SINOMAGS 希磁科技

Current Sensor

Product Series:	STK-BS-A2
Part number:	STK-600BS-A2 STK-800BS-A2
VERSION：	Ver 1.1

Sinomags Technology Co., Ltd

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1. Introduction

STK-BS-A2 series current sensor is based on Hall, and it has an open-loop design. It is suitable for DC, AC pulsed and any kind of irregular current measurement under the isolated conditions.

Typical applications

- Battery supplied applications
- Electric welder power supply
- Motor driver
- UPS

General parameter

Parameter	Symbol	Unit	Value
Working temperature	T_A	℃	-40 ~ 85
Storage temperature	T_stg	℃	-40 ~ 85
Mass	m	g	220

Absolute maximum rating

Parameter	Symbol	Unit	Value
Supply voltage （not-destructive）	V_{CC}	V	±18
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

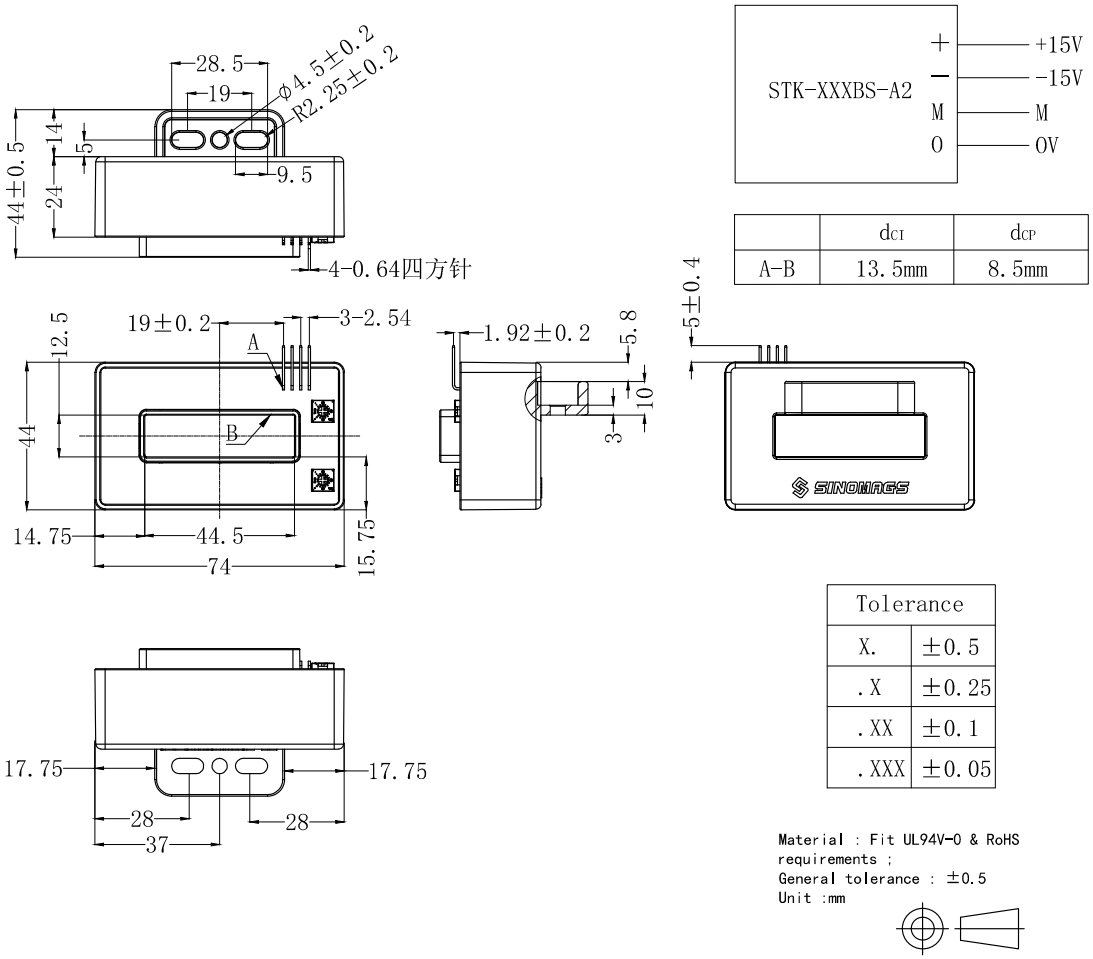
Parameter	Symbol	Unit	Value	Comment
RMS voltage for AC test 50Hz/1 min	Ud	kV	5	
Clearance distance (pri. -sec)	dCl	mm	13.5	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	8.5	Shortest path along device body
Case material			V0 according to UL 94	

2. Electrical Data

Condition：T_A = 25℃，Vcc = ±12~ ± 15V

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal current	I_{PN}	A		600		STK-600BS-A2
				800		STK-800BS-A2
Current range (refer remark)	I_{PM}	A	-1800		1800	STK-600BS-A2
			-2400		2400	STK-800BS-A2
Supply voltage	Vcc	V		±12~ ±15		All
Current consumption	Icc	mA		±20		All
Quiescent voltage Vout @ 0 A	Voff	V	-0.04	0	0.04	All
Peak output voltage (Vout @ $\pm I_{PN}$) – Voff	V_FS	V		± 4		All
Internal output resistance	R_out	Ω		100		Vout
Theoretical gain (Typ)	G_th	mV/A		4		All
Rated linearity error	Non-L	% I_{PN}		± 1		$\pm I_{PN}$
Step response time	t_res	μs		3	5	@90% of I_{PN}
Frequency bandwidth (-3dB)	BW	kHz		25		No RC circuit
Output voltage noise DC ~ 10 kHz DC ~ 100 kHz	Vnoise	mVpp		 20 30		All
Accuracy @ 25℃	X	% of I_{PN}		±1		All
Temperature coefficient of V_{OE}	TCV_{OE}	mV/K		±1		@ -40℃~ 85℃
Temperature coefficient of V_{OUT}	TCV_{OUT}	%/K		±0.1		@ -40℃~85℃

3. Dimension & Pin Definitions



	d_{CT}	d_{CP}
A-B	13.5mm	8.5mm

Tolerance	
X.	±0.5
.X	±0.25
.XX	±0.1
.XXX	±0.05

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