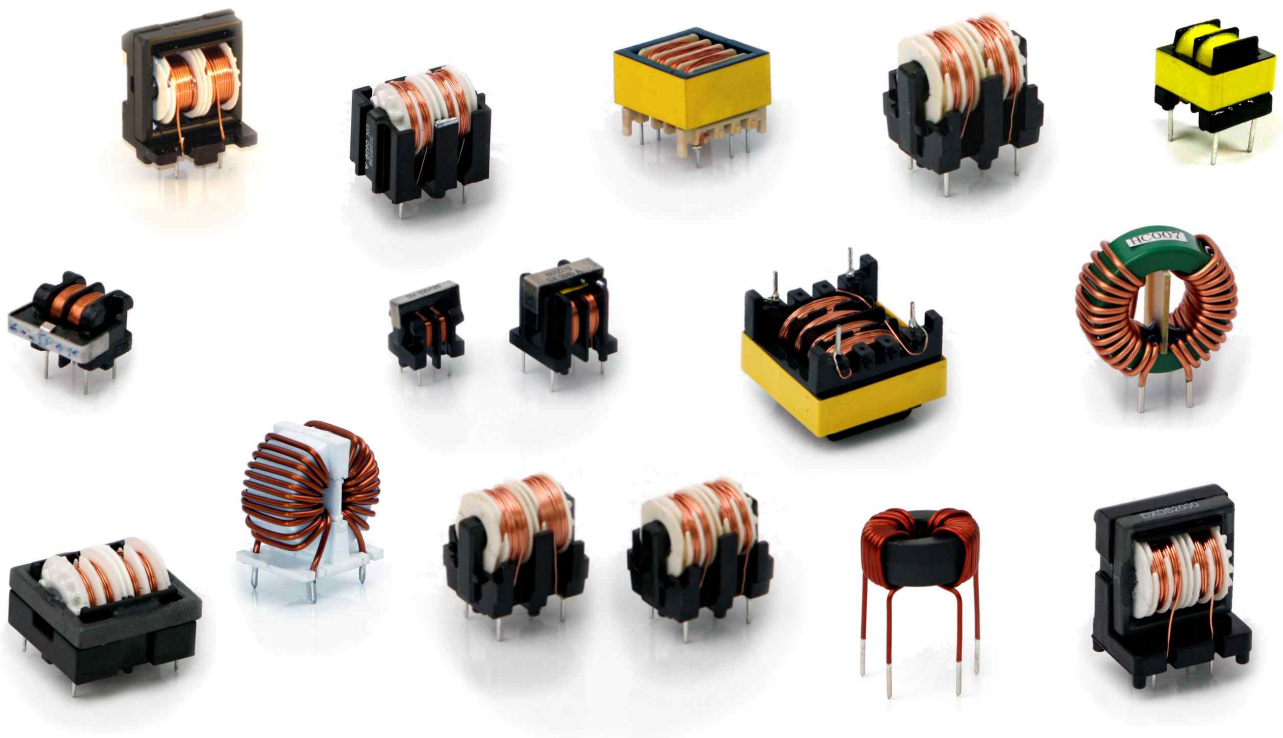
^{nb} The necessary tests and verifications of compliance with the technical and safety standard requirements lie within the exclusive competence of the customer.

Common mode inductors

Itacoil offers a wide range of standard and custom common mode inductors according to specific customer requirements:

Linear – Linear common mode inductors available in different sizes and versions; on “U” cores, where small sizes and low price are the main goal, or on “ET” cores (residual air gap-free). The different versions can have sectional windings to improve the filtering in the higher frequency bands according to specific requirements.

Toroidal – Toroidal common mode inductors, residual air gap-free by nature, allow a good dimensions/rated current ratio. They can be supplied epoxy encapsulated and allow to preserve an extreme competitiveness for high-current too.



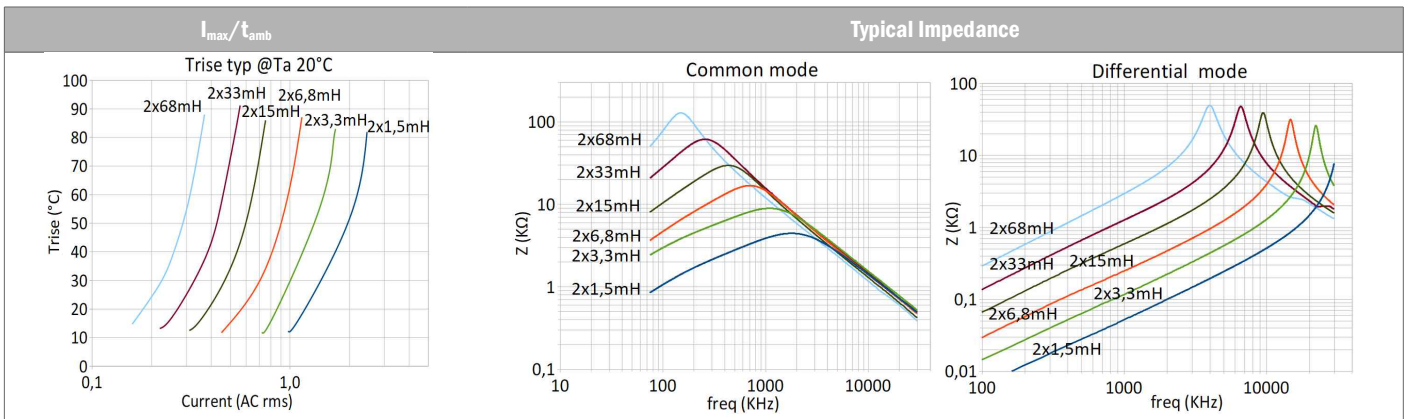
- Common mode inductors for EMI/EMC mains line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Vertical version Code	Horizontal version Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCLU09152	SCLU09H152	2x1.5 mH	2x1.05 mH	11 µH	2.10 A	87 mΩ	250V	1.5KV
SCLU09332	SCLU09H332	2x3.3 mH	2x2.31 mH	23 µH	1.44 A	165 mΩ	250V	1.5KV
SCLU09682	SCLU09H682	2x6.8 mH	2x4.76 mH	50 µH	0.97 A	360 mΩ	250V	1.5KV
SCLU09153	SCLU09H153	2x15 mH	2x10.5 mH	108 µH	0.63 A	800 mΩ	250V	1.5KV
SCLU09333	SCLU09H333	2x33 mH	2x23.1 mH	233 µH	0.45 A	1620 mΩ	250V	1.5KV
SCLU09683	SCLU09H683 ^p	2x68 mH	2x47.6 mH	475 µH	0.31 A	3470 mΩ	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Vertical version Drawing	Schematic	.stp file Download
A max	11.6				
B max	16.4				
H max	16.8				
X typ	7.0				
Y typ	8.0				
L min	2.5				
D typ (□)	0.6				

Dimensions	mm	Layout (bottom view)	Horizontal version Drawing	Schematic	.stp file Download
A max	11.6				
A1 max	15.5				
B max	16.4				
H max	13.0				
X typ	7.0				
Y typ	8.0				
D typ (□)	0.6				



¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 100°C, Trise included.

³ Referred to each winding (@Ta20°C).

^p Preferential items usually on stock.

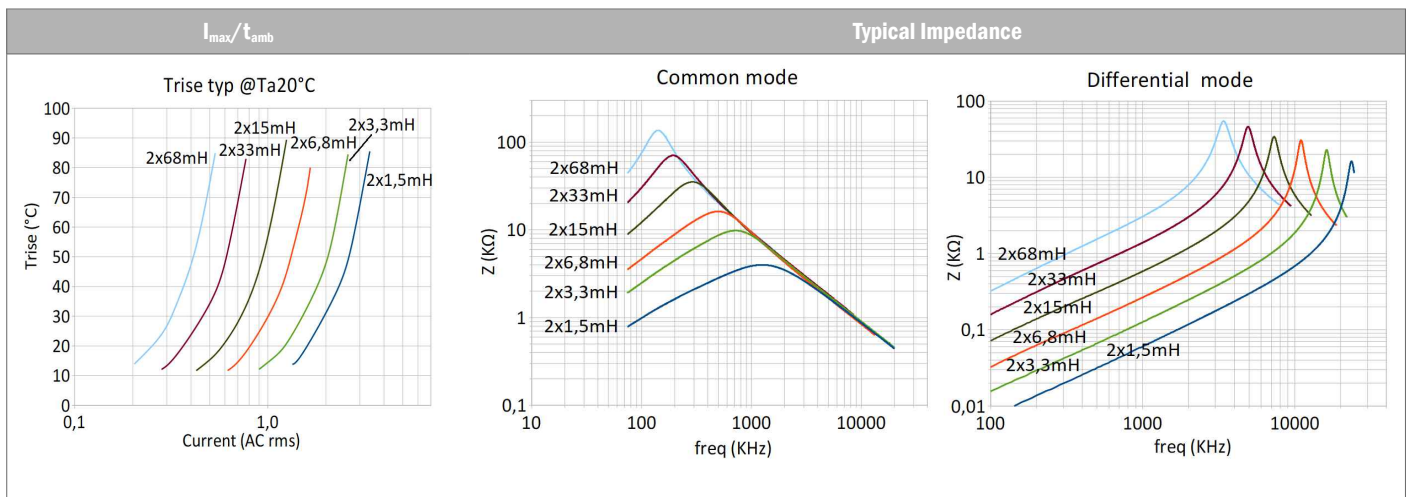
SCLU10 series - 2x1.5mH/2.85A ... 2x68mH/450mA

- Common mode inductors for EMI/EMC mains line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCLU10152	2x1.5 mH	2x1.05 mH	12 µH	2.85 A	60 mΩ	250V	1.5KV
SCLU10332	2x3.3 mH	2x2.31 mH	26 µH	2.225 A	105 mΩ	250V	1.5KV
SCLU10682	2x6.8 mH	2x4.76 mH	52 µH	1.45 A	225 mΩ	250V	1.5KV
SCLU10153	2x15 mH	2x10.5 mH	115 µH	1.025 A	455 mΩ	250V	1.5KV
SCLU10333	2x33 mH	2x23.1 mH	250 µH	0.66 A	1050 mΩ	250V	1.5KV
SCLU10683	2x68 mH	2x47.6 mH	510 µH	0.45 A	2150 mΩ	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Vertical version Drawing	Schematic	.stp file Download
A max	16.8				
B max	19.0				
H max	19.5				
X typ	10.0				
Y typ	13.0				
L min	2.5				
D typ (□)	0.7				



¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 100°C, Trise included.

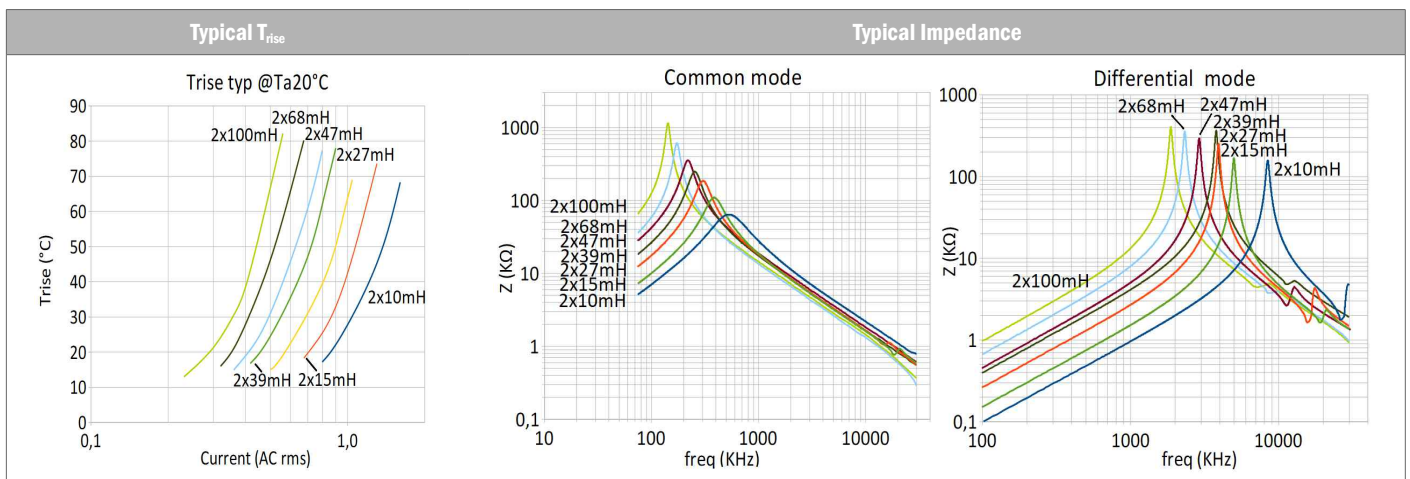
³ Referred to each winding (@Ta20°C).

