

Topstek Current Transducer TGA3A .. TGA40A

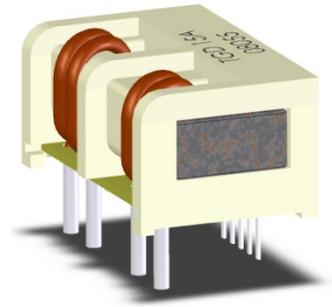
TGD3A~40A

Features

- ◆ Highly reliable Hall Effect device
- ◆ Compact and light weight, Two sensors in one package
- ◆ Fast response time
- ◆ Excellent linearity of the output voltage over a wide input range
- ◆ Excellent frequency response (> 50 kHz)
- ◆ Low power consumption (22 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 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



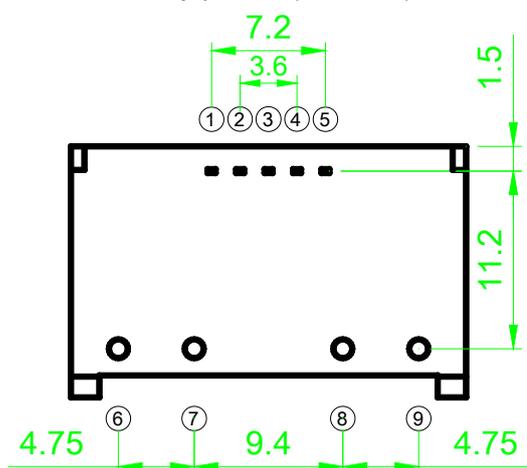
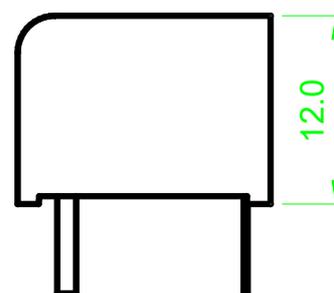
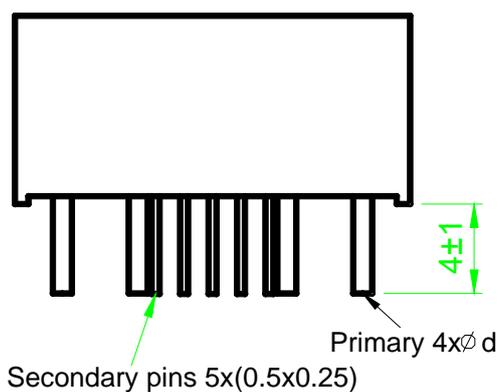
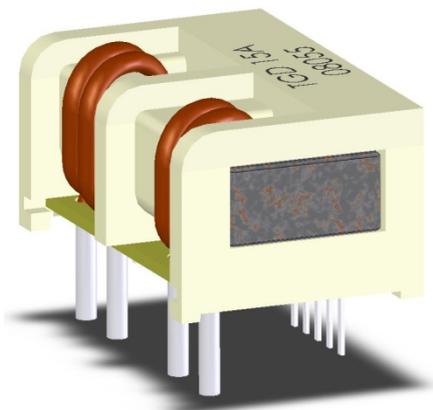
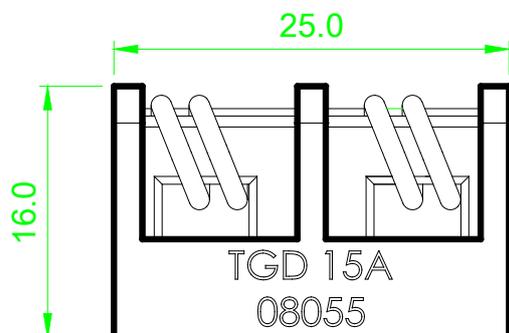
Specifications

Parameter	Symbol	Unit	TGD3A .. TGD40A
Nominal Input Current	I_{fn}	A DC	3 .. 40
Linear Range	I_{fs}	A DC	$\pm 3.75 .. \pm 50 = 1.25 \times I_{fn}$
Nominal Output Voltage	V_{hn}	V	$V_{cc}/2 \pm 1.5V$ at $I_f = \pm I_{fn}$ ($R_L = 10k\Omega$)
Nominal Output Voltage Accuracy		mV	Within $\pm 45mV$
Offset Voltage	V_{os}	mV	$V_{cc}/2 \pm 35 mV$ @ $I_f = 0$, $T_a = 25^\circ C$
Output Resistance	R_{OUT}	Ω	$< 100\Omega$
Supply Voltage	V_{CC}	V	+5V $\pm 5\%$
Linearity	ρ	%	Within $\pm 1\%$ of I_{fn}
Consumption Current	I_{CC}	mA	+22 mA nominal, +30 mA max
Response Time (90% V_{hn})	T_r	μsec	5 μsec max. @ $d I_f / dt = I_{fn} / \mu sec$
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 $\pm 2 mV/^\circ C$ @ 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	8 g

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Appearance, dimensions and pin identification

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



1	+5V
2	NC
3	V _{OUT1}
4	V _{OUT2}
5	GND
6	I ₁₊
7	I ₁₋
8	I ₂₊
9	I ₂₋

Primary Current Input Pin Diameter	3A-9A	10A-14A	15A-24A	25A-40A
d(mm)	0.6	0.8	1.0	1.2