Topstek Current Transducer TKD3A .. TKD40A-S12/S05

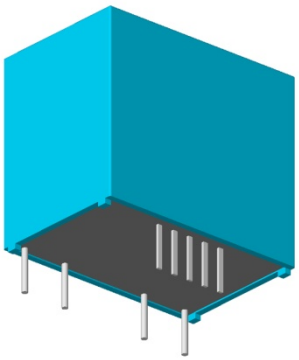
TKD 3A~40A-S12/S05

Features

- ♦ Highly reliable Hall Effect device
- ♦ 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 (20 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

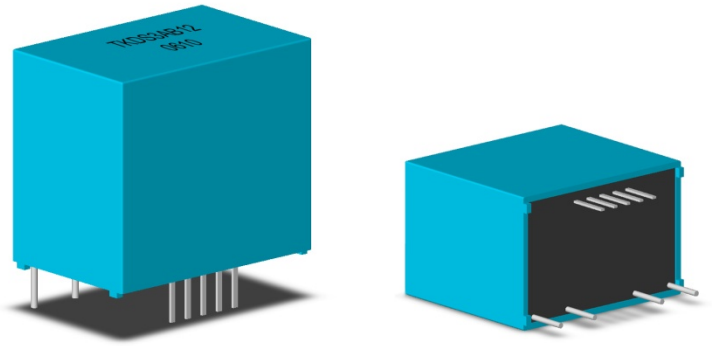


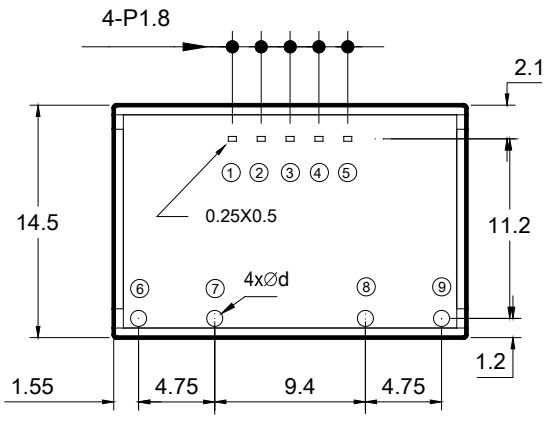
Specifications

Parameter	Symbol	Unit	TKD3A-S12 .. TKD40A-S12	TKD3A-S05 .. TKD40A-S05
Nominal Input Current	I_{fn}	A DC	3 .. 40	
Linear Range	I_{fs}	A DC	±4.5 .. ±60 = 1.5x I_{fn}	±3.75 .. ±50 = 1.25x I_{fn}
Nominal Output Voltage	V_{hn}	V	V_{REF} + 1.5 V±1.5% at If=I_{fn} (R_L=10kΩ)	
Nominal Output @ Zero Current Input	V_{REF}	V	+2.5V ±30 mV	V_{CC}/2 ±30 mV
Offset Voltage	V_{os}	mV	Within V_{REF}±25 mV @ I_f=0, T_a=25°C	
Output Resistance	R_{OUT}	Ω	<100Ω	
Hysteresis Error	V_{oh}	mV	Within ±25 mV @ I_f=I_{fn}→0	
Supply Voltage	V_{CC}	V	+12V ±5%	+5V ±5%
Linearity	ρ	%	Within ±1% of I_{fn}	
Consumption Current	I_{CC}	mA	20 mA nominal, 30 mA max	
Response Time (90%V_{hn})	T_r	µsec	5 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 ±1.5 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	15 g	

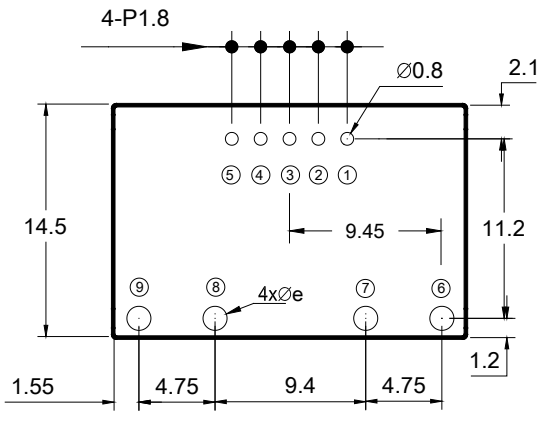
Appearance, dimensions and pin identification

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





Bottom View



PCB mounting hole layout

Pin Assignment	
①	+V
②	-V
③	Output 1
④	Output 2
⑤	GND
⑥	+ Input 1
⑦	- Input 1
⑧	+ Input 2
⑨	- Input 2

Part Number	1A~3A	4A~8A	9A~15A	16A~40A
d(mm)	0.6	0.8	1.2	1.4
e(mm)	1.2	1.6	1.8	2.0