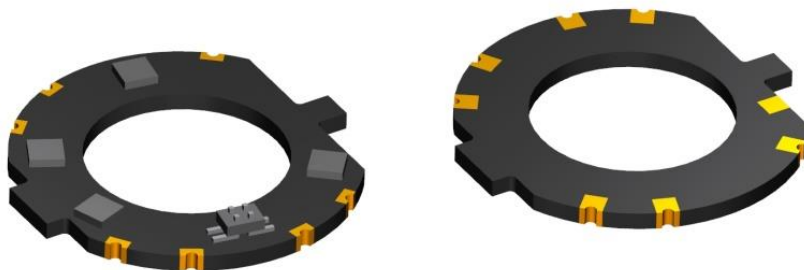


Current Sensor

Product Series: STK-LBS/S2

Part number: STK-800LBS/S2



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1. Description

The STK-LBS/S2 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	°C	-40 ~ 125
Storage temperature	T_stg	°C	-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

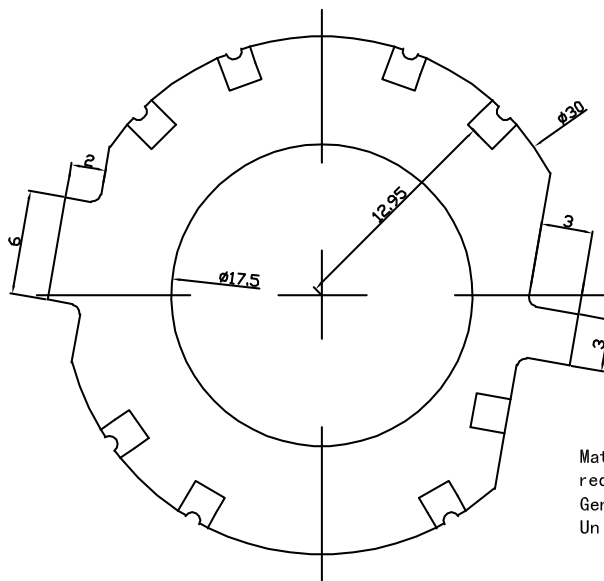
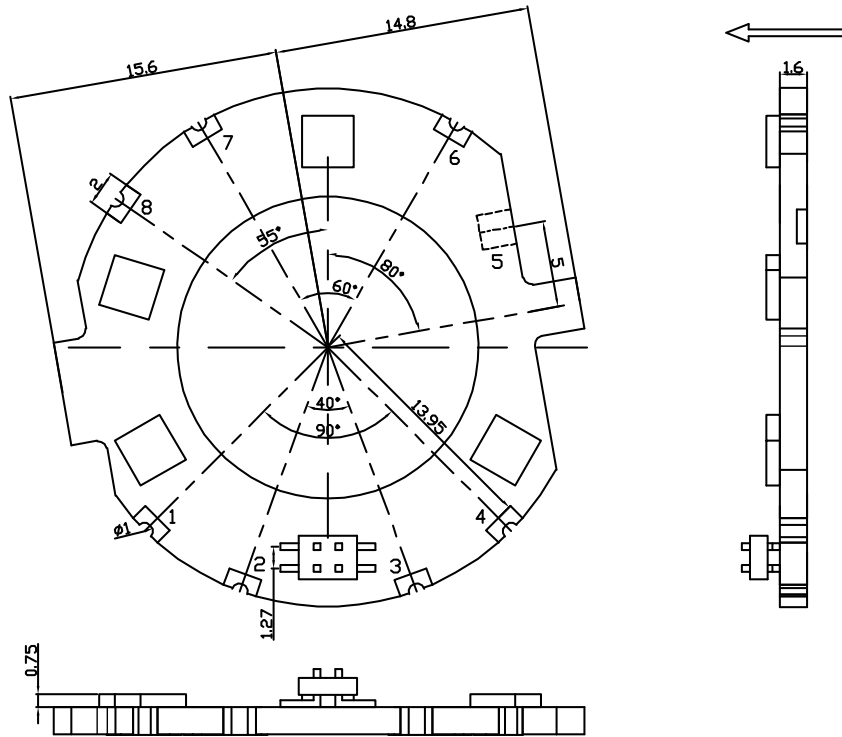
Parameter	Symbol	Unit	Value	Comment
RMS voltage for AC test 50Hz/1 min	Ud	kV	1	
Clearance distance (pri. -sec)	dCl	mm	1	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	1	Shortest path along device body

2. Electrical data

Condition: $T_A = 25^\circ\text{C}$, $V_{cc} = 5\text{ V}$ (unless specified)

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary current measuring range	I_{pm}	A	-800		800	STK-800LBS/S2
Supply voltage	V_{cc}	V		5±5%		
Current consumption	I_{cc}	mA		10		
Quiescent voltage	V_{off}	V	2.45	2.5	2.55	$V_{out} @ 0\text{ A}$
Rated output voltage	V_{FS}	V		2		$(V_{out} @ \pm I_{pm}) - V_{off}$
Internal output resistance	R_{out}	Ω		2		
Theoretical gain	G_{th}	mV/A		2.5		STK-800LBS/S2
Rated linearity error	Non-L	% I_{pm}		±1		Within ± I_{pm}
Step response time	t_{res}	μs		3		@90% of I_{pm}
Frequency bandwidth (-3dB)	BW	kHz		250		No RC circuit
Output voltage noise DC ~ 10 kHz DC ~ 250 kHz	V_{noise}	mVpp		20 30		
Accuracy	X	% of I_{pm}		±1.5		@ 25°C
Accuracy	X	% of I_{pm}		±3.5		@ -40°C~105°C

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