- Common mode inductors for EMI/EMC mains line and data line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCQ16103	2x10 mH	2x7.0 mH	190 µH	1.60 A	248 mΩ	250V	1.7KV
SCQ16153	2x15 mH	2x10.5 mH	290 µH	1.25 A	400 mΩ	250V	1.7KV
SCQ16273	2x27 mH	2x18.9 mH	515 µH	1.04 A	620 mΩ	250V	1.7KV
SCQ16393 ^p	2x39 mH	2x27.3 mH	735 µH	0.83 A	920 mΩ	250V	1.7KV
SCQ16473	2x47 mH	2x32.9 mH	915 µH	0.74 A	1165 mΩ	250V	1.7KV
SCQ16683	2x68 mH	2x47.6 mH	1320 µH	0.61A	1670 mΩ	250V	1.7KV
SCQ16104	2x100 mH	2x70.0 mH	1930 µH	0.52 A	2400 mΩ	250V	1.7KV

Dimension s	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	15				
B max	24.9				
H max	13.8				
X typ	10.0				
Y typ	19.0				
L min	3.0				
D typ (□)	0.7				



¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 115°C, Trise included.

³ Referred to each winding (@Ta20°C).

^p Preferential items usually on stock.

SCT1305 series – 2x1mH/ 2.0A ... 2x39mH/300mA

- Common mode inductors for EMI/EMC mains line and data line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Cased version available
- Other values on request

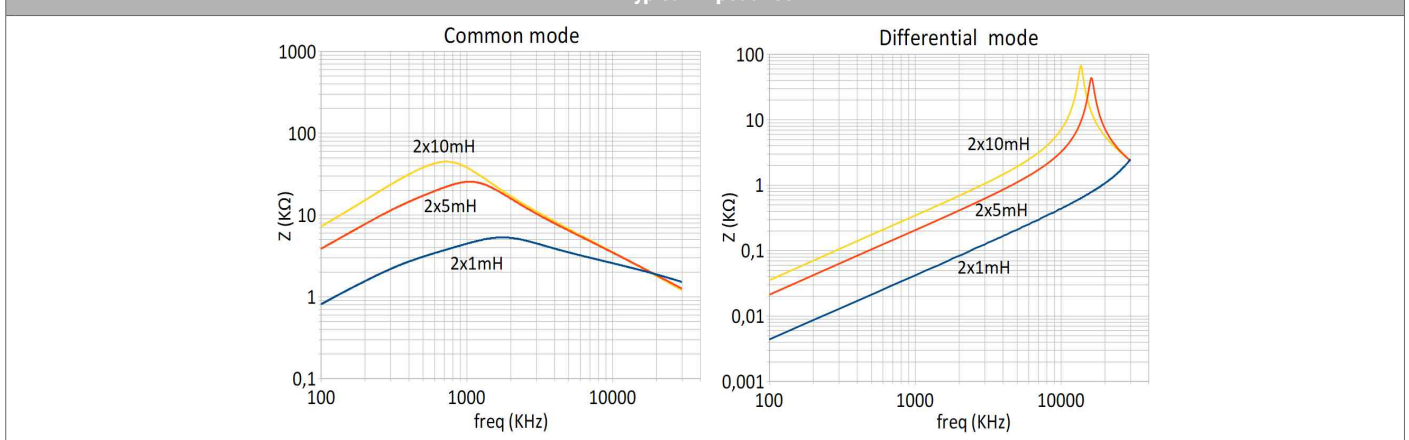


PRELIMINARY

Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCT1305102	2x1.0 mH	2x0.7 mH	-- μH	2.0 A	36 mΩ	250V	1.5KV
SCT1305222	2x2.2 mH	2x1.54 mH	-- μH	-- A	-- mΩ	250V	1.5KV
SCT1305502	2x5.0 mH	2x3.29 mH	-- μH	1.0 A	135 mΩ	250V	1.5KV
SCT1305103 ^p	2x10 mH	2x7.0 mH	-- μH	0.7 A	300 mΩ	250V	1.5KV
SCT1305223	2x22 mH	2x15.4 mH	-- μH	-- A	-- mΩ	250V	1.5KV
SCT1305393	2x39 mH	2x27.3 mH	-- μH	-- A	-- mΩ	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	15.6				
B max	7.8				
H max	18.8				
X typ	10.0				
Y typ	4.5				
L min	2.0				
D typ (∅)	0.70				

Typical Impedance



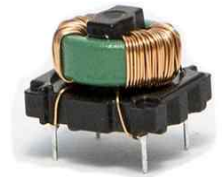
¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 120°C, Trise included.

³ Referred to each winding (@Ta20°C).

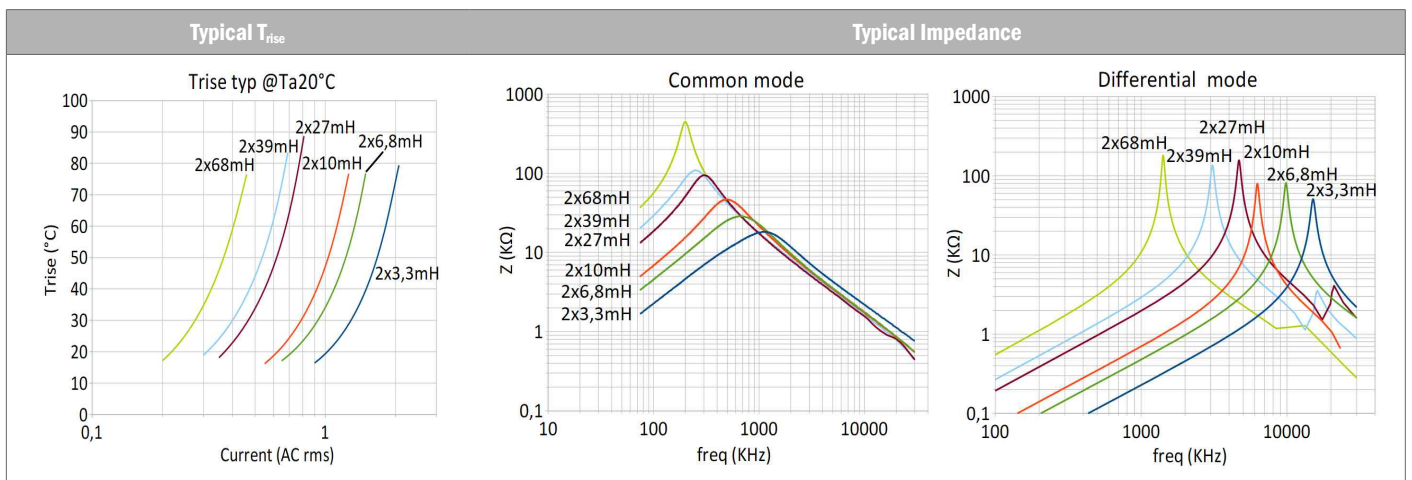
^p Preferential items usually on stock.

- Common mode inductors for EMI/EMC mains line and data line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCT1409332	2x3.3 mH	2x2.31 mH	37 µH	1.82 A	110 mΩ	250V	1.5KV
SCT1409682	2x6.8 mH	2x5.48 mH	79 µH	1.33 A	210 mΩ	250V	1.5KV
SCT1409103	2x10 mH	2x7.0 mH	110 µH	1.12 A	350 mΩ	250V	1.5KV
SCT1409153	2x15 mH	2x10.5 mH	164 µH	0.90 A	490 mΩ	250V	1.5KV
SCT1409273	2x27 mH	2x18.9 mH	310 µH	0.68 A	810 mΩ	250V	1.5KV
SCT1409393	2x39 mH	2x27.3 mH	415 µH	0.59 A	1200 mΩ	250V	1.5KV
SCT1409473	2x47 mH	2x3.9 mH	515 µH	0.50 A	1730 mΩ	250V	1.5KV
SCT1409683 ^p	2x68 mH	2x47.6 mH	670 µH	0.40 A	2500 mΩ	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	19.6				
B max	15.8				
H max	14.0				
X typ	12.5				
Y typ	10.0				
L min	3.5				
D typ (∅)	0.6				



¹ @10KHz-100mV.

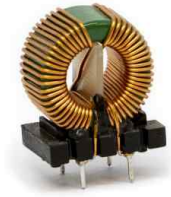
² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 120°C, Trise included.

³ Referred to each winding (@Ta20°C).

^p Preferential items usually on stock.

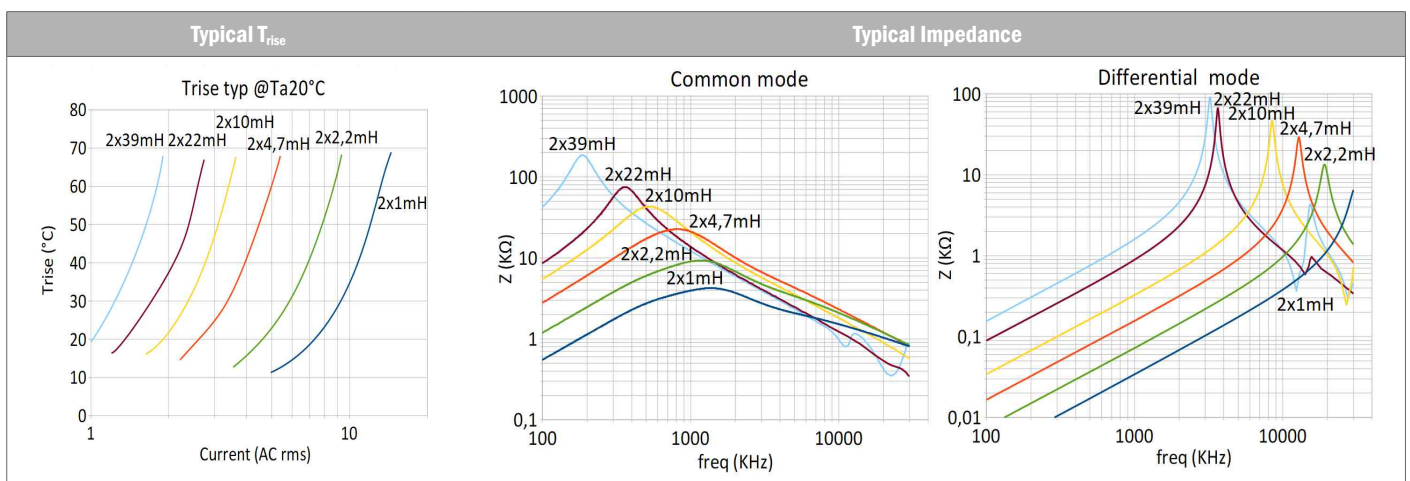
SCT2213 series - 2x1mH/12A ... 2x39mH/1.745A

- Common mode inductors for EMI/EMC mains line and data line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCT2213102	2x1.0 mH	2x0.7 mH	5.3 µH	12.0 A	6.1 mΩ	250V	1.5KV
SCT2213222	2x2.2 mH	2x1.54 mH	11.5 µH	7.7 A	15.5 mΩ	250V	1.5KV
SCT2213472	2x4.7 mH	2x3.29 mH	30 µH	4.5 A	26.4 mΩ	250V	1.5KV
SCT2213103 ^p	2x10 mH	2x7.0 mH	61 µH	3.0 A	87.0 mΩ	250V	1.5KV
SCT2213223 ^p	2x22 mH	2x15.4 mH	147 µH	2.3 A	135 mΩ	250V	1.5KV
SCT2213393	2x39 mH	2x27.3 mH	245 µH	1.75 A	310 mΩ	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	27.4				
B max	18.7				
H max	30.9				
X typ	10.0				
Y typ	12.0				
L min	3.5				
D typ (∅)	1.0				



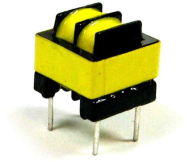
¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 120°C, Trise included.

