

# XZM-CT50A01

## PRECISION CURRENT SENSE TRANSFORMER

### FEATURES

- Measuring current transformer acc. IEC 61869-1, IEC 61869-2
- Designed for IEC 61851-1 charging applications
- Ideal for current / power monitoring and metering applications
- Current rating 50 Arms
- Primary to secondary insulation according OVC III / PD 3
- Dielectric strength 4 kV AC
- UL approved class B insulation system
- TÜV type approved



### ELECTRICAL DATA

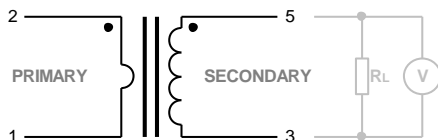
<b>Primary current</b> rating overload withstand impulse current withstand	50 A 70 A (1min.) 2 kA (half wave)
<b>Approved ratings</b> primary current extended current secondary current short time thermal current system voltage	(TÜV) 50 A 120 % 50 mA 1 kA ≤ 800 V
<b>Working frequency</b>	50/60 Hz (sin.)
<b>Turns ratio <math>N_S:N_P</math></b>	1000:1
<b>Accuracy</b> classification magnitude error phase error	(at $R_L=50\Omega$ ) Class 0.2 (acc. IEC 61869-2) ≤ 0.5% (< 0.1% typ. @ 0.5 - 50 A) ≤ 1° (< 0.3° typ. @ 0.5 - 50 A)
<b>Secondary output</b> transformation ratio max. voltage burden resistor $R_L$	60 mV/A (typ. $T_a=23^\circ\text{C}$ , $R_L=50\Omega$ , $f=50\text{Hz}$ ) 3.0 V 50 $\Omega$ (recommended)
<b>Windings</b> PRI DC resistance SEC DC resistance	< 0.2 m $\Omega$ (typ.) ≤ 60 $\Omega$ (< 50 $\Omega$ typ.)
<b>Dielectric strength</b> PRI to SEC	(at sea level, 1mA, 50/60Hz, 1sec.) 4 kV AC
<b>Insulation</b> PRI to SEC	(acc. IEC60664-1) Reinforced (300 VAC, OVC III, PD 3)
<b>Isolation spacing</b> clearance/creepage solid insulation (dti)	(Primary to Secondary) ≥ 11.5 mm 1.0 mm

### GENERAL DATA

<b>Temperature range</b> operating / storage	-40°C (-40°F) to 85°C (185°F)
<b>Vibration resistance</b>	0.062" (1.5 mm) DA at 10–55 Hz
<b>Shock resistance</b>	10 g
<b>Enclosure</b> material group flammability	IIIa UL94 V-0
<b>Terminals</b>	Tinned copper alloy
<b>Soldering</b> preheating soldering	(referring IEC 61760-1 wave soldering) 120°C (248°F) / ≤ 120 s 260 ±5°C (500 ±9°F) / ≤ 10 s
<b>Cleaning</b> max. solvent temp. max. immersion time	80°C (176°F) 30 seconds
<b>Dimensions</b> length (max.) width (max.) height (max.)	23.0 mm (0.906") 23.0 mm (0.906") 20.0 mm (0.787")
<b>Weight</b>	23 grams (approx.)
<b>Compliance</b>	RoHS, REACH
<b>Agency approvals</b>	TÜV: R 50576118
<b>Electrical insulation system</b>	Class B
<b>Packing unit in pcs</b>	60 per plastic tray / 420 per carton box

### WIRING DIAGRAM

Burden resistor  $R_L$  and meter not included and shown for reference only.  
Dots indicate winding directions.



