

Topstek Current Transducer TQH10A .. TQH50A-SP1

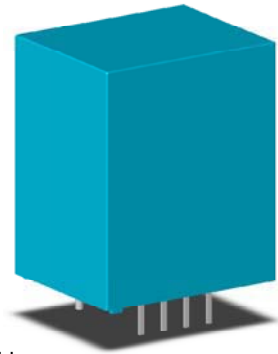
TQH10A~50A-SP1

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



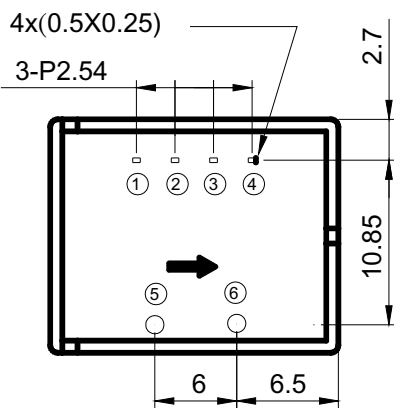
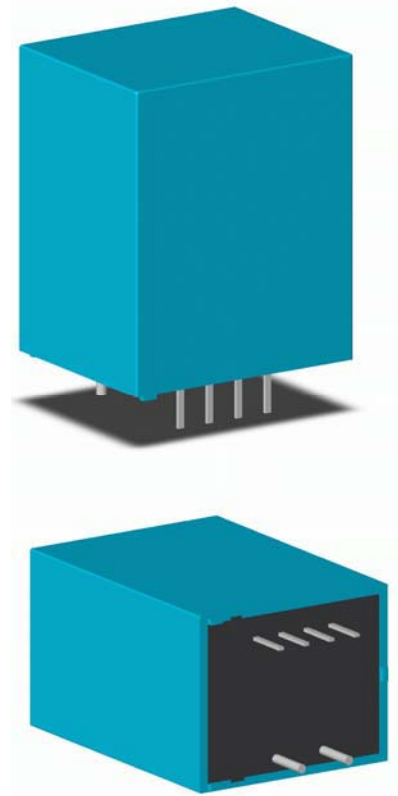
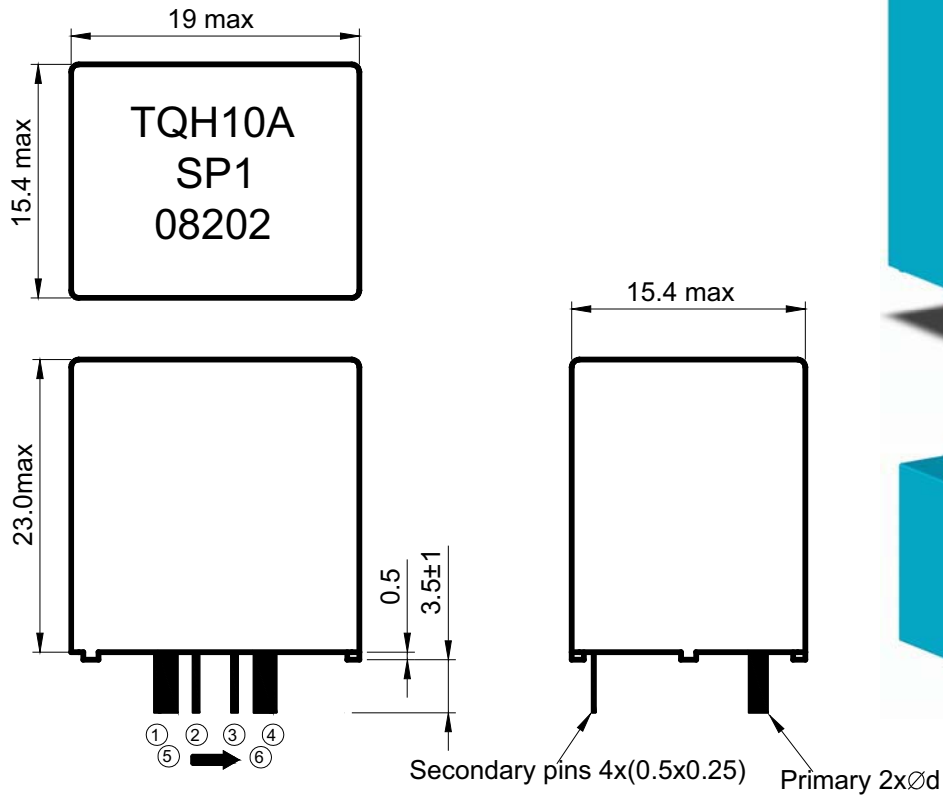
Specifications

Parameter	Symbol	Unit	TQH10A-SP1	TQH12A-SP1	TQH17A-SP1	TQH25A-SP1	TQH50A-SP1
Nominal Input Current	I_{pn}	A DC	±10	±12.5	±16.667	±25	±50
Linear Range	I_{fs}	A DC	±15	±19	±25	±38	±75
Conversion Ratio	K_N	-	5:1000	4:1000	3:1000	2:1000	1:1000
Consumption Current@ $I_f=I_{pn}$	I_{CC}	mA	62	62	62	62	62
Max Sec. Resistance@25°C	R_{Cmax}	Ω	59	59	59	59	59
Max Sec. Resistance@80°C	R_{Cmax}	Ω	61	61	61	61	61
Maximum Load Resistance	R_{Mmax}	Ω	80	80	80	80	80
Minimum Load Resistance	R_{Mmin}	Ω	65	65	65	65	65
Nominal Output Current	I_{on}	mA	±50	±50	±50	±50	±50
Supply Voltage Range	V_{CC}/V_{EE}	V	±12V ... ±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 @ $I_f=I_{fn} \rightarrow 0$				
Linearity	ρ	%	Within ±0.5% of I_{fn}				
Response Time (90% V_{hn})	T_r	μsec	1.2 μsec max. @ $d I_f / dt = I_{pn} / \mu sec$				
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				

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Appearance, dimensions and pin identification

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



Pin Assignment	
①	-15V
②	NC
③	+15V
④	I _{OUT}
⑤	I ₊
⑥	I ₋

Bottom View

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