³ Referred to each winding (@Ta20°C).

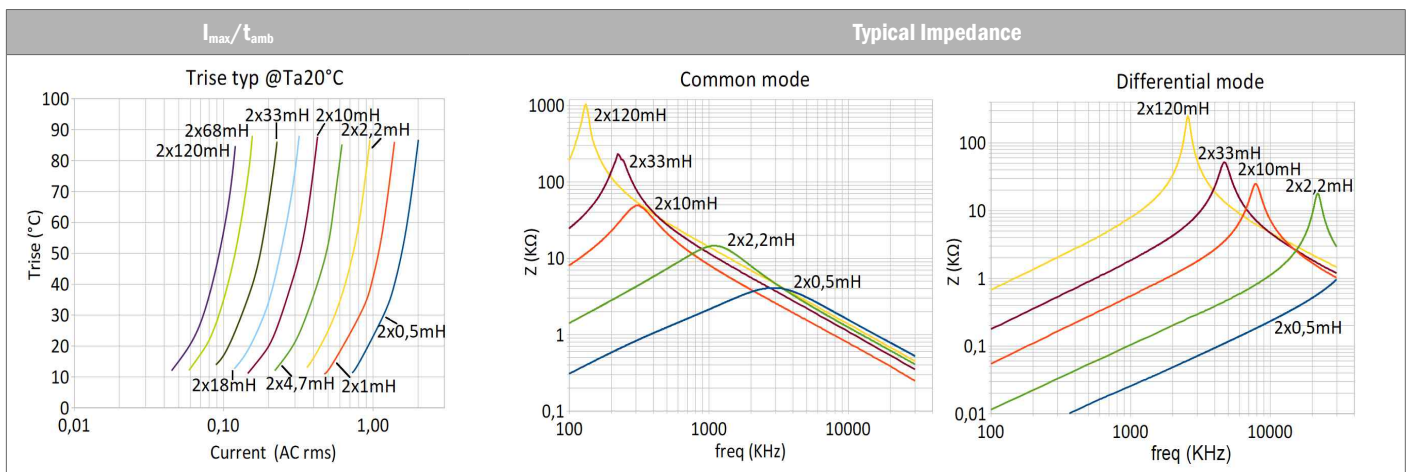
^p Preferential items usually on stock.

- Common mode inductors for EMI/EMC mains line and data line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request
- Available in Design kit (see on <https://www.itacoilweb.com/portfolio/inductors-design-kit/>)



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCLE08501	2x0.5 mH	2x0.35 mH	4.2 μH	1.69 A	80 mΩ	250V	1.5KV
SCLE08102	2x1.0 mH	2x0.7 mH	8.7 μH	1.18 A	160 mΩ	250V	1.5KV
SCLE08222	2x2.2 mH	2x1.5 mH	18 μH	0.805 A	330 mΩ	250V	1.5KV
SCLE08472	2x4.7 mH	2x3.3 mH	43 μH	0.525 A	740 mΩ	250V	1.5KV
SCLE08103 ^P	2x10 mH	2x7.0 mH	90 μH	0.305 A	1.61 Ω	250V	1.5KV
SCLE08183	2x18 mH	2x12.6 mH	150 μH	0.265 A	2.75 Ω	250V	1.5KV
SCLE08333 ^P	2x33 mH	2x23.1 mH	280 μH	0.19 A	5.0 Ω	250V	1.5KV
SCLE08683 ^P	2x68 mH	2x47.6 mH	570 μH	0.13 A	11.1 Ω	250V	1.5KV
SCLE08124	2x120 mH	2x84 mH	1030 μH	0.10 A	19.0 Ω	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	9.2				
B max	9.4				
H max	9.3				
X typ	5.0				
Y typ	6.8				
L min	2.5				
D typ (∅)	0.5				



¹ @10KHz-100mV.

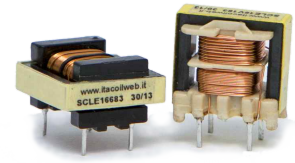
² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 105°C, Trise included.

³ Referred to each winding (@Ta20°C).

^P Preferential items usually on stock.

SCLE16(V) series – 2x1mH/2.3A ... 2x120mH/240mA

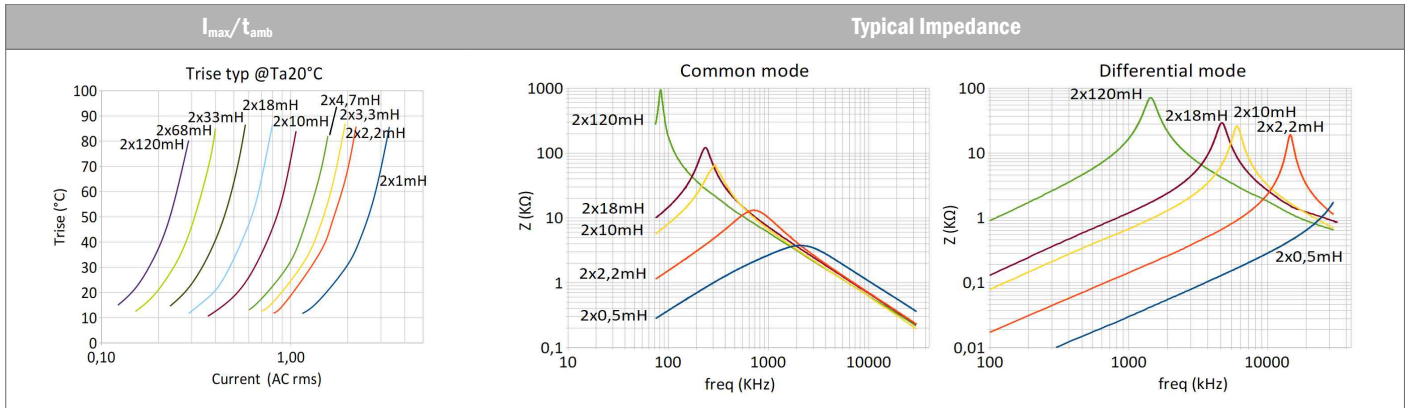
- Common mode inductors for EMI/EMC mains line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request
- Available in Design kit (see on <https://www.itacoilweb.com/portfolio/inductors-design-kit/>)



Horizontal version Code	Vertical version Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/ N2 Dielectric strength
SCLE16102	SCLE16V102	2x1.0 mH	2x0.7 mH	12 μ H	3.10 A	56 m Ω	250V	1.5KV
SCLE16222	SCLE16V222	2x2.2 mH	2x1.54 mH	27 μ H	1.86 A	127 m Ω	250V	1.5KV
SCLE16332	SCLE16V332	2x3.3 mH	2x2.31 mH	46 μ H	1.63 A	155 m Ω	250V	1.5KV
SCLE16472	SCLE16V472	2x4.7 mH	2x3.29 mH	56 μ H	1.35 A	243 m Ω	250V	1.5KV
SCLE16103* ^P	SCLE16V103 ^P	2x10 mH	2x7.0 mH	121 μ H	0.92 A	490 m Ω	250V	1.5KV
SCLE16183	SCLE16V183	2x18 mH	2x12.6 mH	216 μ H	0.67 A	890 m Ω	250V	1.5KV
SCLE16333 ^P	SCLE16V333 ^P	2x33 mH	2x23.1 mH	401 μ H	0.48 A	1.52 Ω	250V	1.5KV
SCLE16683 ^P	SCLE16V683 ^P	2x68 mH	2x47.6 mH	824 μ H	0.34 A	3.26 Ω	250V	1.5KV
SCLE16124	SCLE16V124	2x120 mH	2x84.0 mH	1448 μ H	0.25 A	5.95 Ω	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Horizontal version Drawing	Schematic	.stp file Download
A max	17.3				
B max	17.4				
H max	12.6				
X typ	7.5				
Y typ	12.5				
L min	3.0				
D typ (□)	0.5				

Dimensions	mm	Layout (bottom view)	Vertical version Drawing	Schematic	.stp file Download
A max	17.1				
B max	11.6				
H max	19.8				
X typ	7.5				
Y typ	7.5				
L min	2.5				
D typ (□)	0.64				



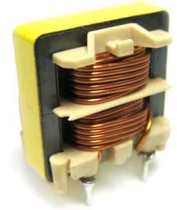
¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@tTa20°C). The temperature of the inductor should not exceed 120°C, Trise included.

³ Referred to each winding (@Ta20°C).

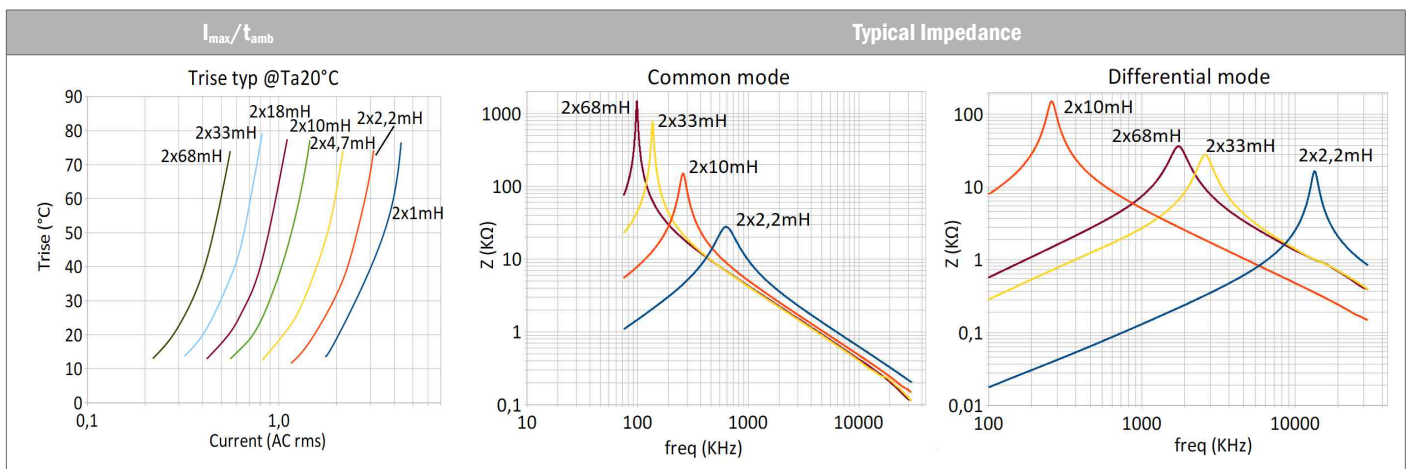
^P Preferential items usually on stock.

- Common mode inductors for EMI/EMC mains line filters
- Excellent common mode interference suppression
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCLE20V102	2x1.0 mH	2x0.7 mH	15 μH	3.50 A	33mΩ	250V	1.5KV
SCLE20V222	2x2.2 mH	2x1.54 mH	30 μH	2.44 A	64 mΩ	250V	1.5KV
SCLE20V472	2x4.7 mH	2x3.29 mH	64 μH	1.69 A	134 mΩ	250V	1.5KV
SCLE20V103 ^p	2x10 mH	2x7.0 mH	138 μH	1.13 A	298 mΩ	250V	1.5KV
SCLE20V183	2x18 mH	2x12.6 mH	243 μH	0.85 A	532 mΩ	250V	1.5KV
SCLE20V333 ^p	2x33 mH	2x23.1 mH	440 μH	0.63 A	950 mΩ	250V	1.5KV
SCLE20V683 ^p	2x68 mH	2x47.6 mH	896 μH	0.44 A	2.00 Ω	250V	1.5KV

Dimensions	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	21.2				
B max	13.8				
H max	21.7				
X tip	10.0				
Y tip	10.0				
L min	3.5				
D tip (□)	0.64				



¹ @10KHz-100mV.

