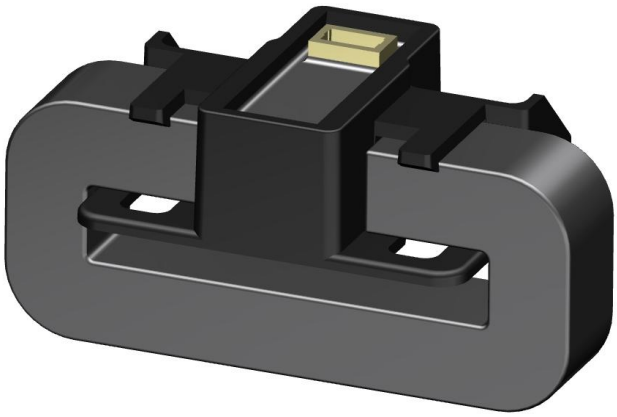
SINOMAGS
希 磁 科 技

Current Sensor

Product Series：	STK-GB/M
Part number：	STK-150GB/M STK-250GB/M STK-350GB/M
Version:	Ver 3.0



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CONTENT

1. Summary

The STK-GB/M series is based on TMR (Tunneling-Magnetoresistance) technology and open-loop design. It is suitable for DC, AC pulsed and any kind of irregular current measurement under the isolated conditions.

Typical applications

- AC frequency control equipment
- DC motor
- SMPS
- Electric welder power supply
- Inverter
- EV motor controller

General parameter

Parameter	Symbol	Unit	Value
Working temperature	T_A	℃	-20 ~ 85
Storage temperature	T_stg	℃	-40 ~ 125
Mass (w/o bus-bar)	m	g	30

Absolute maximum r

Parameter	Symbol	Unit	Value
Supply voltage （non-destructive）	V_C	V	6.0
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

Isulation parameter

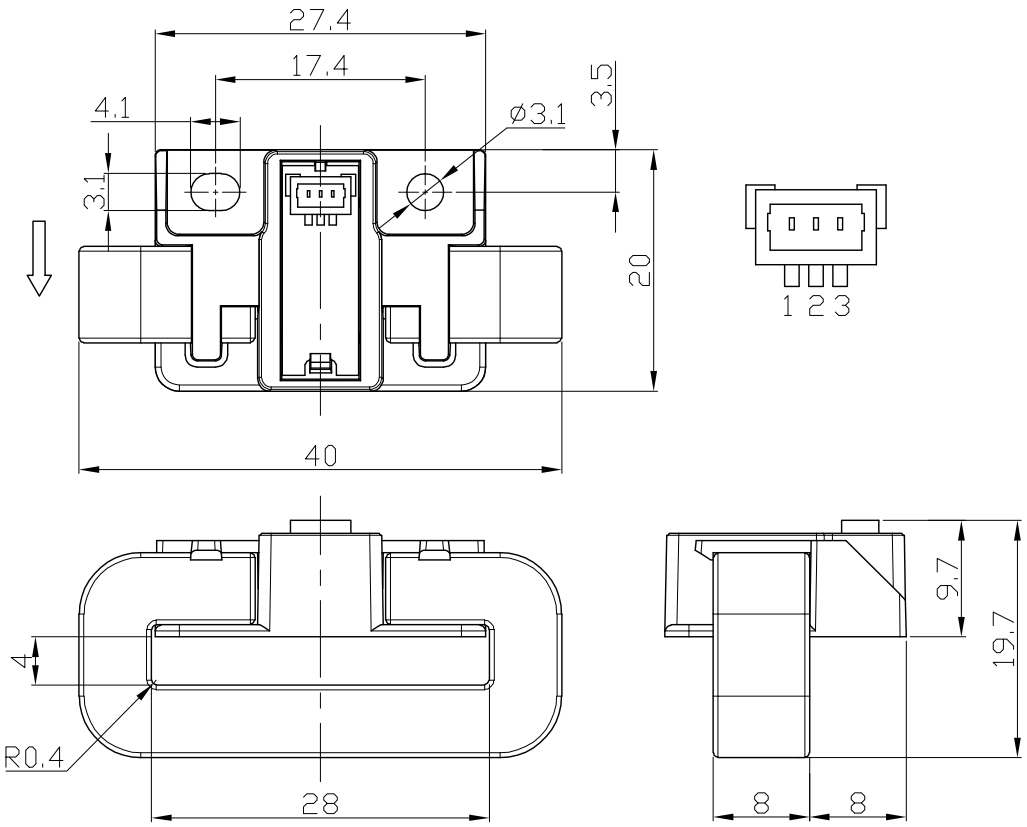
Parameter	Symbol	Unit	Value	Comment
RMS voltage for AC test 50Hz/1 min	Ud	kV	2	
Clearance distance (pri. -sec)	dCl	mm	8	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	8	Shortest path along device body
Case material			V0 according to UL 94	

2. STK-GB/M Electrical performance

Condition：T_A = 25℃, Vcc = 3.3 V

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary current measuring range	I_{PM}	A	-150		150	STK-150GB/M
			-250		250	STK-250GB/M
			-350		350	STK-250GB/M
Supply voltage	Vcc	V	3.1	3.3	3.4	
Current consumption	Icc	mA		5		
Quiescent voltage	Voff	V	1.60	1.65	1.70	Vout @ 0 A
Rated output voltage	V_FS	V		1.2		(Vout @ I_{PM}) - Voff
Internal output resistance	R_out	Ω		2		Vout
Theoretical gain	G_th	mV/A		8		STK-150GB/M
				4.8		STK-250GB/M
				3.42		STK-250GB/M
Rated linearity error	Non-L	% I_{PM}		±1.5		±I_{PM}
Step response time	t_res	μs		3		@ 90% of I_{PM}
Frequency bandwidth (-3dB)	BW	kHz		200		No RC circuit
Output voltage noise DC ~ 10 kHz DC ~ 100 kHz	Vnoise	mVpp		 10 20		
Accuracy @ 25℃	X	% of I_{PM}		±1.5		@ 25℃
Accuracy @ -20℃ ~ 85℃	X_TRange	% of I_{PM}	-4		4	-20℃ ~ 85℃

3. Dimensions of STK-GB/M



Terminals

(1)	+
(2)	0
(3)	M

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