# New developments

# HIGH FREQUENCY / HIGH POWER TRANSFORMERS

We can study, develop and prepare prototypes in order to produce transformers and inductors for high frequency power conversion meeting safety standards

### We can offer a complete service starting from:

## **Electromagnetic simulation:**

Thanks to a dedicated software we study the transformer behaviour inserted in the customer application circuits (forward, half bridge, full bridge, phase-shift transformers, etc.):

- Losses calculation (Joule, Eddy currents, etc.)
- Dynamic visualization of fluxes and fields distribution
- Dynamic visualization of current distribution in wires

### Optimization of the building models:

By using above indicated electromagnetic simulation taking into account Sirio production facilities in order to reduce costs as much as possible.

### Prototype construction in our laboratory:

Possibility of measuring and testing prototypes in our test laboratory and eventually in customer's application too.

## **Production:**

- standard versions
- customized versions

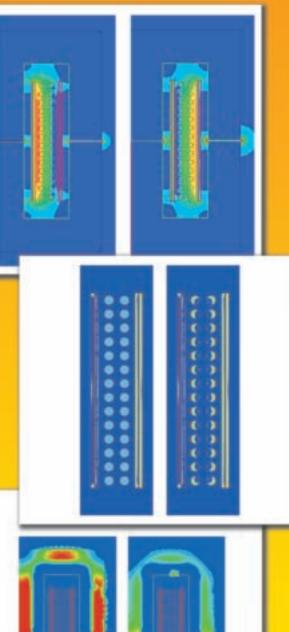
## **Technologies:**

- vacuum casting
- lead free soldering

High automation in all production steps including 100% tests

**Competitive prices** 











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# **Short form Catalogue**



# Your qualified partner with...

...over 30 years



...competitive prices: 2.500.000 pcs/year



# HIGH FREQUENCY HIGH ISOLATION INDUCTIVE COMPONENTS



...high automation production technologies



...flexibility and just-in time deliveries

# **Pulse Transformers**

In this catalogue we present our new range of standard transformers, designed for firing thyristors and triacs having low, medium and high powers.

A core having a high saturation inductance and low losses obtains a moderately dimensioned component with excellent square-shaped response.

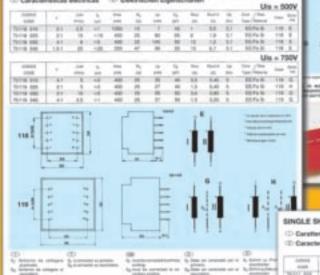
Reliability is ensured by a precise production, and by checks performed during production and final tests as well.

Besides this standard range, we can offer pulse transformers with different transforming ratios, special insulation voltage and values exceeding µVs, in order to meet any requirement on our customers' part.

Insulation transformers, designed for triacs or firing thyristor, need the following characteristics:

- A) They can transfer unipolar pulses having a proper amplitude and duration with a low imput of magnetizing current.
- B) They have well coupled magnetic coils which can transfer high di/dt.
- C) They have uncoupled electric coils which do not cause unrequired firings.
- D) They present a high insulation rate between windings and can ensure it for a long time.
- E) They have low losses.
- F) They have compact sizes

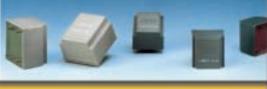
As you can see, they meet quite contrasting needs. This aim can be reached only by choosing suitable magnetic materials and correct shapes and by following special technical productions.



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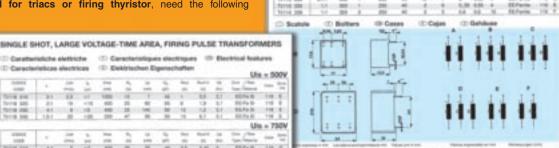


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Uia = 380%

Taxable Parts





# Drive Iransformers

# (safety transformers)

In this catalogue we introduce you new series of transformers suitable to drive high frequency MOSFETS, IGBTS and TRANSISTORS.

Nevertheless, owing to the different driving circuits, we are also able to develop

transformers following yo	ur specific requirements.
Frequency range:	20 - 200 kHz
Working voltage:	400 - 1500 Vac
Safety transformers:	IEC 742 or IEC 950
Small dimensions and	high reliability owing to the vacuum casting technology.