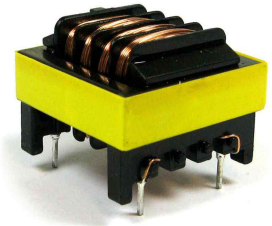
² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 115°C, Trise included.

³ Referred to each winding (@Ta20°C).

^p Preferential items usually on stock.

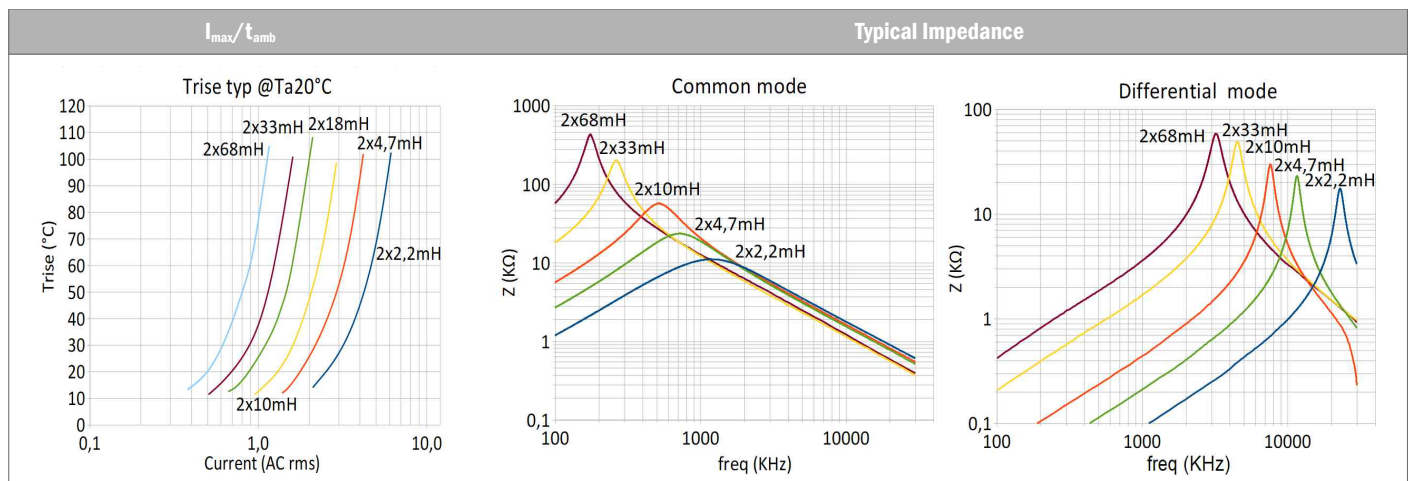
SCLE25 series – 2x2.2mH/4A ... 2x68mH/760mA

- Common mode inductors for EMI/EMC mains line filters
- Excellent common mode interference suppression
- High frequency improved attenuation by sectional windings
- Good differential mode filtering against symmetrical interferences
- High insulation between windings
- Excellent performances/dimensions ratio
- Other values on request
- Available in Design kit (see on <https://www.itacoilweb.com/portfolio/inductors-design-kit/>)



Code	Nominal Inductance ¹	Minimal Inductance ¹	Stray Inductance typ ¹	Nominal Current ²	Typical DCR ³	Mains Rated Voltage	N1/N2 Dielectric strength
SCLE25222	2x2.2 mH	2x1.54 mH	23 µH	4.00 A	36 mΩ	250V	1.5KV
SCLE25472	2x4.7 mH	2x3.29 mH	47 µH	2.75 A	79 mΩ	250V	1.5KV
SCLE25103 ^P	2x10 mH	2x7.0 mH	100 µH	1.93 A	152 mΩ	250V	1.5KV
SCLE25183	2x18 mH	2x12.6 mH	182 µH	1.39 A	298 mΩ	250V	1.5KV
SCLE25333 ^P	2x33 mH	2x23.1 mH	340 µH	1.05 A	521 mΩ	250V	1.5KV
SCLE25683 ^P	2x68 mH	2x47.6 mH	680 µH	0.76 A	990 mΩ	250V	1.5KV

Dimension s	mm	Layout (bottom view)	Drawing	Schematic	.stp file Download
A max	26.3				
B max	27.1				
H max	21.4				
X typ	15.0				
Y typ	20.0				
L min	2.5				
D typ (∅)	0.65				



¹ @10KHz-100mV.

² Max continuous current for 60°C about temperature rise (@Ta20°C). The temperature of the inductor should not exceed 120°C, Trise included.

³ Referred to each winding (@Ta20°C).

^P Preferential items usually on stock.

Itacoil specializes in designing and manufacturing any kind of THD and SMD inductor for a wide range of applications:

Linear – These coated micro-inductors are available in different sizes and with inductance values according to the market standard.

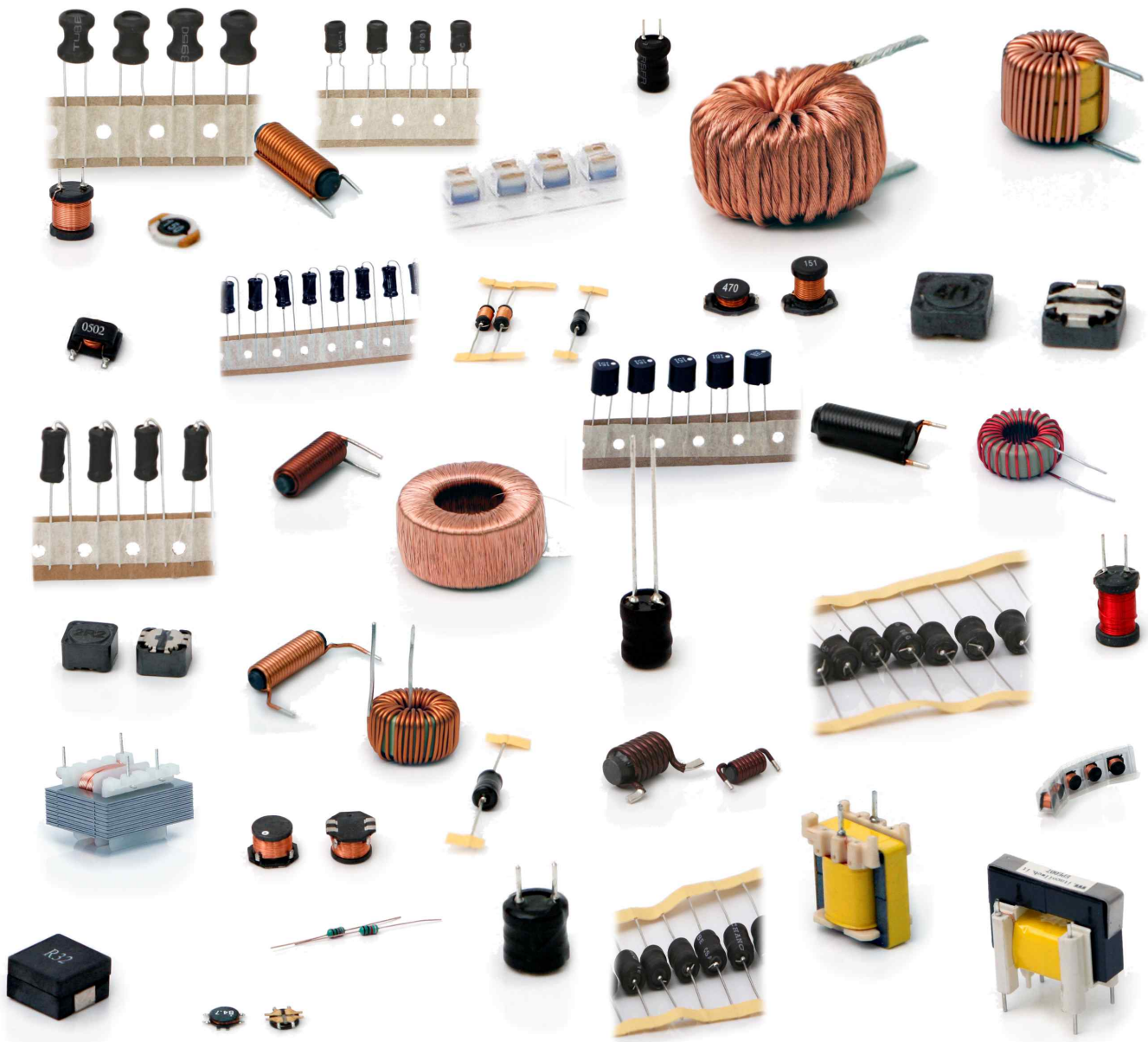
They have the typical shape of resistors with epoxy coating and competitive costs.

Inductors with axial and radial leads are among the most utilized thanks to their flexibility, which allows to accomplish the most varied requirements of current values range, inductance, sizes and packing type: bulk or on radial, axial and hybrid tape.

SMD assembly inductors group is one of the biggest, because of the existence of many sizes and versions; obviously supplied in tape&reel.

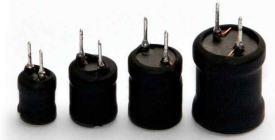
Classic solenoid inductors on cylindrical core (ROD) or similar, for high-currents, can be supplied also with preformed leads to facilitate the assembly and allows to accomplish many requirements, particularly the ones concerning EMC functions.

Toroidal – Realized on ferrite cores, iron powder cores and other most valuable materials, such as molypermalloy, sendust and similar. They combine performance requirements with inexpensiveness. We can supply them naked, coated (heat-shrink tubing, high-thickness polyammidic conformal coating, etc.) or encapsulated, also for SMD assembly.



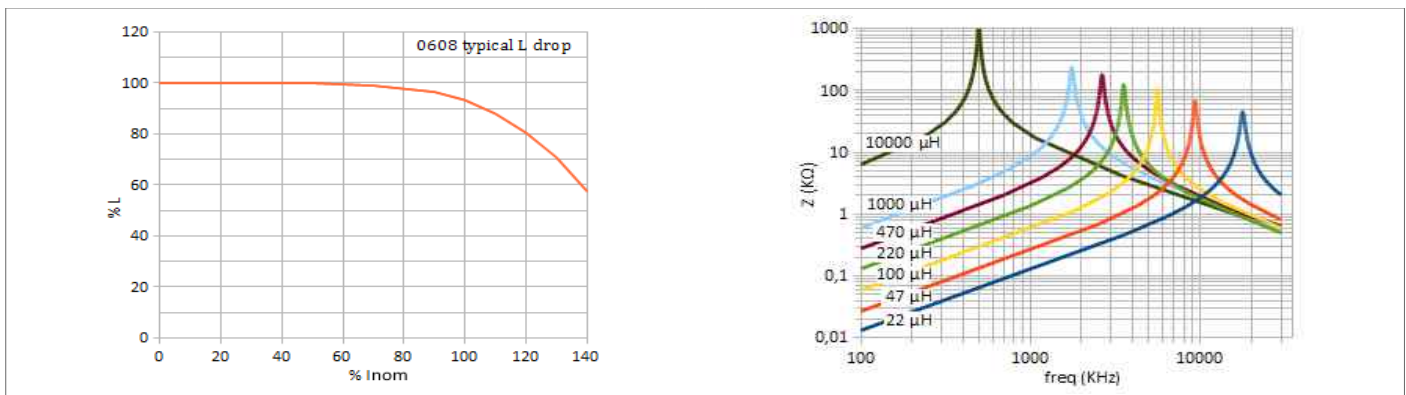
SLD0608 series - 10µH...10mH 2.6A...80mA

- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Bulk packaging; Taped packaging available for P/N SLD06xxxxN
- Other values on request
- Available in Design kit (see on www.itacoilweb.com/portfolio/inductors-design-kit/)



