Current Transformers for Measurement

Single Turn Primary Current Transformers for Measurement

The YUANXING TA series Miniature current transformers are designed for applications where AC current signals must be transformed accurately into a ower AC current or voltage signal app-ropriate for micro-processor based circuits.

The TA1X11 series of PCB Mounted Miniature current transformers are designed specifically for integration into products which require exceptionally accurate primary signal transformation while exposed to harsh environmental operating conditions.

A new TA model can be designed and manufactured to meet the specific design challenges of the client's specific application. The following models are only a small sampling of the many different products which have been and are currently being manufactured.

FEATURES

- Low cost • 3 standard sizes
- Non-symmetrical mounting pattern
- Toroidal Silicon steel,Nanocrystalline and Nikel Alloy cores available

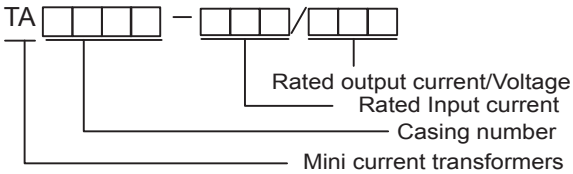
SPECIFICATIONS

- Base Material: PBT Resin， UL flame retardant rating 94-V0
- External Insulation: Epoxy Encapsulated
- Isolation Voltage: 2500 Vrms for 1 minute
- Dielectric Resistance: 1000M Ohms @500 Vdc
- Surge Withstand: 5000V（1.2/50μs standard shock wave）
- Rated Load Resistance: 100K Ohms
- Accuracy Class: as defined in IEC 60044-1 Part 1 Current Transformers Class 0.1, 0.2
- Operating Temperature: -25 to +55ºC,-40 to +85ºC Optional
- Frequency: 50 to 400 Hz • RoHS compliant • CE-approved

APPLICATIONS

- For applications that require exceptional accuracy with minimal phase angle error
- Applications would include Current, Power and Energy monitoring devices

PART NUMBERS

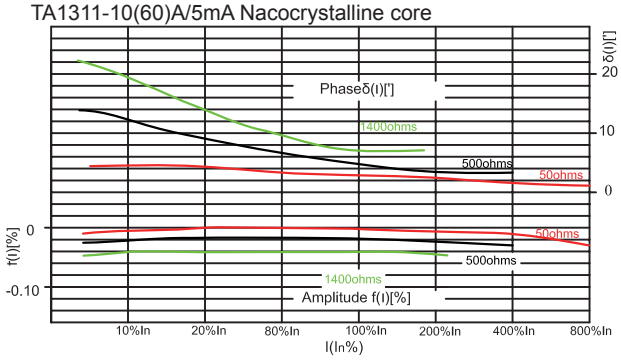


PERFORMANCES

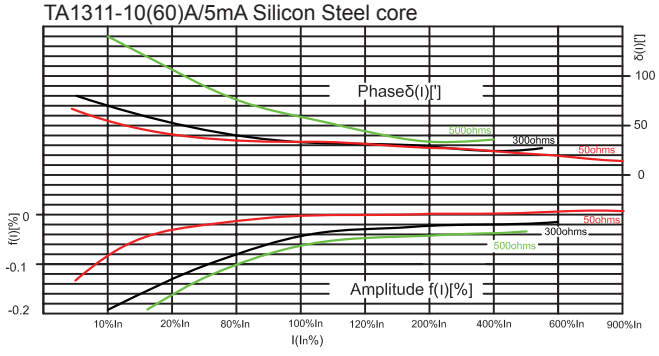
Model	Rated Input	Ratio	Frequency（Hz）	Secend burden (Ohms)	Accuracy Class	Outline Dimensions ID-L-W-H(mm)
TA1111	5~30A	1000：1 2000：1 2500：1	50 to 400	≤200	0.1, 0.2, 0.5	9.0-22.0-18.0-23.0
TA1311	5~80A		50 to 400	≤800	0.1, 0.2, 0.5	8.0-25.3-18.0-30.0
TA1411	5~80A		50 to 400	≤800	0.1, 0.2, 0.5	9.0-31.5-20.5-33.5

Typical Impedance Dependence of Phase and Amplitude Errors (test temperature 25º C)

