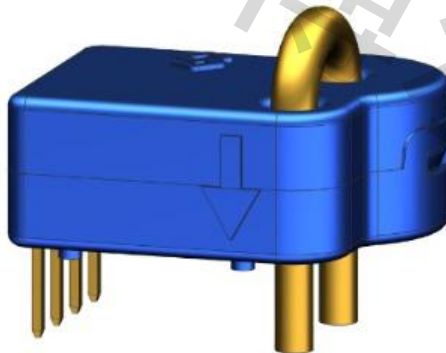


CURRENT SENSOR

PRODUCT SERIES: STK-HD

PRODUCT PART NUMBER: STK-05HD, STK-10HD,
STK-15HD, STK-20HD

REVISION: Ver 3.0



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深圳市优博尔科技

1. Description

The new series of current sensor is based on the open loop principle and TMR technology .DC, AC, pulses and any kind of irregularities wave can be measured by the current sensor under the isolated conditions.

Typical application

- AC Variable speed drives
- Direct-current dynamo
- Solar inverters.
- Switched model power supplies (SMPS)

General parameters

Parameter	Symbol	Unit	Value
Working temperature	T _A	°C	-40 ~ 85
Storage temperature	T _{stg}	°C	-40 ~ 105
Mass	m	g	10

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage	V _C	V	6
ESD rating (HBM)	U _{ESD}	kV	4

Remark: the unrecoverable damage may occur when the product works on the conditions over the absolute maximum ratings. Long-time working on the absolute maximum ratings may cause the degradation on performance and reliability.

Isolation parameters

Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	U _d	kV	4	
Impulse withstand voltage 1.2/50μs	Ū _w	kV	6	
Clearance distance (pri. -sec)	d _{Cl}	mm	9.6	Shortest distance through air
Creepage distance (pri. -sec)	d _{Cp}	mm	9.6	Shortest path along device body
Electrical clearance	-	mm	9.6	When mounted on PCB with recommended layout
Case material			V0 according UL 94	to
Comparative tracking index	CTI	V	600	

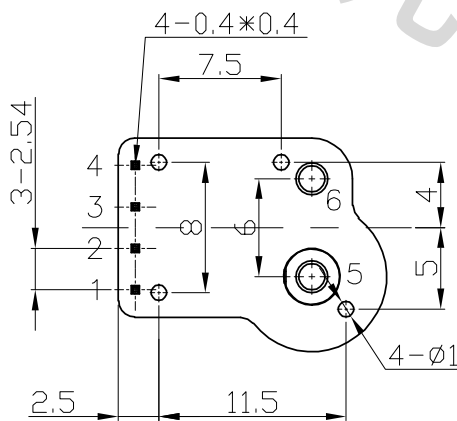
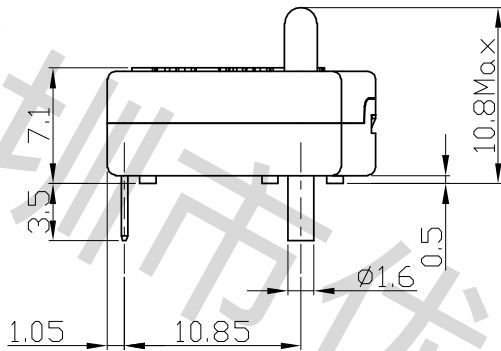
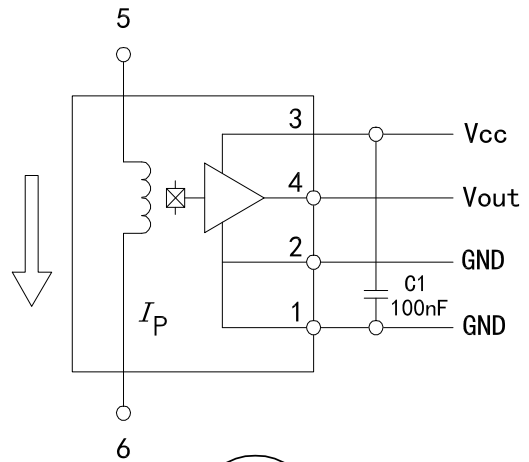
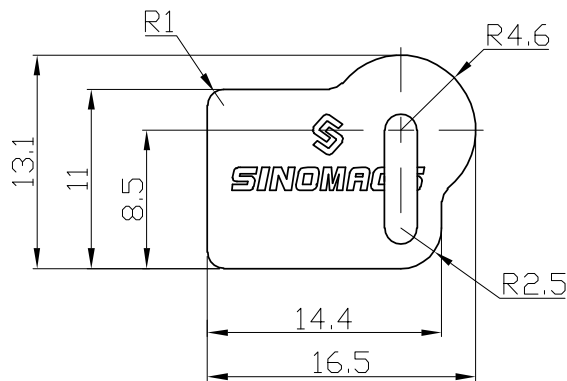
2. Electrical data

Primary nominal rms current I_{PN} (A)	Primary current measuring rang I_{PM} (A)	Type
05	6.5	STK-05HD
10	13	STK-10HD
15	19.5	STK-15HD
20	26	STK-20HD

3. Electrical performance

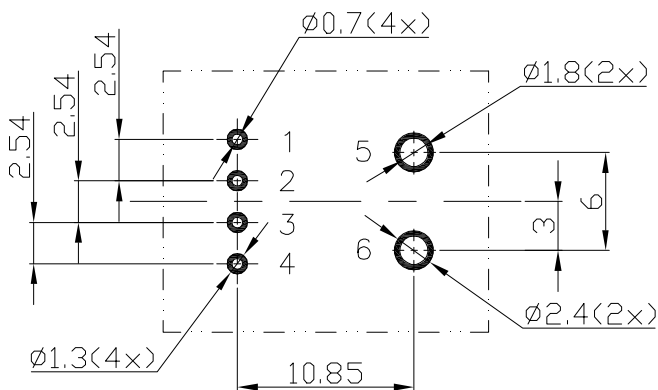
Parameter	Symbol	Value	Unit	Type
Supply voltage	VC	5±5%	V	All series
Current consumption	I _c	5	mA	All series
Reference voltage (output) $I_P = 0$ A	V _{out}	2.5±0.02	V	All series
Output voltage range @ I_{PN}	V _{out} -V _{ref}	2.5±1.5	V	All series
Output internal resistance	R _{out}	10	Ω	All series
Electrical offset voltage @ $I_P=0$	V _{OE}	±20	mV	V _{out} – 2.5V
Capacitive loading	C _L	<10	nF	All series
Linearity error 0- I_{PN}	ε _L	±0.5	% of I_{PN}	All series
Linearity error 0- I_{PM}	ε _L	±0.5	% of I_{PM}	All series
Reaction time @ 10 % of I_{PN}	t _{ra}	0.5	μs	All series
Step response time to 90 % of I_{PN}	t _r	1	μs	All series
Frequency bandwidth (± 3 dB)	BW	400	kHz	All series
Peak-peak output ripple at oscillator DC.. 10kHz DC.. 100kHz	V _{no}	16.8 45.3	mVpp	All series
Overall accuracy@ I_{PN}	X	±1	% of I_{PN}	All series
Overall accuracy@ I_{PN} @TA=85°C	X _{85°C}	±3	% of I_{PN}	All series

4. STK-xxHD: Dimensions & Pins & Footprint



Terminals

1.	GND
2.	GND
3.	Vcc
4.	Vout
5.	Ip+
6.	Ip-



Material : Fit UL94V-0 & RoHS requirements ;
 General tolerance : ± 0.2
 Unit : mm