# Power Conversion Transforme

# High Frequency Tran





# **WO**

For these transformers it i mpossible to offer a standard series owing to the high number of application circuits: Flyback, Forward, Push-pull converters.

Power range: - 200 VA

Frequency range: 20 - 500 kHz **Operating temperature:** 

-25 to +80 (+100) °C

Safety: transformers for

CE Apparatus.

TECHNICAL DATA Application circuit Flyback, Forward, Push-pull Converters Frequency range 20 to 500 kHz Power range 2 W to 200 W EF 12.6 to EF 32 Cores EFD 15 to EFD 30 ETD 24,29.34. For horizontal and vertical assembly Bobbins Finish With or without box and under vacuum mpegnation in epoxy resin -25 °C to +80 °C (or +100 °C) operating range Temperature range egner egerate D\* 001+ of D\* 08-IEC 742, IEC 950, IEC 61558-1 Safety standards

# High Frequency - High Power Trans



# **Toroidal Inductor**

#### Current range: 0,2-50 A Frequency range: 20-200 kHz

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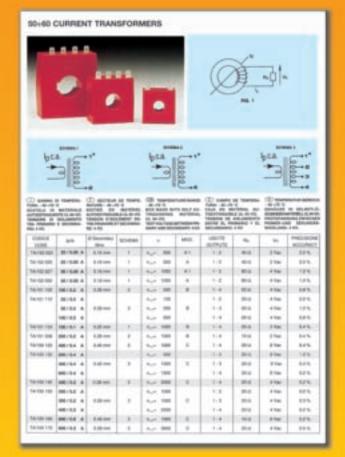
Thanks to FEM electromagnetic simulation plus the vacuum casting technology and the production with automatic machines we are able to decrease transformers losses and reduce their dimensions in order to meet customer's needs by offering a high quality component at a competitive price.

#### Power range: 1 ÷ 20 kW Frequency range: 5 ÷ 150 kHz



# **Current Transformers**

#### The peculiar characteristic of these transformers is a very low secondary current directly suitable for an electronic circuit of measurement. The secondary current may be detected as a voltage on a resistor. Primary current range: 25-600 A Turns ratio: 100 to 3000 50-500 mA Secondary current:



#### HIGH FREQUENCY CURRENT TRANSFORMERS

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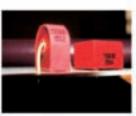
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#### 50±60 Hz CURRENT TRANSFORMER FOR MEASUREMENT APPLICATIONS

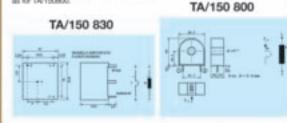
Our model TA/150600 is already well known: it is a very small and very precise current transformer used for energy measumments up to 15A. As you can see on the drawing of this component there is a central hole through which the primary turn must go.

Following up customers' requests w have developed a "twir" current translor-mer: a transformer with same core and same electrical leatures as TA/150600 but for a direct mounting on the circuit board. The primary turn is already inserted in the transformer so customers spare time and work in the mounting, it is no more neces-sary to prepare the primary turn and let it pass through the transformer hole. Another advantage is the thickness: mosi-



mum height of the new transformer TA/150630 is < 13.5 mm.

Price reference for quotations: according to same quantities the price is the same as for TA/150800.



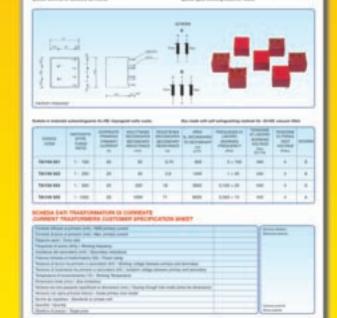
These not-linear transducers are recommended for control functions in equipments where the low cost is achieved by simple, strong and easy mounting components.

Primary current range: 20 and 40 A Turns ratio: 1:100 1:200 1: 500 1:1000 Working frequency: 50 Hz - 200 kHz IEC 742 (440 Vac)

#### NEW LOW COST CURRENT TRANSFORMERS

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These transformers are employed to protect the electronic switches (transistors or mosfets) from primary over current.