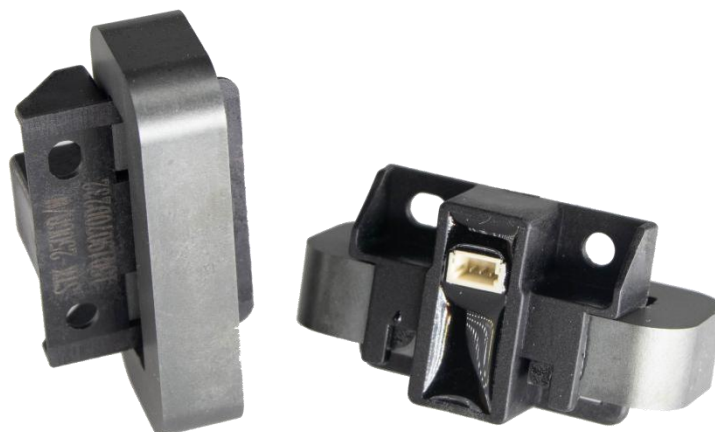


Current Sensor

Product Series: STK-GB/M

Part number: STK-150GB/M
STK-250GB/M
STK-350GB/M

Version: Ver 3.0



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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	°C	-20 ~ 85
Storage temperature	T _{stg}	°C	-40 ~ 125
Mass (w/o bus-bar)	m	g	30

Absolute maximum

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

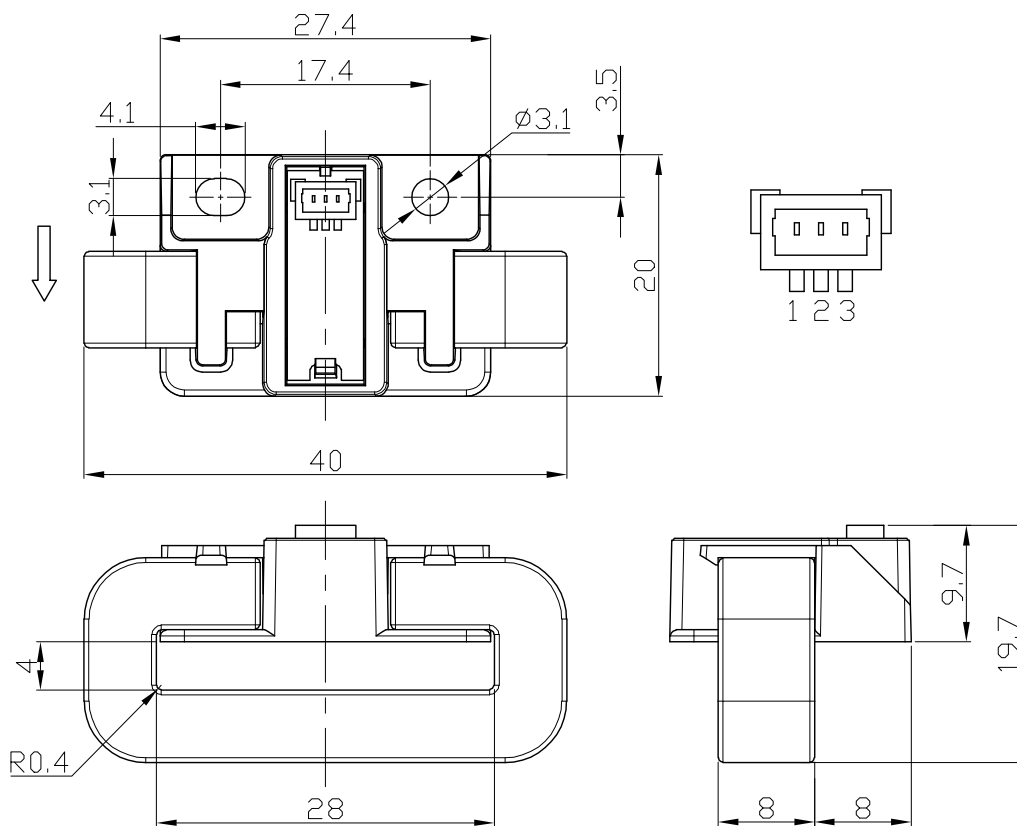
Parameter	Symbol	Unit	Value	Comment
RMS voltage for AC test 50Hz/1 min	U _d	kV	2	
Clearance distance (pri. -sec)	d _{Cl}	mm	8	Shortest distance through air
Creepage distance (pri. -sec)	d _{Cp}	mm	8	Shortest path along device body
Case material			V0 according to UL 94	

2. STK-GB/M Electrical performance

Condition: $T_A = 25^{\circ}\text{C}$, $V_{CC} = 3.3\text{ V}$

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	V_{CC}	V	3.1	3.3	3.4	
Current consumption	I_{CC}	mA		5		
Quiescent voltage	V_{OFF}	V	1.60	1.65	1.70	$V_{OUT} @ 0\text{ A}$
Rated output voltage	V_{FS}	V		1.2		$(V_{OUT} @ I_{PM}) - V_{OFF}$
Internal output resistance	R_{OUT}	Ω		2		V_{OUT}
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		$\pm I_{PM}$
Step response time	t_{RES}	μs		3		@ 90% of I_{PM}
Frequency bandwidth (-3dB)	BW	kHz		200		No RC circuit
Output voltage noise	V_{NOISE}	mVpp				
DC ~ 10 kHz				10		
DC ~ 100 kHz				20		
Accuracy @ 25°C	X	% of I_{PM}		± 1.5		@ 25°C
Accuracy @ $-20^{\circ}\text{C} \sim 85^{\circ}\text{C}$	X_{TRANGE}	% of I_{PM}	-4		4	$-20^{\circ}\text{C} \sim 85^{\circ}\text{C}$

3. Dimensions of STK-GB/M



Terminals

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

Material : Fit UL94V-0 & RoHS requirements ;

General tolerance : ± 0.2

Unit :mm