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min
SLD0608100	10 µH	2,60 A	3,22 A	40 mΩ	12,4 MHz
SLD0608150	15 µH	2,10 A	2,67 A	62 mΩ	12,4 MHz
SLD0608220 ^P	22 µH	1,72 A	2,20 A	91 mΩ	12,4 MHz
SLD0608330	33 µH	1,40 A	1,77 A	130 mΩ	6,5 MHz
SLD0608470 ^P	47 µH	1,26 A	1,51 A	170 mΩ	6,5 MHz
SLD0608680	68 µH	1,00 A	1,24 A	265 mΩ	4,3 MHz
SLD0608101 ^P	100 µH	0,85 A	1,04 A	370 mΩ	4,3 MHz
SLD0608151	150 µH	0,70 A	0,84 A	550 mΩ	2,5 MHz
SLD0608221 ^P	220 µH	0,61 A	0,69 A	721 mΩ	2,5 MHz
SLD0608331	330 µH	0,50 A	0,57 A	1,21 Ω	1,8 MHz
SLD0608471 ^P	470 µH	0,40 A	0,48 A	1,65 Ω	1,8 MHz
SLD0608681	680 µH	0,30 A	0,40 A	2,55 Ω	1,2 MHz
SLD0608102 ^P	1,0 mH	0,27 A	0,33 A	3,56 Ω	1,2 MHz
SLD0608222	2,2 mH	0,20 A	0,22 A	7,22 Ω	0,7 MHz
SLD0608472	4,7 mH	0,10 A	0,15 A	16,3 Ω	0,5 MHz
SLD0608103	10 mH	0,08 A	0,10 A	36,7 Ω	0,35 MHz

Dimensions	mm	Drawing	.stp file Download
a max (∅)	7,3		
h max	9,9		
x typ ⁵	3,0		
l min	3,0		
d typ (∅)	0,6		



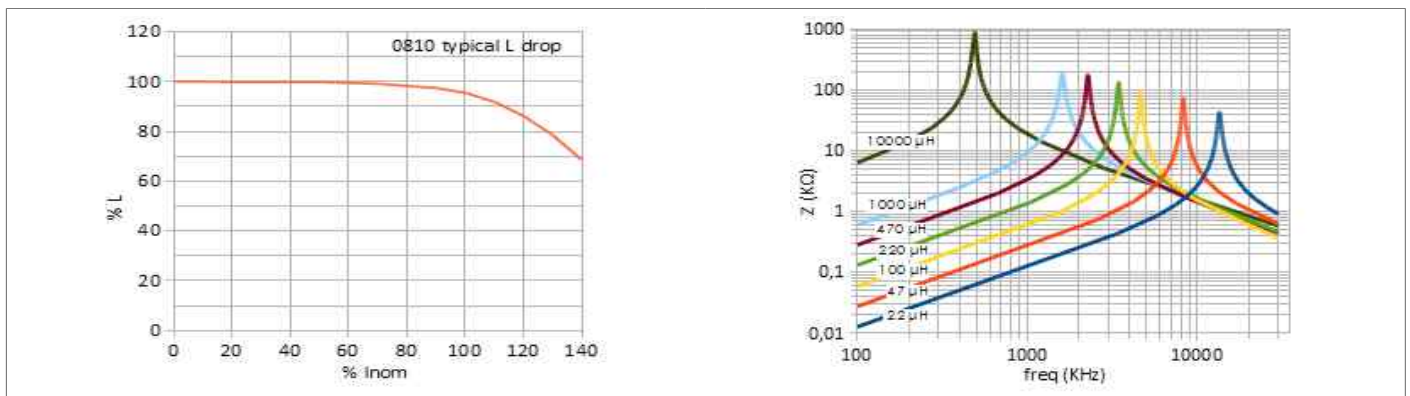
¹ Tolerances ±10% - Measured @10KHz-100mV.
² Max continuous DC current for 30°C temperature rise.
³ Max peak current for inductance decreasing within rated value -25%.
⁴ Referred to 20°C.
^P Preferential items usually on stock.
⁵ Pins bent (preformed) to x = typ 5,0mm on taped packaging versions

- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Bulk packaging; Taped packaging available for P/N SLD06xxxxN
- Other values on request
- Available in Design kit (see on www.itacoilweb.com/portfolio/inductors-design-kit/)



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min
SLD0810100	10 µH	4,11 A	5,13 A	24 mΩ	9,5 MHz
SLD0810150	15 µH	3,45 A	4,17 A	29 mΩ	9,5 MHz
SLD0810220 ^p	22 µH	2,90 A	3,39 A	38 mΩ	9,5 MHz
SLD0810330	33 µH	2,39 A	2,85 A	56 mΩ	5,8 MHz
SLD0810470 ^p	47 µH	2,00 A	2,33 A	80 mΩ	5,8 MHz
SLD0810680	68 µH	1,63 A	1,97 A	125 mΩ	3,2 MHz
SLD0810101 ^p	100 µH	1,36 A	1,62 A	173 mΩ	3,2 MHz
SLD0810151	150 µH	1,15 A	1,33 A	250 mΩ	2,4 MHz
SLD0810221 ^p	220 µH	0,95 A	1,10 A	355 mΩ	2,4 MHz
SLD0810331	330 µH	0,77 A	0,90 A	540 mΩ	1,6 MHz
SLD0810471 ^p	470 µH	0,62 A	0,75 A	825 mΩ	1,6 MHz
SLD0810681	680 µH	0,52 A	0,62 A	1,2 Ω	1,1 MHz
SLD0810102 ^p	1,0 mH	0,42 A	0,52 A	1,75 Ω	1,1 MHz
SLD0810222	2,2 mH	0,29 A	0,35 A	3,75 Ω	0,7 MHz
SLD0810472	4,7 mH	0,20 A	0,24 A	8,15 Ω	0,5 MHz
SLD0810103	10 mH	0,14 A	0,16 A	16,7 Ω	0,3 MHz

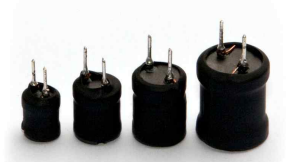
Dimensions	mm	Drawing	.stp file Download
a max (∅)	9,9		
h max	12,9		
x typ	5,0		
l min	3,0		
d typ (∅)	0,6		



¹ Tolerances ±10% - Measured @10KHz-100mV.
² Max continuous DC current for 30°C temperature rise.
³ Max peak current for inductance decreasing within rated value -25%.
⁴ Referred to 20°C.
^p Preferential items usually on stock.

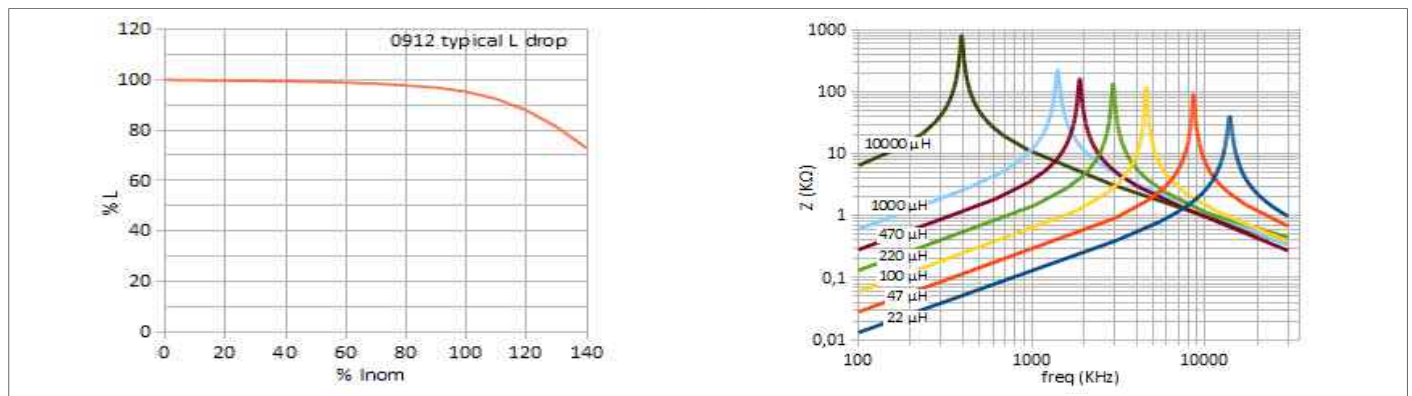
SLD0912 series - 10µH...10mH 5A...170mA

- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Bulk packaging; Taped packaging available for P/N SLD06xxxxN
- Other values on request
- Available in Design kit (see on www.itacoilweb.com/portfolio/inductors-design-kit/)



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min
SLD0912100	10 µH	5,00 A	5,91 A	16 mΩ	9,7 MHz
SLD0912150	15 µH	3,93 A	4,76 A	25 mΩ	9,7 MHz
SLD0912220 ^P	22 µH	3,42 A	3,98 A	31 mΩ	9,7 MHz
SLD0912330	33 µH	2,78 A	3,31 A	50 mΩ	6,0 MHz
SLD0912470 ^P	47 µH	2,24 A	2,75 A	72 mΩ	6,0 MHz
SLD0912680	68 µH	1,91 A	2,30 A	105 mΩ	3,2 MHz
SLD0912101 ^P	100 µH	1,66 A	1,89 A	130 mΩ	3,2 MHz
SLD0912151	150 µH	1,36 A	1,54 A	200 mΩ	2,1 MHz
SLD0912221 ^P	220 µH	1,09 A	1,27 A	305 mΩ	2,1 MHz
SLD0912331	330 µH	0,91 A	1,04 A	445 mΩ	1,3 MHz
SLD0912471 ^P	470 µH	0,77 A	0,87 A	615 mΩ	1,3 MHz
SLD0912681	680 µH	0,63 A	0,72 A	910 mΩ	1,0 MHz
SLD0912102 ^P	1,0 mH	0,52 A	0,60 A	1,31 Ω	1,0 MHz
SLD0912222	2,2 mH	0,35 A	0,40 A	2,61 Ω	0,8 MHz
SLD0912472	4,7 mH	0,23 A	0,28 A	6,68 Ω	0,4 MHz
SLD0912682	6,8 mH	0,18 A	0,22 A	10,60 Ω	0,4 MHz
SLD0912103	10 mH	0,17 A	0,19 A	13,20 Ω	0,20 MHz

Dimensions	mm	Drawing	.stp file Download
a max (∅)	10,8		
h max	15,1		
x typ	5,0		
l min	3,0		
d typ (∅)	0,6		



¹ Tolerances ±10% - Measured @10KHz-100mV.

² Max continuous DC current for 30°C temperature rise.

³ Max peak current for inductance decreasing within rated value -25%.

⁴ Referred to 20°C.

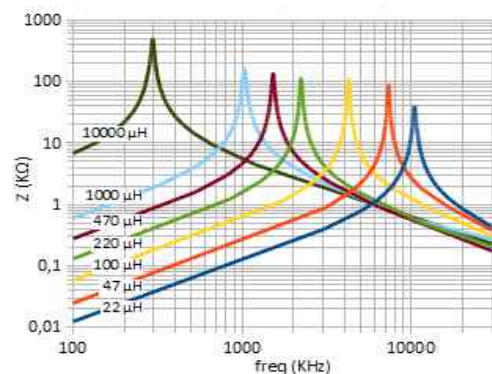
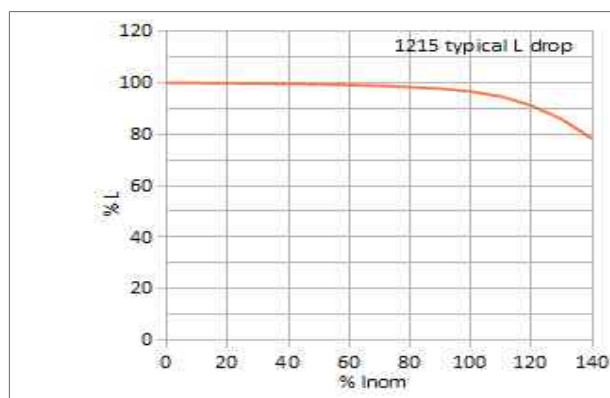
^P Preferential items usually on stock.

- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Other values on request
- Available in Design kit (see on www.itacoilweb.com/portfolio/inductors-design-kit/)



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min
SLD1215100	10 µH	8,94 A	9,55 A	6 mΩ	7,3 MHz
SLD1215150	15 µH	6,58 A	8,00 A	12 mΩ	7,3 MHz
SLD1215220 ^p	22 µH	5,02 A	6,58 A	21 mΩ	7,3 MHz
SLD1215330	33 µH	4,37 A	5,38 A	28 mΩ	5,1 MHz
SLD1215470 ^p	47 µH	3,44 A	4,55 A	45 mΩ	5,1 MHz
SLD1215680	68 µH	3,22 A	3,84 A	53 mΩ	3,0 MHz
SLD1215101 ^p	100 µH	2,53 A	3,18 A	83 mΩ	3,0 MHz
SLD1215151	150 µH	2,09 A	2,57 A	122 mΩ	1,6 MHz
SLD1215221 ^p	220 µH	1,72 A	2,13 A	180 mΩ	1,6 MHz
SLD1215331	330 µH	1,41 A	1,75 A	270 mΩ	1,1 MHz
SLD1215471 ^p	470 µH	1,16 A	1,46 A	400 mΩ	1,1 MHz
SLD1215681	680 µH	1,03 A	1,22 A	500 mΩ	0,7 MHz
SLD1215102 ^p	1,0 mH	0,83 A	1,00 A	775 mΩ	0,7 MHz
SLD1215222	2,2 mH	0,58 A	0,68 A	1,62 Ω	0,5 MHz
SLD1215472	4,7 mH	0,38 A	0,46 A	3,68 Ω	0,3 MHz
SLD1215103	10 mH	0,27 A	0,32 A	7,62 Ω	0,2 MHz

Dimensions	mm	Drawing	.stp file Download
a max (∅)	13,3 ⁵		
a1 max (∅)	15,0		
h max	19,0		
x typ	7,5		
l min	3,0		
d typ (∅)	0,8		



¹ Tolerances ±10% - Measured @10KHz-100mV.

² Max continuous DC current for 30°C temperature rise.

³ Max peak current for inductance decreasing within rated value -25%.

⁴ Referred to 20°C.

^p Preferential items usually on stock.

⁵ Only for SLD1215680 max heigh 13.6mm

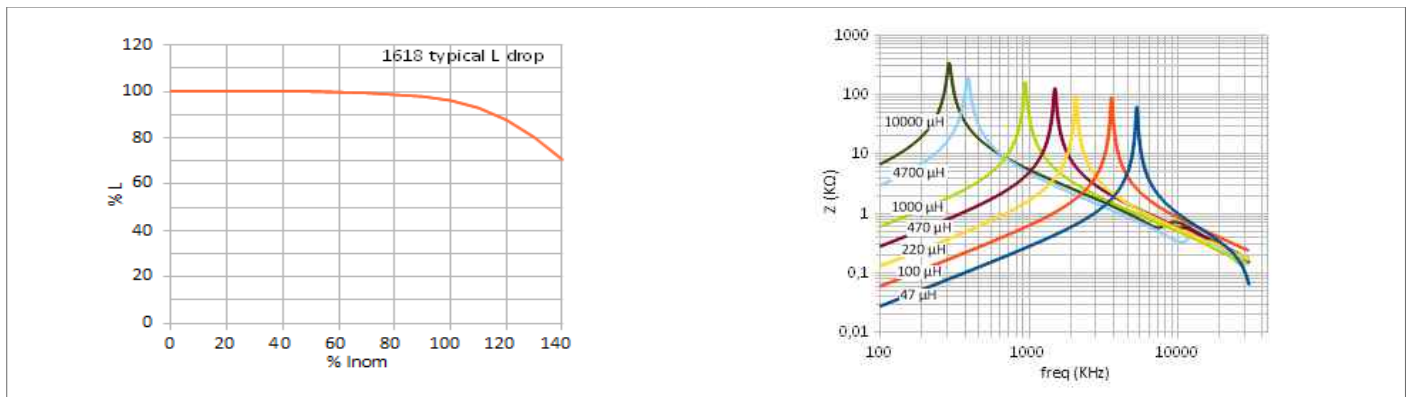
SLD1618 series - 47µH...10mH 5.1A...390mA

- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min
SLD1618470 ^P	47 µH	5,10 A	6,64 A	26 mΩ	4,5 MHz
SLD1618680	68 µH	4,77 A	5,49 A	30 mΩ	2,9 MHz
SLD1618101 ^P	100 µH	3,71 A	4,56 A	49 mΩ	2,9 MHz
SLD1618151	150 µH	3,15 A	3,68 A	68 mΩ	1,8 MHz
SLD1618221 ^P	220 µH	2,52 A	3,08 A	106 mΩ	1,8 MHz
SLD1618331	330 µH	2,13 A	2,51 A	148 mΩ	1,3 MHz
SLD1618471 ^P	470 µH	1,75 A	2,09 A	220 mΩ	1,3 MHz
SLD1618681	680 µH	1,50 A	1,75 A	300 mΩ	0,8 MHz
SLD1618102 ^P	1,0 mH	1,22 A	1,44 A	448 mΩ	0,8 MHz
SLD1618222	2,2 mH	0,82 A	0,97 A	1,04 Ω	0,5 MHz
SLD1618472	4,7 mH	0,59 A	0,67 A	1,95 Ω	0,3 MHz
SLD1618103	10 mH	0,39 A	0,46 A	4,42 Ω	0,2 MHz

Dimensions	mm	Drawing	.stp file Download
a max (∅)	17,5		
a1 max (∅)	20,0		
h max	22,5		
x typ	10,0		
l min	3,0		
d typ (∅)	0,8		



¹ Tolerances ±10% - Measured @10KHz-100mV.

² Max continuous DC current for 30°C temperature rise.

³ Max peak current for inductance decreasing within rated value -25%.

⁴ Referred to 20°C.

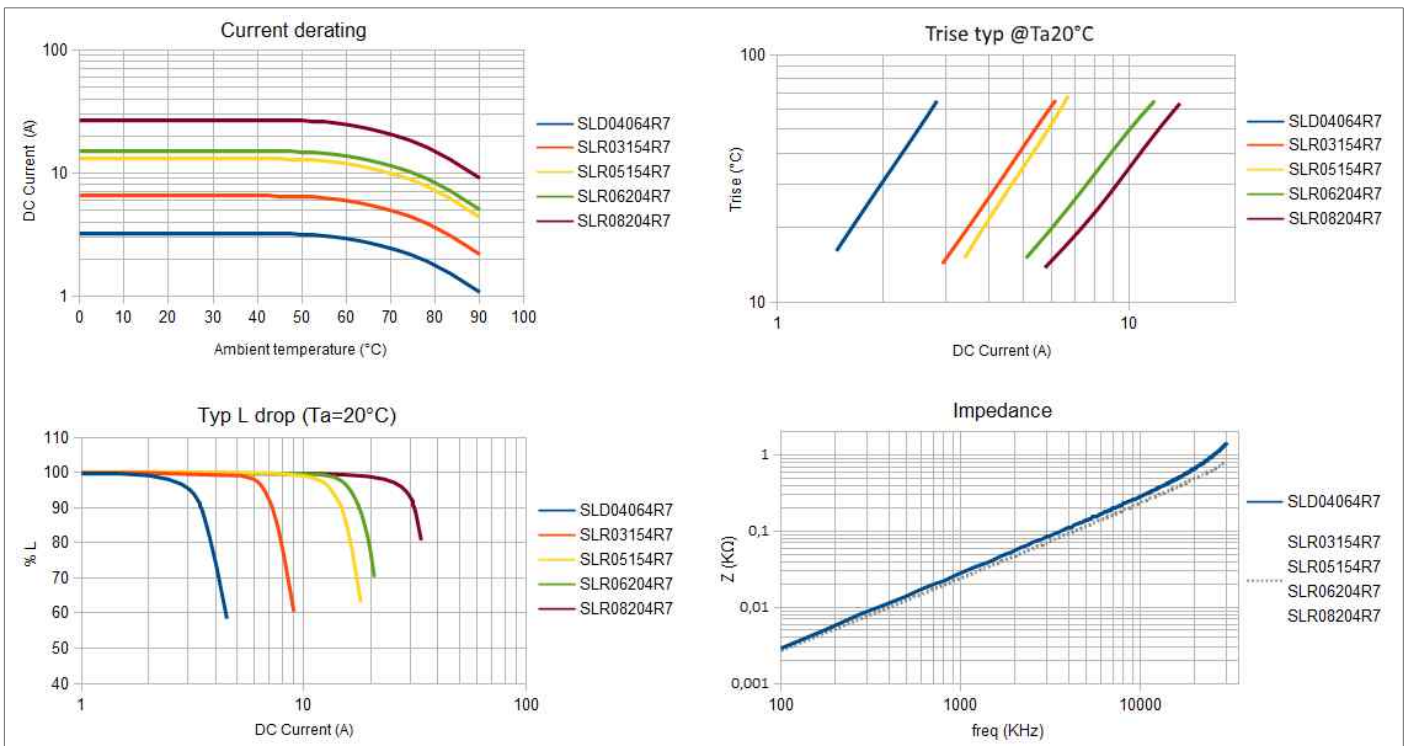
^P Preferential items usually on stock.

- Excellent current/dimensions ratio
- Designed for ripple smoothing, very good for EMC and energy storage using (filters, DC/DC converters, etc.)
- Other values and tolerances on request



Code	Nominal Inductance ¹	Nominal Current ²	Saturation Current ³	Typical DCR ⁴	SRF min	Drawing	.stp file Download
SLD04064R7	4,7 µH	2,75 A	3,20 A	36 mΩ	> 30MHz	1	
SLR03154R7	4,7 µH	5,80 A	6,30 A	16,5 mΩ	> 30MHz	2	
SLR05154R7	4,7 µH	6,40 A	13,0 A	15,5 mΩ	> 30MHz	2	
SLR06204R7	4,7 µH	11,5 A	15,0 A	7,9 mΩ	> 30MHz	2	
SLR08204R7	4,7 µH	13,5 A	27,0 A	6,7 mΩ	> 30MHz	2	

Dimensions (mm)	SLD0406...	SLR0315...	SLR0515...	SLR0620...	SLR0820...	Drawings
a max (∅)	5,3	5,8	8,1	9,4	12,4	
a1 max	--	6,6	9	11,1	13,8	
h max	8,8	17,9	17,9	23,2	23,2	
x typ	2,0	4,7	6,9	8,6	11,0	
l min	4,7	5,0	6,2	6,8	8,1	
d typ (∅)	0,5	0,7	0,8	1,1	1,3	



¹ Tolerances ±15% - Measured @10KHz-100mV.

² Max continuous DC current for 65°C approx temperature rise.

Actual max DC/ACrms current depends to the ambient temperature and acceptable Trise.

High frequency currents increase the power loss, the max temperature of the inductor shall not exceed 105°C in actual working conditions.

³ Max peak current for inductance decreasing within nominal value -25%.

⁴ Referred to 20°C.

SLDS0703 series - 10μH...1.0mH 1.7A...160mA

- Shielded
- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Tape & Reel packaging
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Max DCR ³
SLDS0703100F	10 μH	1.68 A	72 mΩ
SLDS0703120F	12 μH	1.52 A	98 mΩ
SLDS0703150F	15 μH	1.33 A	130 mΩ
SLDS0703180F	18 μH	1.20 A	140 mΩ
SLDS0703220F	22 μH	1.07 A	190 mΩ
SLDS0703270F	27 μH	0.96 A	210 mΩ
SLDS0703330F	33 μH	0.91 A	240 mΩ
SLDS0703390F	39 μH	0.77 A	320 mΩ
SLDS0703470F	47 μH	0.76 A	360 mΩ
SLDS0703560F	56 μH	0.68 A	470 mΩ
SLDS0703680F	68 μH	0.61 A	520 mΩ
SLDS0703820F	82 μH	0.57 A	690 mΩ
SLDS0703101F	100 μH	0.50 A	790 mΩ
SLDS0703121F	120 μH	0.49 A	890 mΩ
SLDS0703151F	150 μH	0.43 A	1.27 Ω
SLDS0703181F	180 μH	0.39 A	1.45 Ω
SLDS0703221F	220 μH	0.35 A	1.65 Ω
SLDS0703271F	270 μH	0.32 A	2.31 Ω
SLDS0703331F	330 μH	0.28 A	2.62 Ω
SLDS0703391F	390 μH	0.26 A	2.94 Ω
SLDS0703471F	470 μH	0.24 A	4.18 Ω
SLDS0703561F	560 μH	0.22 A	4.67 Ω
SLDS0703680F	680 μH	0.19 A	5.73 Ω
SLDS0703821F	820 μH	0.18 A	6.54 Ω
SLDS0703102F	1000 μH	0.16 A	9.44 Ω

Dimensions	mm	Drawing	.stp file Download
a max	7.5		
b max	7.5		
h max	3.5		
c typ	7.2		
d typ	1.8		
e typ	5.4		

¹ Tolerances ±20% - Measured @100KHz-100mV up to 119.9μH – 1kHz-100mV 120μH or more

² Max continuous DC current for 40°C temperature rise and 25% max inductance drop

³ Referred to 20°C.