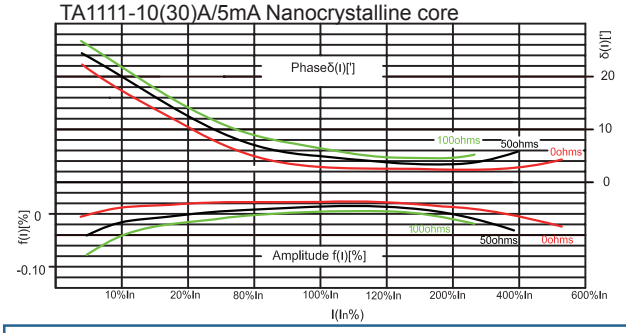
TA1311-10(60)A/5mA Nacocrystalline core



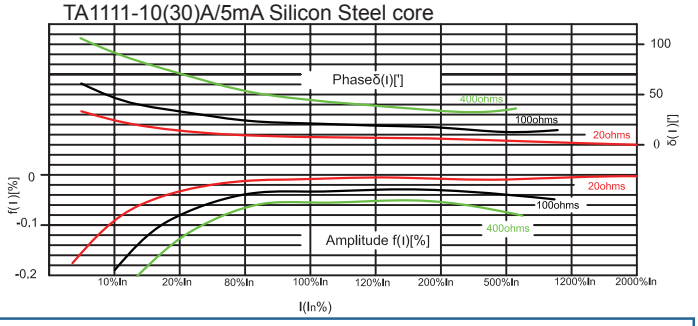
TA1311-10(60)A/5mA Silicon Steel core



TA1111-10(30)A/5mA Nanocrystalline core



TA1111-10(30)A/5mA Silicon Steel core



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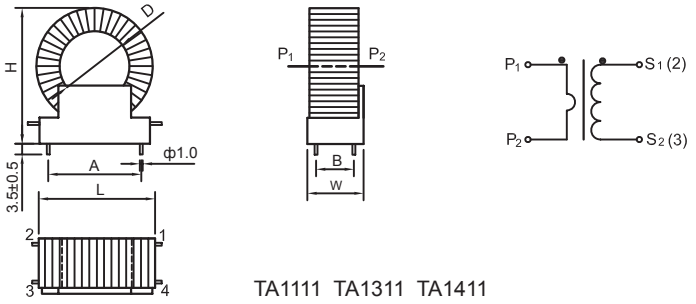
OUTLINE DRAWINGS



TA1111 TA1311 TA1411

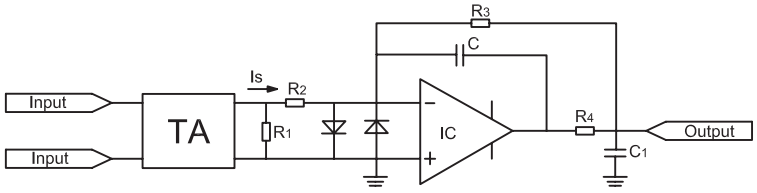
OUTLINE DIMENSIONS

Unit:mm (inch)

Model	L	W	H	A	B	D
TA1111	24.00(0.945)	18.00(0.709)	25.00(0.984)	15.20(0.598)	6.50(0.256)	7.00(0.276)
TA1311	25.30(0.996)	18.00(0.709)	30.00(1.181)	20.32(0.800)	13.00(0.512)	8.00(0.315)
TA1411	28.0(1.102)	20.50(0.807)	33.50(1.319)	23.3(0.917)	15.20(0.598)	7.00(0.276)

APPLICATION EXAMPLE

please find circuit below. secondary output is conected to OP V/V circuit to improve its load capacity. needed output voltage signal is obtained through adjusting value of feedback resistor R3.capacitor C is for compensating phase shift, IC is OP. higher acurracy and better stablity OP is easily acheived with a better performance OP.the IC can be OP07, feedback resistor R's accuracy is better than 1%, temperature coefficient is better than 50PPM.



application example:
using model TA33S-5A/3.54mA to design a circuit to acheive output voltage 10V PP when input current is 8 times of rated input 5A, circuit and parameters as follows:

R1=49.9Ω、R2=10KΩ、R3=49.9KΩ、R4=4.99KΩ,then：

Vo=IsR1(R3/R2)=3.54mAX8X1.414X49.9ΩX49.9/10=10V

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