

# Topstek Current Transducer THT6A .. THT37.5A

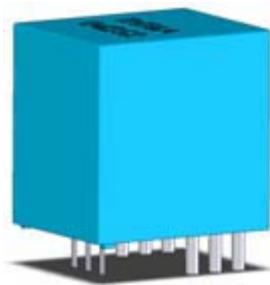
## THT 6A~37.5A

### Features

- ♦ Highly reliable Hall Effect device
- ♦ Wide selectable input ranges with flexible pin configurations.
- ♦ Compact and light weight
- ♦ Fast response time
- ♦ Excellent linearity of the output voltage over a wide input range
- ♦ Excellent frequency response (> 50 kHz)
- ♦ Low power consumption (<12 mA)
- ♦ Capable of measuring both DC and AC, both pulsed and mixed
- ♦ High isolation voltage between the measuring circuit and the current-carrying conductor (AC2.5KV)
- ♦ Extended operating temperature range
- ♦ Flame-Retardant plastic case and silicone encapsulate, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

### Applications

- ♦ UPS systems
- ♦ Industrial robots
- ♦ NC tooling machines
- ♦ Elevator controllers
- ♦ Process control devices
- ♦ AC and DC servo systems
- ♦ Motor speed controller
- ♦ Electrical vehicle controllers
- ♦ Inverter-controlled welding machines
- ♦ General and special purpose inverters
- ♦ Power supply for laser processing machines
- ♦ Controller for traction equipment e.g. electric trains
- ♦ Other automatic control systems