- Shielded
- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Tape & Reel packaging
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Max DCR ³
SLDS0704100F	10 µH	1.84 A	49 mΩ
SLDS0704120F	12 µH	1.71 A	58 mΩ
SLDS0704150F	15 µH	1.47 A	81 mΩ
SLDS0704180F	18 µH	1.31 A	91 mΩ
SLDS0704220F	22 µH	1.23 A	110 mΩ
SLDS0704270F	27 µH	1.12 A	150 mΩ
SLDS0704330F	33 µH	0.96 A	170 mΩ
SLDS0704390F	39 µH	0.91 A	230 mΩ
SLDS0704470F	47 µH	0.88 A	260 mΩ
SLDS0704560F	56 µH	0.75 A	350 mΩ
SLDS0704680F	68 µH	0.69 A	380 mΩ
SLDS0704820F	82 µH	0.61 A	430 mΩ
SLDS0704101F	100 µH	0.60 A	610 mΩ
SLDS0704121F	120 µH	0.52 A	660 mΩ
SLDS0704151F	150 µH	0.46 A	880 mΩ
SLDS0704181F	180 µH	0.42 A	980 mΩ
SLDS0704221F	220 µH	0.36 A	1.17 Ω
SLDS0704271F	270 µH	0.34 A	1.64 Ω
SLDS0704331F	330 µH	0.32 A	1.86 Ω
SLDS0704391F	390 µH	0.29 A	2.85 Ω
SLDS0704471F	470 µH	0.26 A	3.01 Ω
SLDS0704561F	560 µH	0.23 A	3.62 Ω
SLDS0704680F	680 µH	0.22 A	4.63 Ω
SLDS0704821F	820 µH	0.20 A	5.20 Ω
SLDS0704102F	1000 µH	0.18 A	6.00 Ω

Dimensions	mm	Drawing	.stp file Download
a max	7.5		
b max	7.5		
h max	4.5		
c typ	7.2		
d typ	1.8		
e typ	4.5		

¹ Tolerances ±20% - Measured @100KHz-100mV

² Max continuous DC current for 40°C temperature rise and 25% max inductance drop

³ Referred to 20°C.

SLDS1204 series - 3.9μH...330μH 6.5A...500mA

- Shielded
- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Tape & Reel packaging
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Max DCR ³
SLDS12043R9F	3.9 μH	6.50 A	15 mΩ
SLDS12044R7F	4.7 μH	5.70 A	18 mΩ
SLDS12046R8F	6.8 μH	4.90 A	23 mΩ
SLDS12048R2F	8.2 μH	4.60 A	26 mΩ
SLDS1204100F	10 μH	4.50 A	28 mΩ
SLDS1204120F	12 μH	4.00 A	38 mΩ
SLDS1204150F	15 μH	3.20 A	50 mΩ
SLDS1204180F	18 μH	3.10 A	57 mΩ
SLDS1204220F	22 μH	2.90 A	66 mΩ
SLDS1204270F	27 μH	2.80 A	80 mΩ
SLDS1204330F	33 μH	2.70 A	97 mΩ
SLDS1204390F	39 μH	2.10 A	132 mΩ
SLDS1204470F	47 μH	1,90 A	140 mΩ
SLDS1204560F	56 μH	1.80 A	190 mΩ
SLDS1204680F	68 μH	1.50 A	220 mΩ
SLDS120482F	82 μH	1.30 A	260 mΩ
SLDS1204101F	100 μH	1.20 A	308 mΩ
SLDS1204121F	120 μH	1.10 A	380 mΩ
SLDS1204151F	150 μH	0.95 A	530 mΩ
SLDS1204181F	180 μH	0.85 A	620 mΩ
SLDS1204221F	220 μH	0.80 A	700 mΩ
SLDS1204271F	270 μH	0.60 A	870 mΩ
SLDS1204331F	330 μH	0.50 A	990 mΩ

Dimensions	mm	Drawing	.stp file Download
a max	12.3		
b max	12.3		
h max	4.5		
c typ	11.8		
d typ	5.0		
e typ	7.8		

¹ Tolerances ±20% - Measured @100KHz-100mV

² Max continuous DC current for 40°C temperature rise and 25% max inductance drop

³ Referred to 20°C.

- Shielded
- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Tape & Reel packaging
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Max DCR ³
SLDS12051R3F	1.3 µH	8.00 A	12 mΩ
SLDS12052R1F	2.1 µH	7.00 A	14 mΩ
SLDS12053R1F	3.1 µH	6.00 A	17 mΩ
SLDS12054R4F	4.4 µH	5.00 A	20 mΩ
SLDS12055R8F	5.8 µH	4.40 A	21 mΩ
SLDS12057R5F	7.5 µH	4.20 A	24 mΩ
SLDS1205100F	10 µH	4.00 A	25 mΩ
SLDS1205120F	12 µH	3.50 A	27 mΩ
SLDS1205150F	15 µH	3.30 A	30 mΩ
SLDS1205180F	18 µH	3.00 A	34 mΩ
SLDS1205220F	22 µH	2.80 A	36 mΩ
SLDS1205270F	27 µH	2.30 A	51 mΩ
SLDS1205330F	33 µH	2.10 A	57 mΩ
SLDS1205390F	39 µH	2.00 A	68 mΩ
SLDS1205470F	47 µH	1.80 A	75 mΩ
SLDS1205560F	56 µH	1.70 A	110 mΩ
SLDS1205680F	68 µH	1.50 A	120 mΩ
SLDS1205820F	82 µH	1.40 A	140 mΩ
SLDS1205101F	100 µH	1.30 A	160 mΩ
SLDS1205121F	120 µH	1.10 A	170 mΩ
SLDS1205151F	150 µH	1.00 A	230 mΩ
SLDS1205181F	180 µH	0.90 A	290 mΩ
SLDS1205221F	220 µH	0.80 A	400 mΩ
SLDS1205271F	270 µH	0.75 A	460 mΩ
SLDS1205331F	330 µH	0.68 A	510 mΩ
SLDS1205391F	390 µH	0.65 A	690 mΩ
SLDS1205471F	470 µH	0.58 A	770 mΩ
SLDS1205561F	560 µH	0.54 A	860 mΩ
SLDS1205681F	680 µH	0.48 A	1.20 Ω
SLDS1205821F	820 µH	0.43 A	1.34 Ω
SLDS1205102F	1000 µH	0.40 A	1.53 Ω

Dimensions	mm	Drawing	.stp file Download
a max	12.3		
b max	12.3		
h max	6.0		
c typ	11.8		
d typ	5.0		
e typ	7.6		

¹ Tolerances ±30% - Measured @100KHz-100mV up to 9.9µH | tolerances ±20% - Measured @1KHz-100mV 10µH or more

² Max continuous DC current for 40°C temperature rise and 25% max inductance drop

³ Referred to 20°C.

SLDS1207 series - 1.2µH...1.0mH 9.8A...550mA

- Shielded
- Suited for both EMC and energy storage using (filters, SMPS, etc.)
- Tape & Reel packaging
- Other values on request



Code	Nominal Inductance ¹	Nominal Current ²	Max DCR ³
SLDS12071R2F	1.2 µH	9.80 A	7 mΩ
SLDS12072R4F	2.4 µH	8.00 A	12 mΩ
SLDS12073R5F	3.5 µH	7.50 A	14 mΩ
SLDS12074R7F	4.7 µH	6.80 A	16 mΩ
SLDS12076R1F	6.1 µH	6.60 A	18 mΩ
SLDS12077R6F	7.6 µH	5.90 A	20 mΩ
SLDS1207100F	10 µH	5.40 A	22 mΩ
SLDS1207120F	12 µH	4.90 A	24 mΩ
SLDS1207150F	15 µH	4.50 A	30 mΩ
SLDS1207180F	18 µH	3.90 A	39 mΩ
SLDS1207220F	22 µH	3.60 A	43 mΩ
SLDS1207270F	27 µH	3.40 A	46 mΩ
SLDS1207330F	33 µH	3.00 A	65 mΩ
SLDS1207390F	39 µH	2.75 A	73 mΩ
SLDS1207470F	47 µH	2.50 A	100 mΩ
SLDS1207560F	56 µH	2.35 A	110 mΩ
SLDS1207680F	68 µH	2.10 A	140 mΩ
SLDS1207820F	82 µH	1.95 A	160 mΩ
SLDS1207101F	100 µH	1.70 A	220 mΩ
SLDS1207121F	120 µH	1.60 A	250 mΩ
SLDS1207151F	150 µH	1.42 A	280 mΩ
SLDS1207181F	180 µH	1.30 A	350 mΩ
SLDS1207221F	220 µH	1.16 A	390 mΩ
SLDS1207271F	270 µH	1.06 A	560 mΩ
SLDS1207331F	330 µH	0.95 A	640 mΩ
SLDS1207391F	390 µH	0.88 A	700 mΩ
SLDS1207471F	470 µH	0.79 A	980 mΩ
SLDS1207561F	560 µH	0.73 A	1.07 Ω
SLDS1207681F	680 µH	0.67 A	1.46 Ω
SLDS1207821F	820 µH	0.60 A	1.64 Ω
SLDS1207102F	1000 µH	0.55 A	1.82 Ω

Dimensions	mm	Drawing	.stp file Download
a max	12.3		
b max	12.3		
h max	8.0		
c typ	12.0		
d typ	5.0		
e typ	7.6		

¹ Tolerances ±30% - Measured @100KHz-100mV up to 9.9µH | tolerances ±20% - Measured @1KHz-100mV 10µH or more

² Max continuous DC current for 40°C temperature rise and 25% max inductance drop

³ Referred to 20°C.

- Inductors Kit useful to engineers and designers
- 42 Common Mode inductors
- 55 Drum inductors
- 12 ROD inductors



Code	Nominal Inductance	Nominal Current	Quantity (pcs)
L93AN	12 μ H	1,25 A	2
L93BN	22 μ H	0,75 A	2
SCLE08103	2x10 mH	0,30 A	2
SCLE08333	2x33 mH	0,175 A	2
SCLE08683	2x68 mH	0,118 A	2
SCLE16472	2x4,72 mH	1,35A	2
SCLE25103	2x10 mH	1,93 A	1
SCLE25333	2x33 mH	1,05 A	1
SCLE25683	2x68 mH	0,76 A	1
SCLE16V103	2x10 mH	0,79 A	2
SCLE16V683	2x68 mH	0,30 A	2
SCLE20V102	2x1,0 mH	3,50 A	2
SCLE20V103	2x10 mH	1.13 A	2
SCLE20V333	2x33 mH	0,63 A	2
SCLU09682	2x6,8 mH	0,97 A	2
SCLU09333	2x33 mH	0,45 A	2
SCLU10332	2x3,3 mH	1,44 A	1
SCLU10153	2x15 mH	1,025 A	1
SCLU10683	2x68 mH	0,45 A	1
SCQ16393	2x39 mH	0,8 A	2
SCQ16683	2x68 mH	0,6 A	2
SCT1305502	2x5,0 mH	1,0 A	2
SCT1305103	2x10 mH	0,7 A	2
SCT1409393	2x39 mH	0,59 A	2
SCT1409683	2x68 mH	0,40 A	2
SCT2213103	2x10 mH	3,0 A	1
SCT2213223	2x22 mH	2,3 A	1
SLD04064R7	4,7 μ H	2,75 A	2
SLD0608220	22 μ H	1,72 A	2
SLD0608470	47 μ H	1,26 A	2
SLD0608101	100 μ H	0,85 A	2
SLD0608221	220 μ H	0,61 A	2
SLD0608471	470 μ H	0,40 A	2

Code	Nominal Inductance	Nominal Current	Quantity (pcs)
SLD0810220	22 μ H	2,90 A	2
SLD0810470	47 μ H	2,00 A	2
SLD0810101	100 μ H	1,36 A	2
SLD0810221	220 μ H	0,95 A	2
SLD0810471	470 μ H	0,62 A	2
SLD0810102	1,0 mH	0,42 A	2
SLD0912220	22 μ H	3,42 A	2
SLD0912470	47 μ H	2,24 A	2
SLD0912101	100 μ H	1,66 A	2
SLD0912221	220 μ H	1,09 A	2
SLD0912471	470 μ H	0,77 A	2
SLD0912102	1,0 mH	0,52 A	2
SLD1215220	22 μ H	5,02 A	2
SLD1215470	47 μ H	3,44 A	2
SLD1215101	100 μ H	2,53 A	2
SLD1215221	220 μ H	1,72 A	2
SLD1215471	470 μ H	1,16 A	2
SLD1215102	1,0 mH	0,83 A	2
SLD1618470	47 μ H	5,10 A	1
SLD1618101	100 μ H	3,71 A	1
SLD1618221	220 μ H	2,52 A	1
SLD1618471	470 μ H	1,75 A	1
SLD1618102	1,0 mH	1,22 A	1
SLR03154R7	4,7 μ H	5,80 A	2
SLR05154R7	4,7 μ H	6,40 A	2
SLR06204R7	4,7 μ H	11,5 A	2
SLR08204R7	4,7 μ H	13,5 A	2

The components contained in this design kit are subject to change without notice. It is suggested to verify the version with Itacoil prior to complete the approval.

