Topstek Current Transducer THT6A .. THT37.5A

THT 6A~37.5A



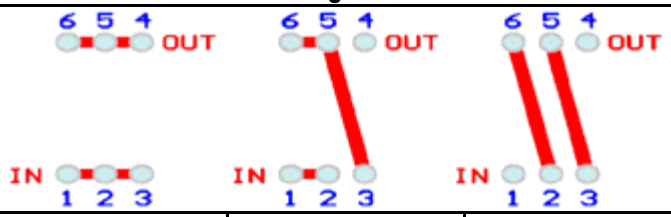
Features

- ♦ 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

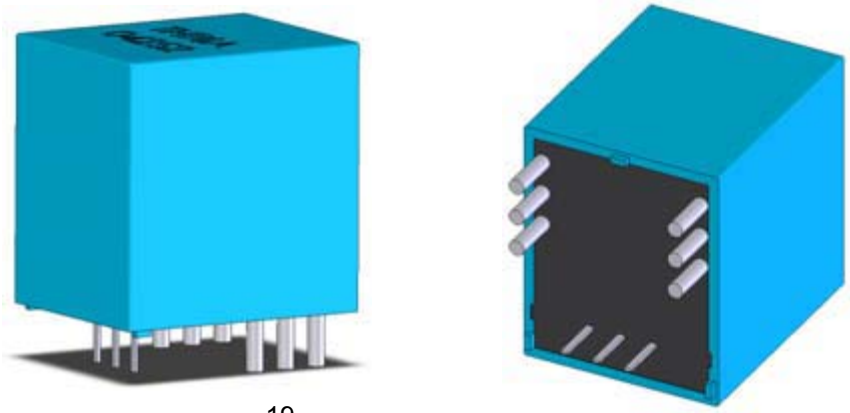
- ♦ UPS systems
- ♦ Industrial robots
- ♦ NC tooling machines
- ♦ Elevator controllers
- ♦ Process control devices
- ♦ AC and DC servo systems
- ♦ Motor speed controller
- ♦ Electrical vehicle controllers
- ♦ Inverter-controlled welding machines
- ♦ General and special purpose inverters
- ♦ Power supply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

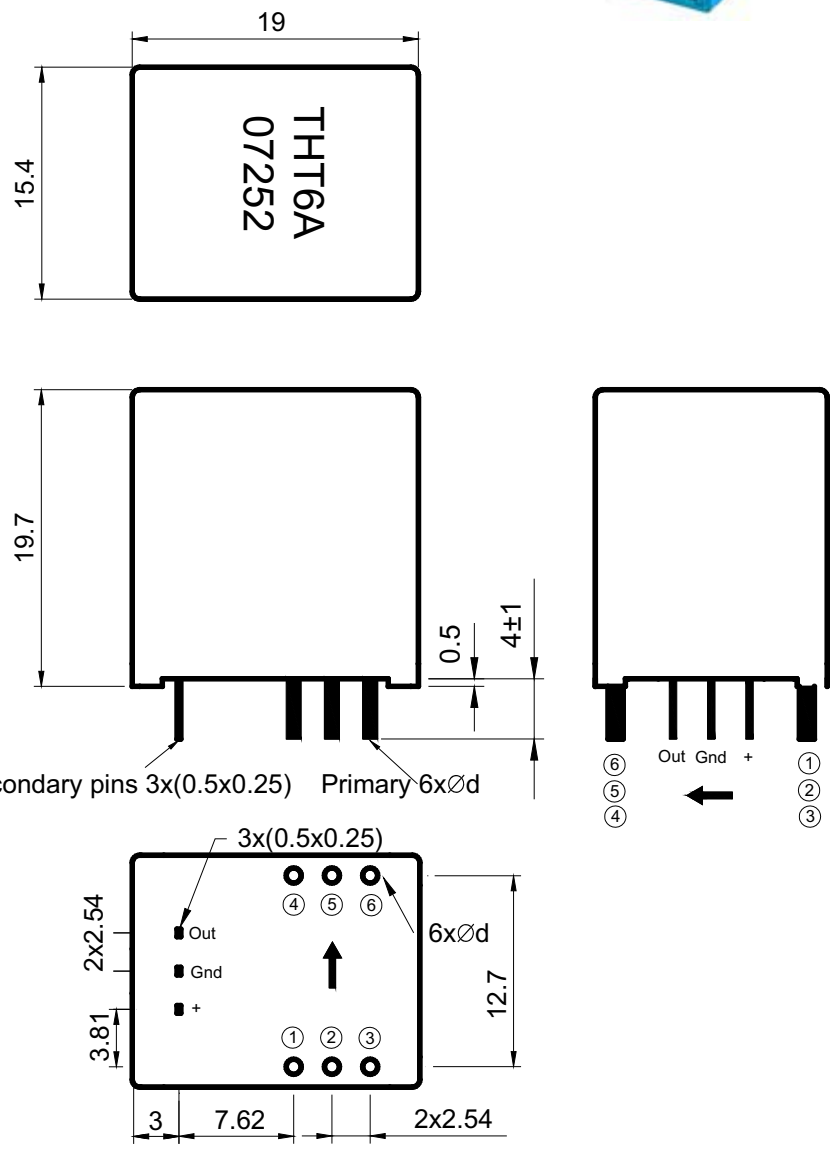
Specifications

Parameter		Symbol	Unit	Configuration		
Primary Pin Configurations (to change N and I_{fn})						
Number of Primary Turns		N		1	2	3
THT6A	Nominal Input Current	I_{fn}	A DC	6	3	2
	Linear Range	I_{fs}	A DC	±19.2	±9.6	±6.4
THT15A	Nominal Input Current	I_{fn}	A DC	15	7.5	5
	Linear Range	I_{fs}	A DC	±48	±24	±16
THT25A	Nominal Input Current	I_{fn}	A DC	25	12.5	8.33
	Linear Range	I_{fs}	A DC	±80	±40	±26.67
THT37.5A	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±1% at If=I_{fn} (R_L=10kΩ)		
Nominal Output @ I_f = 0		V_{REF}	V	V_{CC}/2 ± 25 mV, T_a=25°C		
Output Resistance		R_{OUT}	Ω	<50Ω		
Hysteresis Error		V_{oh}	mV	Within ±2 mV @ I_f=I_{fn}→0		
Supply Voltage		V_{CC}/V_{EE}	V	+5V ±5%		
Linearity		ρ	%	Within ±0.5% of I_{fn}		
Consumption Current		I_{CC}	mA	<12 mA		
Response Time (90%V_{hn})		T_r	μsec	3 μsec max. @ $d I_f/dt$ = I_{fn}/ μsec		
Frequency bandwidth (-3dB)		f_{BW}	Hz	DC to 50kHz		
Thermal Drift of Output		-	%/°C	Within ±0.1 %/°C @ I_{fn}		
Thermal Drift of Zero Current Offset		-	mV/°C	Within ±0.4 mV/°C @ I_{fn}		
Dielectric Strength		-	V	AC2.5KV X 60 sec		
Isolation Resistance @ 1000 VDC		R_{IS}	MΩ	>1000 MΩ		
Operating Temperature		T_a	°C	-15°C to 80°C		
Storage Temperature		T_s	°C	-20°C to 85°C		
Mass		W	g	10 g		

Appearance, dimensions and pin identification

All dimensions in mm ±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