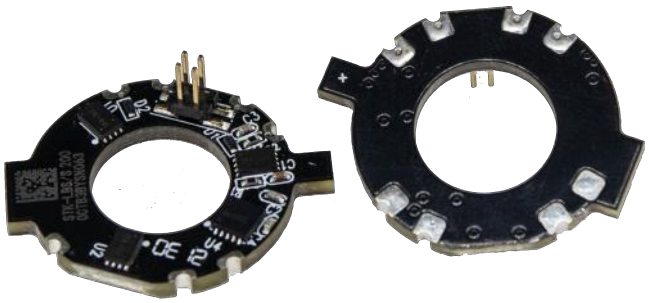
Current Sensor

Product Series: STK-LBS/S

Part number: STK-200LBS/S



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CONTENT

1. Description

The STK-LBS/S series current sensor is based on TMR (tunnel 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 variable speed driver
- Converter
- Uninterrupted Power Supply (UPS)
- Electric welder power supply
- Switched model power supply (SMPS)
- DC/DC power supply

General parameter

Parameter	Symbol	Unit	Value
Working temperature	T_A	℃	-20 ~ 85
Storage temperature	T_stg	℃	-40 ~ 125
Mass	m	g	10

Absolute maximum rating

Parameter	Symbol	Unit	Value
Supply voltage	Vcc	V	6.5
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 parameter

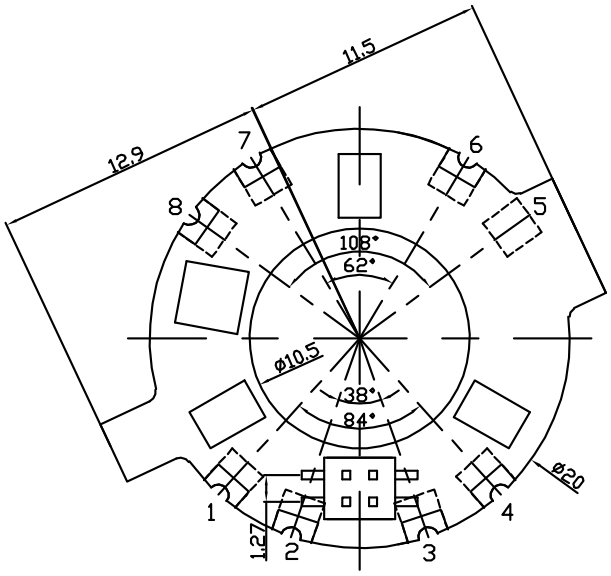
Parameter	Symbol	Unit	Value	Comment
RMS voltage for AC test 50Hz/1 min	Ud	kV	1	
Clearance distance (pri. -sec)	dCl	mm	1	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	1	Shortest path along device body

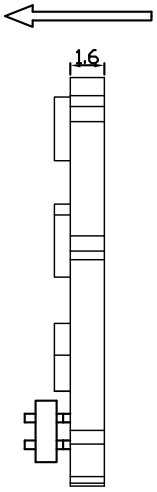
2. Electrical data STK-200LBS/S

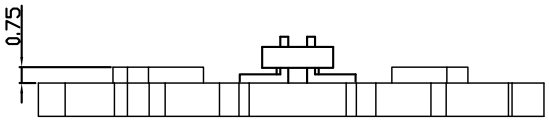
Condition：T_A = 25℃，Vcc = 3.3 V (unless specified)

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary current measuring range	I_pm	A	-200		200	
Supply voltage	Vcc	V		3.3±5%		
Current consumption	Icc	mA		10		
Quiescent voltage	Voff	V	1.6	1.65	1.7	Vout @ 0 A
Rated output voltage	V_FS	V		±1.2		(Vout @ ±I_pm) – Voff
Internal output resistance	R_out	Ω		2		
Theoretical gain	G_th	mV/A		6		1.2V @ I_pm
Rated linearity error	Non-L	%I_pm		±1		Within ±I_pm
Step response time	t_res	μs		3		@90% of I_pm
Delay time	t_delay	μs		1.5		250 kHz sine wave
Frequency bandwidth (-3dB)	BW	kHz		250		No RC circuit
Output voltage noise DC ~ 10 kHz DC ~ 250 kHz	Vnoise	mVpp		 20 30		
Accuracy @ TA=25℃	X	% of I_pm		±1		@ 25℃
Accuracy @ TA = -20℃~85℃	X	% of I_pm		±2		@ -20℃~85℃

3. Dimension & Pin definitions

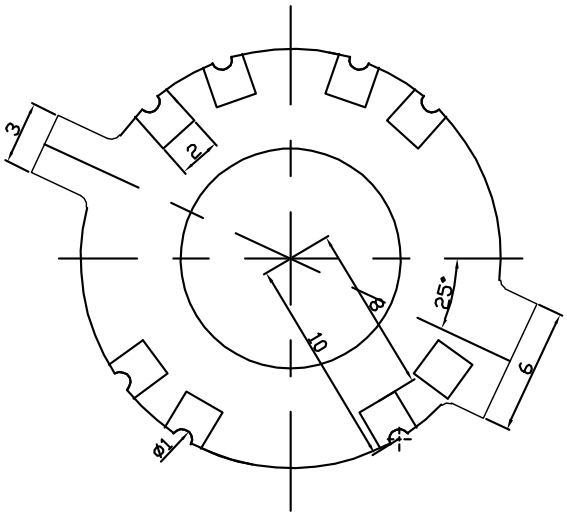






Terminals

1	M	Vout
2	0	GND
3	0	GND
4	+	Vcc
5	NC	
6	NC	
7	NC	
8	NC	



Material : Fit UL94V-0 & RoHS requirements ;
General tolerance : ±0.5
Unit :mm