Original evaluation boards

I componenti magnetici delle demo boards non sono disponibili come campioni.















Per quotazioni per volumi o per versioni ottimizzate dei suddetti P/N contattare il nostro ufficio Commerciale.

Application	Power	Output Voltage	IC Manufacturer	Controller	Reference Design	ITACOIL P / N	Test Report	User Manual	Appl. Notes
LED Driver	35W	48V - 730mA		HVLED001B	EVAL-PSR01B-35W (DB3733)	T1-TSLEV2539			
Dimmable LED Driver	35W	24-48V - 700mA		HVLED001A	STEVAL-ILL070V4 (DB3375)	T2-TSLER2834001			
LED Driver	35W	48V - 730mA		HVLED001A	STEVAL-ILL069V2 (DB2999)	T1-TSLEV2539			
FOT LED Driver	60W	52V - 1,2A		HVLED001	STEVAL-ILL074V2 (AN4710)	T1-TSLETD3404 T2-SCQ16393			
QR LED Driver	60W	52V - 1,2A		HVLED001	STEVAL-ILL074V1 (DB2799)	T1-TSLETD3403 T2-SCQ16393			
Dimmable LED Driver	35W	0-48V - 700mA		HVLED001	STEVAL-ILL070V1	T1-TSLEV2544			
LED Driver	35W	48V - 730mA		HVLED001	STEVAL-ILL069V1	T1-TSLEV2520/48			
LLC Dimmable LED Driver	150W	~43V 0-3.5A		LCS702HG	RDR-382	TRLEV25043A			
LLC Dimmable LED Driver	200W	60V 3.3A (CC) 120V 1.65A (CC)		SSL4120T	ARW200	T1 - PQ262503 T2 - ETD3426 L1 - SCLE25472 L2 - SCLE20V102 L3 - SLD0912100			
LLC Dimmable LED Driver	90W	15..48V 0,19..1,9A (CC)		SSL4120T	UM10722	T1 - TFLRM1002 T2 - TRLEV25048A L2 - TLT001			
LLC Dimmable LED Driver	100W	100V 1A - 200V 0,5A		STLUX385A	STEVAL-385LEDPSR STEVAL-ILL066V1 STEVAL-ILL066V2 (AN4461)	T1 - TLLE20D01 T2 - TSLETD3402 T5 - SCLE25103 T6 - TCLPQ262501 T7 - SMLEP1303 L9 - SLD0608220 L8 - SLD0608222			
PV microinverter	250W	230V 50-60Hz		STM32F103ZET6	STEVAL-ISV003V1 (AN4070)	T2 - SVL101801 T3 - TSLPQ322004 L4/L6 - TLLPQ322001			
T5 miniature ballast	14-21W	--		L6520	EVAL6520-1421	T1 - SCLE16333 T2 - E0802 T3 - E16113			
Electronic lamp ballast	18W	230V 50-60Hz		L6569	AN880	L1 - E2080 ¹			
PFC TM	80W	400V		L6562	STEVAL-ISA102V1	E2543/E			
T5 Ballast	54W	--		L6585D	AN2524	E2543/G			
T5 Ballast	54W	--		L6585DE	AN2982 STEVAL-ILB005V2	E2543/H			
PFC TM	80W	400V		L6562A	AN2761	E2543/E			
CFL/TL dimmable ballast	Up to 58W	--		L6574		T2 - E2543/B			
PFC FOT	375W	400V		L6562	AN1895	T1 - E4218 L1 - TOR73			
PFC TM	80W	400V		L6561	AN966	E2543/E			
SMPS for CRT Monitors	90W	200V/80V/±15V/6,3V		L5991	AN1132	ETD4407			

*All brand names stated herein are the property of the respective businesses

¹ L1 equivalent, ST approved

The reports show the comparisons with our laboratory samples, not available for sampling.
 Very often temperatures, dimensions and costs are also improved in addition to efficiency.
 We can supply standard products or carry out design and sampling in a very short time, according to specific needs.

Application	Power	Output Voltage	IC Manufacturer	Controller	Reference Design	ITACOIL P / N	Test Report	User Manual	Appl. Notes
LLC Resonant dimmable LED driver, low stand-by power	130W	38..76V		ICL5102	REF-ICL5102-U130W-CC	lab sample			
LLC Resonant converter low stand-by power 80+ energy star	240W	12V		TEA19161T TEA19162 TEA1995T	TEA1916DB1262	lab sample			
40W Flyback QR power supply	40W	56V		HVLED001	STEVAL-ILL076V1	TSLE22156			
LLC general pourpose single stage	170W (300Wpk)	24V		L6599AT	STEVAL-ISA132V1 (AN4599)	TRLETD34024			
LLC TV Power Supply	192W	14V		FSFR2100 (FLS2100XS)	FEB212-003 FEBFSFR2100	034.024.256.01 Resonant Tank			
LLC Notebook Adapter	90W	19.5V		TEA1713	UM10450	TRLEV25019 (Res. Trasf.) SFLPQ201601 (PFC Ind.)			
LLC LED Street Lighting	130W	48V (optional 30-48V CC)		L6599AT-6562AT	STEVAL-ILL053V1 (AN3106) EVL130W-SL-EU (AN3105)	TRLEV25019 (48V or 30-48V CC)			
LLC Resonant Converter	150W	24V		LCS702HG	RDR-239	TRLEV25024			
12W Flyback Power Supply	12W	12V		TNY278PG	RDR-91	TSLE20212			
12W Flyback Power Supply	12W	12V		TNY288PG	RDR-399	TSLE20124			

*All brand names stated herein are the property of the respective businesses

QR code to download Test Reports, User Manuals and Application Notes





The General Terms of Sale are available at the following link/QR code:

[sales conditions.pdf](#)



These sales conditions will govern every sale of products. No other clause or condition, including anything non-compliant proposed by the Customer with his order, will be valid and binding for Itacoil if not expressly accepted in writing by the latter.

Safety Transformers 50/60Hz

The transformers defined in the catalogue as “safety transformers” meet the harmonized European standards EN61558-1 (CEI 96-3) and EN 61558-2-6 (CEI196-7). They are manufactured with high quality materials and with manufacturing processes developed in a 20 year old experience; this is a guarantee of very high quality and reliability. The tests of functional parameters and dielectric strength between primary and secondary windings, carried out on every single item, practically eliminate any reject on production lines. The positioning of primary and secondary windings in separated chambers and the epoxy encapsulation make these transformers particularly safe and strong, both mechanically and electrically. They moreover withstand atmospheric pollution such as dust, humidity, and so on. The use of pins made of tin-plated phosphor bronze makes them very resistant and very easy to solder.

The meaning of the different types of overload and short circuit protection is in compliance with the above mentioned standards and can be explained as follows:

- *Inherently short-circuit proof: the transformer which undergoes a short circuit under the conditions foreseen by the standard does not reach, in the short period, temperatures which may be dangerous for the material it is made of.*
- *Output fuses: in order to prevent overload or short circuit from reaching dangerous temperatures, the transformer has to be protected by means of a fuse delayed by the value indicated on each secondary output; for transformers up to 30VA the fuses must comply with the standard CEI EN 60127.2.3 (e.g. series ST523 Omega); for transformers with higher power the fuse must comply with the standard CEI EN 60127.2.6 (e.g. series VT521 Omega). As in the EN61558 the primary voltage is subject to tolerances +/-10%; the rated output of the transformer shall be selected accordingly.*



Le Condizioni Generali di Vendita sono disponibili al seguente link/QR code:

[condizioni di vendita.pdf](#)



Tali condizioni regoleranno ogni compravendita di prodotti. Nessun'altra clausola o condizione, incluse quelle eventualmente difformi proposte dal Cliente con il suo ordine, sarà valida e vincolante per la Itacoil se non espressamente accettata per iscritto da quest'ultima.

Trasformatori di Rete 50/60Hz

I trasformatori di sicurezza per alimentazione a 50/60Hz presenti a catalogo sono conformi alle norme indicate nelle relative pagine. Essi sono costruiti utilizzando materiali di elevata qualità e con processi di produzione messi a punto in oltre vent'anni di esperienza, ottenendo così un livello di qualità e di affidabilità molto elevati. I collaudi dei parametri funzionali e della rigidità dielettrica tra primario e secondario, effettuati su ogni singolo pezzo, consentono di rendere praticamente inesistenti gli scarti. La disposizione degli avvolgimenti primari e secondari in camere separate e l'inglobamento in resina epossidica autoestinguente rendono questi trasformatori estremamente sicuri e robusti sia meccanicamente che elettricamente, oltre che insensibili agli agenti atmosferici quali polveri, umidità, ecc. . L'utilizzo di pins in bronzo fosforoso stagnato ne assicura una notevole robustezza ed una ottima saldabilità.

Il significato dei vari tipi di protezione contro il sovraccarico ed il cortocircuito è riferita alle prescrizioni delle norme sopra citate e si può così riassumere:

- *Resistente al corto circuito per costruzione: il trasformatore messo in corto circuito nelle condizioni previste dalla norma non raggiunge temperature dannose nel breve periodo per i materiali di cui è costituito.*
- *Protezione secondario a mezzo fusibile: allo scopo di evitare che in sovraccarico o cortocircuito raggiunga temperature pericolose, il trasformatore va protetto con un fusibile ritardato del valore indicato su ciascun secondario; per i trasformatori fino a 30 VA i fusibili devono essere conformi alla norma CEI EN 60127.2.3 (es. serie ST523 Omega), mentre per i trasformatori con potenza superiore il fusibile deve essere conforme alla norma CEI EN 60127.2.6 (es. serie VT521 Omega). Come indicato nella EN61558 sulla tensione primaria si applicano tolleranze del +/-10%; la potenza nominale del trasformatore deve essere scelta di conseguenza.*

*“market leader in the development of **LLC INTEGRATED
RESONANT TRANSFORMERS**”*

*“**30 years of experience** and unique design tools for a
professional customer support”*

*“R&D department expert in **innovative technologies**, design
capability of production equipment, proprietary software for all
aspects of business management”*

*“local production plants equipped with the most advanced
robot technologies, vision systems, automatic testing systems,
statistical analysis and much more”*

*“**high-quality** production in **low-cost** area”*



ITACOIL srl

Via delle Gerole, 7

I-20867 Caponago (MB)

A4 highway Milan-Venice, exit Agrate Brianza

Tel. + 39.02.95745131

Fax + 39.02.95745133

E-mail contatto@itacoilmail.it

Web site www.itacoilweb.com