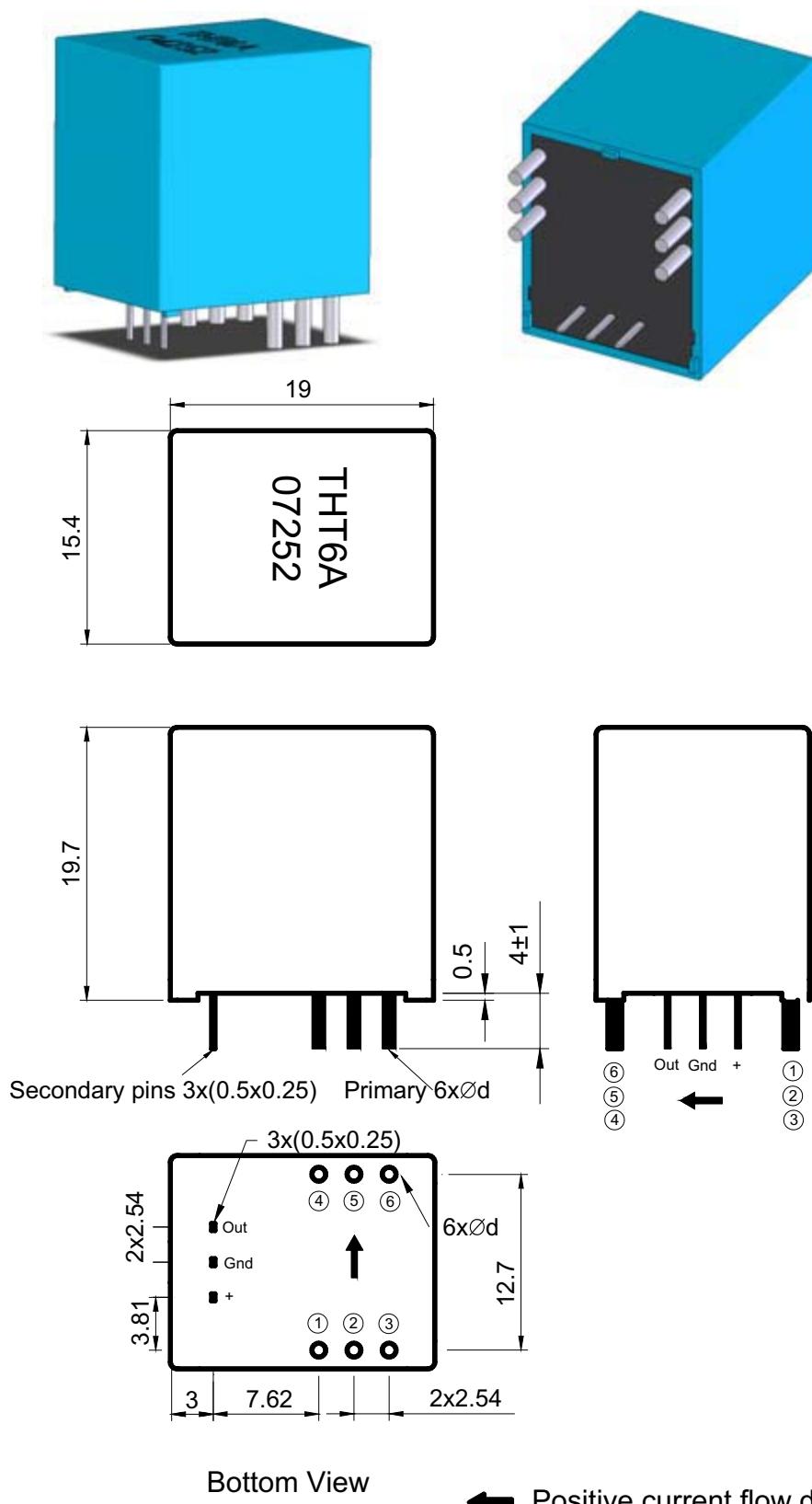
### Specifications

Parameter	Symbol	Unit	Configuration		
Primary Pin Configurations (to change N and $I_{fn}$ )					
Number of Primary Turns	N		1	2	3
<b>THT6A</b>	Nominal Input Current	$I_{fn}$	A DC	6	3
	Linear Range	$I_{fs}$	A DC	$\pm 19.2$	$\pm 9.6$
<b>THT15A</b>	Nominal Input Current	$I_{fn}$	A DC	15	7.5
	Linear Range	$I_{fs}$	A DC	$\pm 48$	$\pm 24$
<b>THT25A</b>	Nominal Input Current	$I_{fn}$	A DC	25	12.5
	Linear Range	$I_{fs}$	A DC	$\pm 80$	$\pm 40$
<b>THT37.5A</b>	Nominal Input Current	$I_{fn}$	A DC	37.5	18.75
	Linear Range	$I_{fs}$	A DC	$\pm 120$	$\pm 60$
Nominal Output Voltage	$V_{hn}$	V	$V_{REF} + 0.625 V \pm 1\% \text{ at } I_f = I_{fn} (R_L = 10k\Omega)$		
Nominal Output @ $I_f = 0$	$V_{REF}$	V	$V_{cc}/2 \pm 25 \text{ mV}, T_a = 25^\circ\text{C}$		
Output Resistance	$R_{OUT}$	$\Omega$	<50 $\Omega$		
Hysteresis Error	$V_{oh}$	mV	Within $\pm 2 \text{ mV} @ I_f = I_{fn} \rightarrow 0$		
Supply Voltage	$V_{cc}/V_{ee}$	V	+5V $\pm 5\%$		
Linearity	$\rho$	%	Within $\pm 0.5\%$ of $I_{fn}$		
Consumption Current	$I_{cc}$	mA	<12 mA		
Response Time (90% $V_{hn}$ )	$T_r$	$\mu\text{sec}$	3 $\mu\text{sec}$ max. @ $d I_f/dt = I_{fn} / \mu\text{sec}$		
Frequency bandwidth (-3dB)	$f_{BW}$	Hz	DC to 50kHz		
Thermal Drift of Output	-	$^\circ\text{C}/\text{mV}$	Within $\pm 0.1 \%/\text{mV} @ I_{fn}$		
Thermal Drift of Zero Current Offset	-	$^\circ\text{C}/\text{mV}$	Within $\pm 0.4 \text{ mV}/\text{mV} @ I_{fn}$		
Dielectric Strength	-	V	AC2.5KV X 60 sec		
Isolation Resistance @ 1000 VDC	$R_{IS}$	M $\Omega$	>1000 M $\Omega$		
Operating Temperature	$T_a$	$^\circ\text{C}$	-15 $^\circ\text{C}$ to 80 $^\circ\text{C}$		
Storage Temperature	$T_s$	$^\circ\text{C}$	-20 $^\circ\text{C}$ to 85 $^\circ\text{C}$		
Mass	W	g	10 g		

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## Appearance, dimensions and pin identification

All dimensions in mm  $\pm 0.1$ , holes  $-0, +0.2$  except otherwise noted.



Bottom View

← Positive current flow direction

Primary Current Input Pins	I+	I-
pin	1,2,3	4,5,6

Primary Current Input Pin Diameter	THT6A	THT15A	THT25A	THT37.5A
d(mm)	0.6	0.8	1.0	1.2