CURRENT SENSOR

PRODUCT SERIES： STB-LF/8

PRODUCT PART NUMBER： STB-50LF/8
STB-100LF/8

VERSION： Ver 1.0

Sinomags Technology Co., Ltd.

Web site: www.sinomags.com

CONTENT

1. Description

STB-LF/8 series current sensors are based on close loop principle. The sensor can detect the current with DC, AC, pulse and irregular wave shape with current output.

Typical application

- Windmill inverters
- Test and measurement
- Battery supplied applications
- Static converters for DC motors drives

- AC variable speed and servo motor drives
- Switched model power supplies (SMPS)
- UPS

General parameters

Parameter	Symbol	Unit	Value
Sensor operating temperature	T_A	˚C	-15 ~ 85
Storage temperature	T_S	˚C	-25 ~ 85
Mass	m	g	60

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage (-15˚C…85˚C)	Vcc_max	V	±15.75
Maximum primary conductor temperature	T_B_max	˚C	85
Maximum steady state primary current (-15˚C…85˚C)	I_{PN}_max	A	STB-50LF/8:50 STB-100LF/8:100

Ratings

Parameter	Unit	Value
Primary involved potential	V AC/DC	200
Maximum surrounding air temperature	˚C	85
Primary current	A	STB-50LF/8:0…50 STB-100LF/8:0…100

Isolation parameters

Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	Ud	kV	2.5	
Case material	-	-	V0	According to UL 94
Comparaticve tracking index	CTI		600	

2.　STB-50LF/8 Electrical parameters
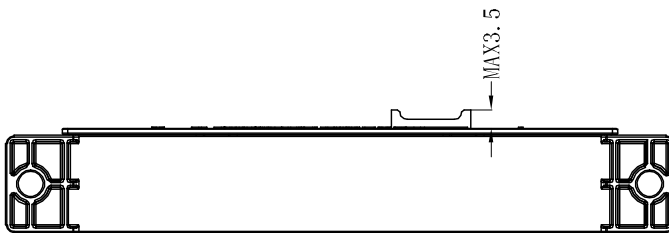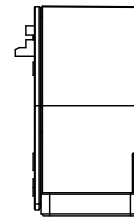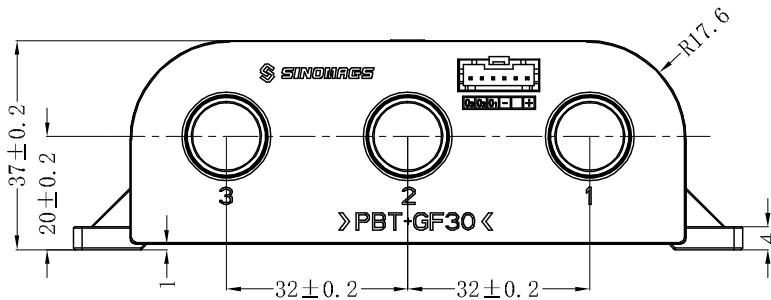
Condition: Vcc = ±15V, , T $_A$ = 25℃, unless specified.

Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal RMS current	I $_{PN}$	A			50	
Primary current measuring range	I $_{PM}$	A	-150		150	Vcc=±15V
Measuring resistance@ ± 50 A max	R_M	Ω	10		100	Vcc=±15V
Resistance of secondary winding	R_S	Ω			120	
Supply voltage	Vcc	V	±14.25		±15.75	
Current consumption	Icc	mA		60 + I_s		I
Turns ratio	N_s	NT		4000		
Norminal sensitivity	S_N	mA/A		0.25		
Offset current	I_O	mA	-0.2		0.2	
Offset current temperature drift	I_OT	mA	-0.6		0.6	-15℃ ～85℃
Linearity error	ξ_L	% of I $_{PN}$	-0.3		0.3	
RMS noise current reffered to pri.	I $_{no}$	mA		20		1Hz to 100kHz
Delay time @ 10 % of I $_{PN}$	t_ra 10	μs		0.5		@10% of I_pn
Delay time @ 90 % of I $_{PN}$	t_ra 90	μs			1	@90% of I_pn
-3 dB band width	BW	kHz		100		
Total error at I $_{PN}$	ξ_tol	% of I $_{PN}$	-1.2		1.2	-15℃…85℃

3. STB-100LF/8 Electrical parameters

Condition: Vcc = ±15V, , T $_A$ = 25℃, unless specified.

Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal RMS current	I$_{PN}$	A			100	
Primary current measuring range	I$_{PM}$	A	-200		200	Vcc=±15V
Measuring resistance@ ± 100 A max	R_M	Ω	10		50	Vcc=±15V
Resistance of secondary winding	R_S	Ω			120	
Supply voltage	Vcc	V	±14.25		±15.75	
Current consumption	Icc	mA		60+I_s		
Turns ratio	N_s	NT		4000		
Norminal sensitivity	S_N	mA/A		0.25		
Offset current	I_O	mA	-0.2		0.2	
Offset current temperature drift	I_OT	mA	-0.6		0.6	-15℃ ~ 85℃
Linearity error	ξ_L	% of I$_{PN}$	-0.3		0.3	
RMS noise current reffered to pri.	I$_{no}$	mA		20		1Hz to 100kHz
Delay time @ 10 % of I$_{PN}$	t_ra 10	μs		0.5		@10% of I_pn
Delay time @ 90 % of I$_{PN}$	t_ra 90	μs			1	@90% of I_pn
-3 dB band width	BW	kHz		100		
Total error at I$_{PN}$	ξ_tol	% of I$_{PN}$	-1.2		1.2	-40℃…85℃

4. Dimensions:

109±0.5

18.5
17.3

2-Φ4.5

98

118

Socket-connector:B06B-PASK-1(JST)
Supported plug-connector:PAP-06V-S(JST)

R17.6

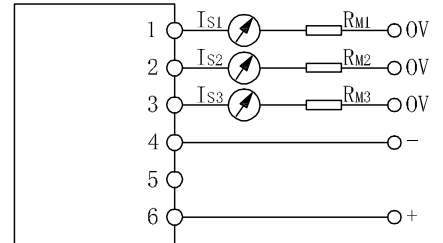SINOMAGS

37±0.2
20±0.2

3   2   1

》PBT-GF30《

4

32±0.2   32±0.2

1

Secondary terminals
Terminal 1:Output3
Terminal 2:Output2
Terminal 3:Output1
Terminal 4:supply voltage-15V
Terminal 5:Not Connected
Terminal 6:supply voltage+15V

Connection

MAX3.5

1 I_{S1} R_{M1} 0V
2 I_{S2} R_{M2} 0V
3 I_{S3} R_{M3} 0V
4 −
5
6 +

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