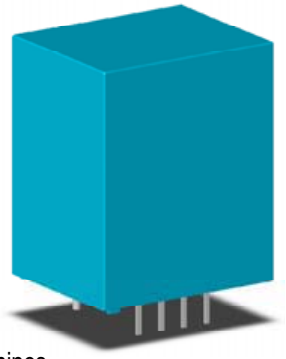
Topstek Current Transducer TQH5A .. TQH50A

TQH5A~50A



Features

- ♦ Highly reliable Closed Loop Hall Effect device
- ♦ Compact and light weight
- ♦ Fast response time
- ♦ Excellent linearity of the output voltage over a wide input range
- ♦ Excellent frequency response (> 100 kHz)
- ♦ Low power consumption at quiescent state (10 mA nominal)
- ♦ 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 encapsulant, using UL classified materials, ensures protection against environmental contaminants and vibration over a wide temperature and humidity range

Applications

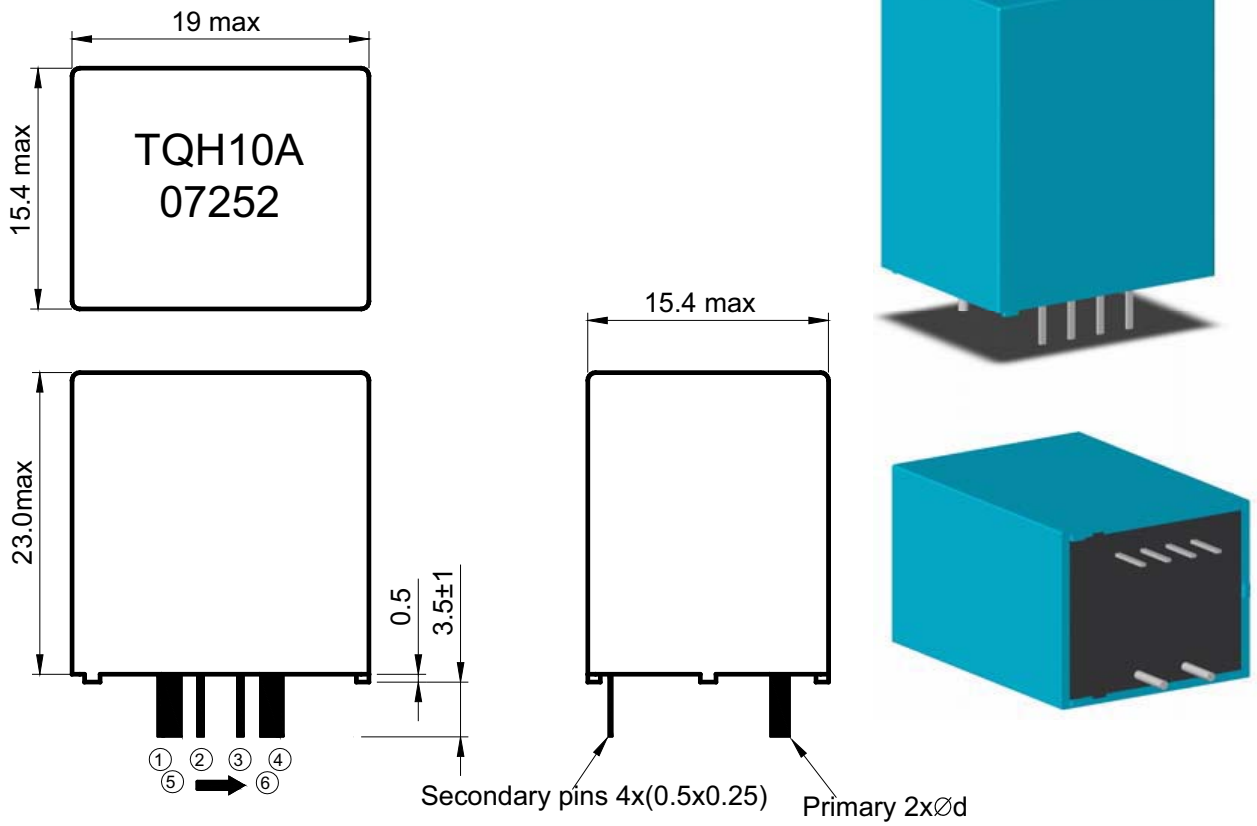
- ♦ UPS systems
- ♦ Industrial robots
- ♦ NC tooling machines
- ♦ Elevator controllers
- ♦ Process control devices
- ♦ AC and DC servo systems
- ♦ Motor speed controller
- ♦ Electrical vehicle controllers
- ♦ Inverter-controlled welding machines
- ♦ General and special purpose inverters
- ♦ Power supply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

