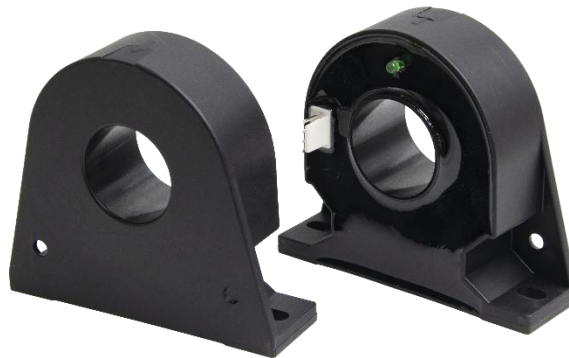


CURRENT SENSOR

PRODUCT SERIES: STB-LF2

PRODUCT PART NUMBER: STB-300LF2

VERSION: Ver 1.6



Sinomags Technology Co., Ltd.

Web site: www.sinomags.com

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1. Description

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

General parameters

Parameter	Symbol	Unit	Value
Sensor operating temperature	T_A	$^{\circ}\text{C}$	-40 ~ 70
Storage temperature	T_S	$^{\circ}\text{C}$	-40 ~ 85
Mass	m	g	130
Supply voltage (-40 $^{\circ}\text{C}$...105 $^{\circ}\text{C}$)	Vcc	V	± 15

Absolute parameters

Parameters	Symbol	Unit	Value
Maximum supply voltage (-40 $^{\circ}\text{C}$...105 $^{\circ}\text{C}$)	Vcc_max	V	± 16
Maximum primary conductor temperature	T_{B_max}	$^{\circ}\text{C}$	100

Ratings

Parameter	Unit	Value
Primary involved potential	V AC/DC	1500
Maximum surrounding air temperature	$^{\circ}\text{C}$	70
Primary current	A	0...600

Isolation parameters

Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	Ud	kV	5	
Impulse withstand voltage 1.2/50 μs	$\hat{U}_w$	kV	5	
Clearance distance (pri. -sec)	dCl	mm	10.2	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	11	Shortest path along device body
Case material	-	-	V0	According to UL 94
Comparative tracking index	CTI		600	

2. Electrical parameters

Condition: $V_{CC} = \pm 15V$, $T_A = 25^\circ C$ unless specified.

Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal current	I_{PN}	A		± 300		
Primary current measuring range	I_{PM}	A	-600		600	$V_{CC} = \pm 15V$
Measuring resistance	R_M	Ω	0		10	$I_P: \pm 300$
			0		5	$I_P: \pm 600$
Secondary nominal current	I_{SN}	A	-0.15		0.15	$I_P = \pm 300$
Secondary current measuring range	I_S	A	-0.3		0.3	$I_P = \pm 600$
Supply voltage	V_{CC}	V	± 12		± 15	
Current consumption	I_{CC}	mA		$16 + I_S$		$I_S = I_P / N_S$
Turns ratio	N_S	NT		2000		
Norminal sensitivity	S_N	mA/A		0.5		
Offset current	I_O	mA	-0.1		0.1	
Offset current temperature drift	I_{OT}	mA	-0.2		0.2	$-40^\circ C \sim 70^\circ C$
Sensitivity error	ξ_S	%	-0.15		0.15	
Linearity error	ξ_L	% of I_{PN}	-0.01		0.01	
Delay time @ 10 % of I_{PN}	$t_{ra\ 10}$	μs			1	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	
Accuracy	X	%			0.1	$T_A = 25^\circ C$
Total error at I_{PN}	ξ_{tol}	% of I_{PN}	-0.2		0.2	$-40^\circ C \dots 70^\circ C$
Resistance of secondary winding	R_S	Ω		17		$T_A = 70^\circ C$
Resistance of secondary winding	R_S	Ω		14		$T_A = 25^\circ C$

3. Dimensions:

