

# Topstek Current Transducer THT6A .. THT37.5A

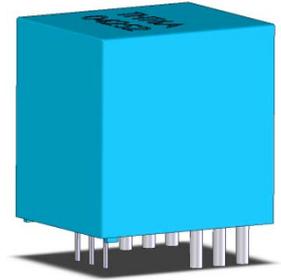
## THT 6A-37.5A

### 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



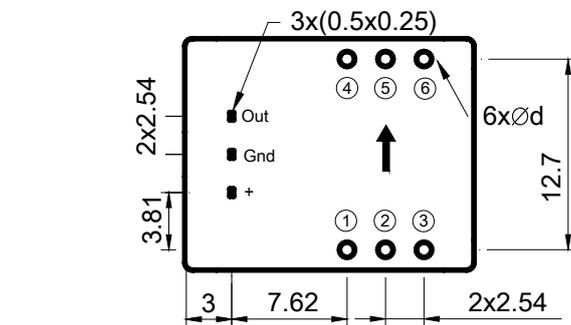
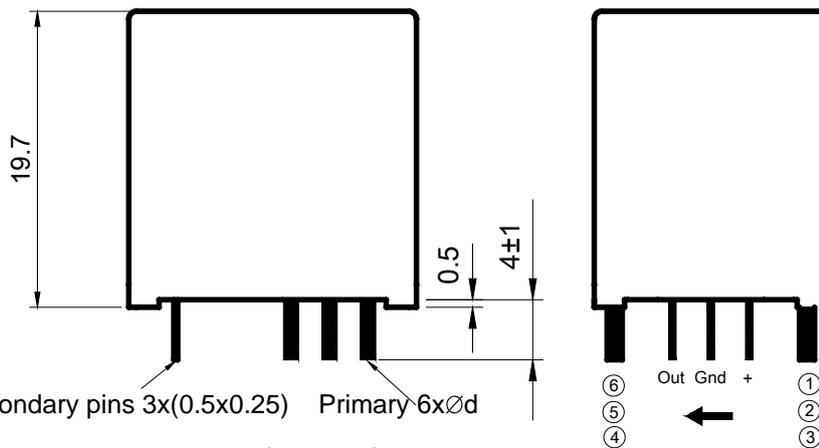
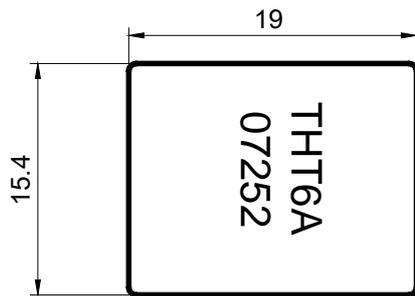
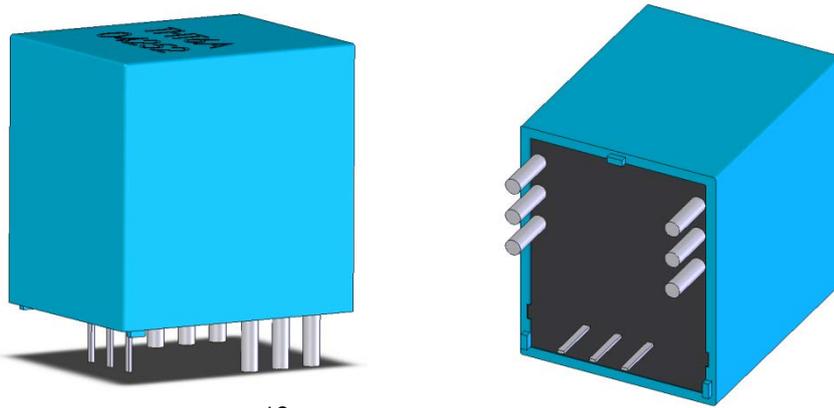
### Specifications

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	2
	Linear Range	$I_{fs}$	A DC	±19.2	±9.6	±6.4
<b>THT15A</b>	Nominal Input Current	$I_{fn}$	A DC	15	7.5	5
	Linear Range	$I_{fs}$	A DC	±48	±24	±16
<b>THT25A</b>	Nominal Input Current	$I_{fn}$	A DC	25	12.5	8.33
	Linear Range	$I_{fs}$	A DC	±80	±40	±26.67
<b>THT37.5A</b>	Nominal Input Current	$I_{fn}$	A DC	37.5	18.75	12.5
	Linear Range	$I_{fs}$	A DC	±120	±60	±40
Nominal Output Voltage	$V_{hn}$	V	$V_{REF} + 0.625 V \pm 1\%$ at $I_f = I_{fn}$ ( $R_L = 10k\Omega$ )			
Nominal Output @ $I_f = 0$	$V_{REF}$	V	$V_{CC}/2 \pm 25 mV$ , $T_a = 25^\circ C$			
Output Resistance	$R_{OUT}$	$\Omega$	<50 $\Omega$			
Hysteresis Error	$V_{oh}$	mV	Within $\pm 2 mV$ @ $I_f = I_{fn} \rightarrow 0$			
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% $V_{hn}$ )	$T_r$	$\mu sec$	3 $\mu sec$ max. @ $dI_f/dt = I_{fn}/\mu sec$			
Frequency bandwidth (-3dB)	$f_{BW}$	Hz	DC to 50kHz			
Thermal Drift of Output	-	%/ $^\circ C$	Within $\pm 0.1 \%$ / $^\circ C$ @ $I_{fn}$			
Thermal Drift of Zero Current Offset	-	mV/ $^\circ C$	Within $\pm 0.4 mV$ / $^\circ C$ @ $I_{fn}$			
Dielectric Strength	-	V	AC2.5KV X 60 sec			
Isolation Resistance @ 1000 VDC	$R_{IS}$	M $\Omega$	>1000 M $\Omega$			
Operating Temperature	$T_a$	$^\circ C$	-15 $^\circ C$ to 80 $^\circ C$			
Storage Temperature	$T_s$	$^\circ C$	-20 $^\circ C$ to 85 $^\circ C$			
Mass	W	g	10 g			

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## Appearance, dimensions and pin identification

All dimensions in mm  $\pm 0.5$ , holes  $-0, +0.2$  except otherwise noted.



Bottom View

← Positive current flow direction

Primary Current Input Pins	I+	I-	Primary Current Input Pin Diameter	THT6A	THT15A	THT25A	THT37.5A
pin	1,2,3	4,5,6	d(mm)	0.6	0.8	1.0	1.2