### ORDERING DATA

XZM-CT50A01



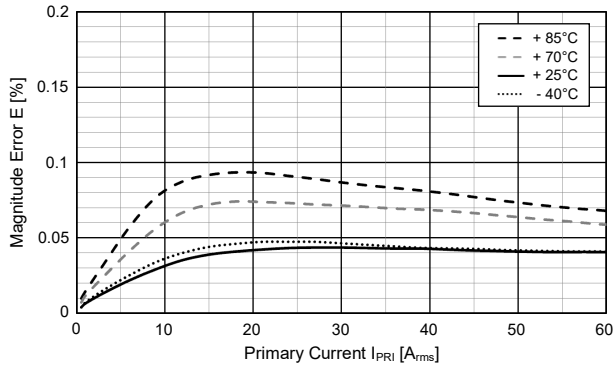
#### Option

nil: standard version  
(xxx): special version

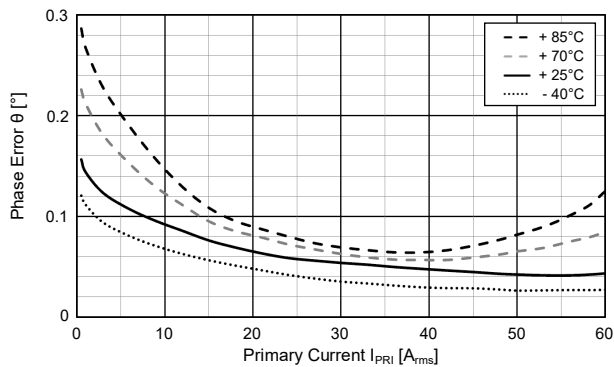
# XZM-CT50A01

## TYPICAL CHARACTERISTICS

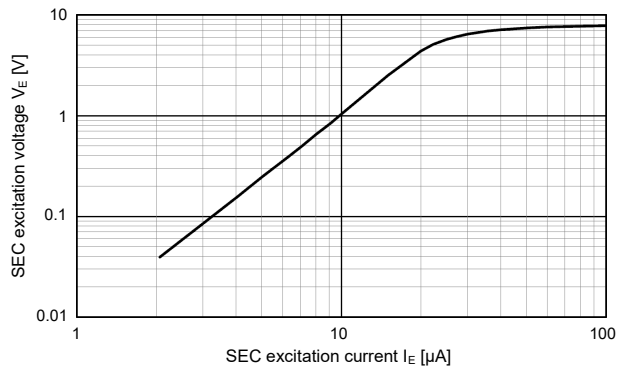
Magnitude error at  $R_L = 50\Omega$ ,  $I_{DC} = 0$



Phase error at  $R_L = 50\Omega$ ,  $I_{DC} = 0$

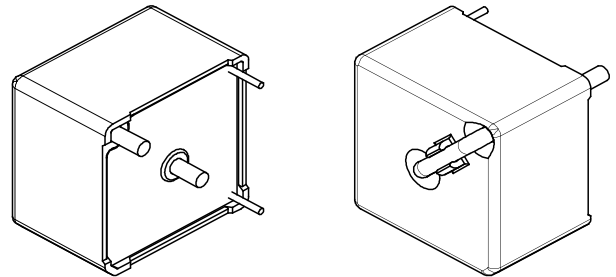
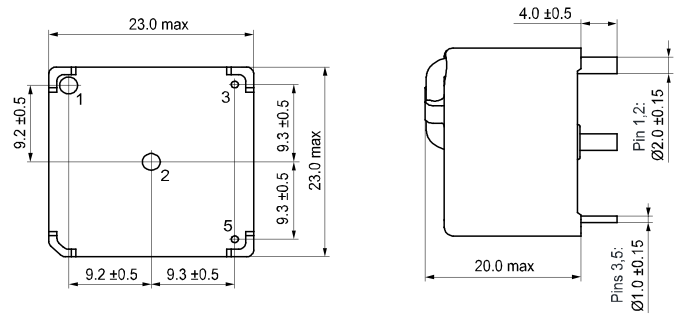


Excitation graph



## MECHANICAL DATA

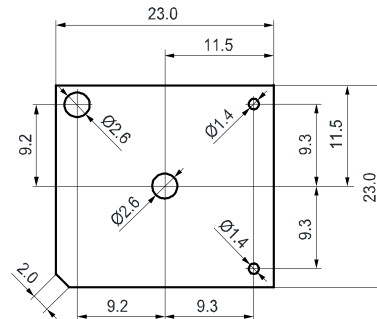
Dimensions in mm. Pin dimensions for reference only and given without tin coating.



CAD data in attachment of the datasheet.

## PC BOARD LAYOUT

Layout recommendation. Dimensions in mm. Viewed towards terminals.



## NOTES

1. All values at reference temperature of 23°C (73°F) unless stated otherwise.
2. Do not leave the secondary winding open circuited when the primary winding is energized. This may damage the secondary winding and leads to excessive core losses.
3. For automated dual wave soldering process we recommend preheating with 120°C (248°F) for max. 120 seconds and a soldering temperature of 260 ± 5°C (500 ± 9°F) for max. 10 seconds soldering time (max. 5 seconds per wave). For manual soldering we recommend 350°C (662°F) max. temperature for max. 5 seconds. During the soldering process, no force may be exerted on the terminals.
4. During storage, transport and usage, ensure a dry, non-condensing and non-icing environment.
5. Specifications subject to change without notice.

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## DISCLAIMER

The specification provides an overview of the most significant product features. Any individual applications and operating conditions are not taken into consideration. It is recommended to test the product under application conditions. Responsibility for the application remains with the customer. Proper operation and service life cannot be guaranteed if the part is operated outside the specified limits.

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