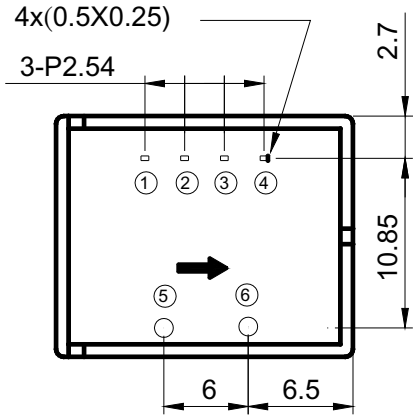
Specifications

Parameter	Symbol	Unit	TQH5A	TQH7.5A	TQH10A	TQH15A	TQH25A	TQH37.5A	TQH50A
Nominal Input Current	I_{fn}	A DC	±5	±7.5	±10	±15	±25	±37.5	±50
Linear Range	I_{fs}	A DC	±15	±22.5	±30	±45	±75	±113	±140
Conversion Ratio	K_N	-	6:1300	4:1300	3:1300	2:1300	1:1300	1:1300	1:1600
Consumption Current@ I_f=I_{fn}	I_{CC}	mA	35	35	35	35	31	41	43
Sec. Resistance@25°C	R_{Cmax}	Ω	53	53	53	53	53	53	80
Sec. Resistance@80°C	R_{Cmax}	Ω	55	55	55	55	55	55	83
Maximum Load Resistance	R_{Mmax}	Ω	**118**	**118**	**118**	**118**	**153**	**84**	**57**
Minimum Load Resistance	R_{Mmin}	Ω	**45**	**45**	**45**	**45**	**45**	**45**	**20**
Nominal Output Current	V_{hn}	mA	±23.08	±23.08	±23.08	±23.08	±19.23	±28.85	±31.25
Supply Voltage Range	V_{CC}/V_{EE}	V	±15V ±5%						
Offset Current	I_{os}	mA	Within ±0.2 mA @ I_p=0, T_a=25°C						
Hysteresis Error	I_{oh}	mA	Within ±0.2 mA @ I_f=I_{fn}→0						
Linearity	ρ	%	Within ±0.5% of I_{fn}						
Response Time (90%V_{hn})	T_r	μsec	3 μsec max. @ $d I_f / dt = I_{pn}$ / μsec						
Frequency Bandwidth (-3dB)	f_{BW}	Hz	DC to 100kHz						
Thermal Drift of Output	-	%/°C	Within ±0.02 %/°C @ I_{fn}						
Thermal Drift of Zero Current Offset	-	mA/°C	Within ±0.4mA 0°C~80°C						
Dielectric Strength	-	V	AC2.5KV X 60 sec						
Isolation Resistance @ 1000 VDC	R_{IS}	MΩ	>1000 MΩ						
Operating Temperature	T_a	°C	-40°C to 80°C						
Storage Temperature	T_s	°C	-40°C to 85°C						
Mass	W	g	<14 g						

Appearance, dimensions and pin identification

All dimensions in mm ±0.1, holes –0, +0.2 except otherwise noted.





Bottom View

Pin Assignment	
①	-15V
②	0V
③	+15V
④	Iout
⑤	I +
⑥	I -

Nominal Primary Current	3--4A	5--7A	7.5--12A	12.5—25A	30—37.5A	40--50A
d (mm)	0.6	0.8	1.0	1.3	1.4	1.6