

CURRENT SENSOR

PRODUCT SERIES: STB-LA/E

PRODUCT PART NUMBER: STB-200LA/E

VERSION: Ver 1.2



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1. Description

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

Typical application

- Solar inverter
- Direct-current dynamo
- Uninterruptible Power Supplies (UPS)
- Switched model power supplies (SMPS)
- Variable frequency converter

General parameters

Parameter	Symbol	Unit	Value	Remark
Ambient operating temperature	T_A	°C	-40 ~ 70	
			-40 ~ 85	$R_M \geq 24\Omega$ or $I_{PN} \leq 125A$
Ambient storage temperature	T_{SL}	°C	-40 ~ 85	
Limit temperature of primary conductor	T_{LP}	°C	105	/
Mass	m	g	40	

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage	V_{CCmax}	V	± 18
Maximum primary current	I_{Pmax}	A	± 350

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 parameters

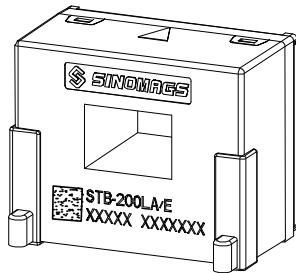
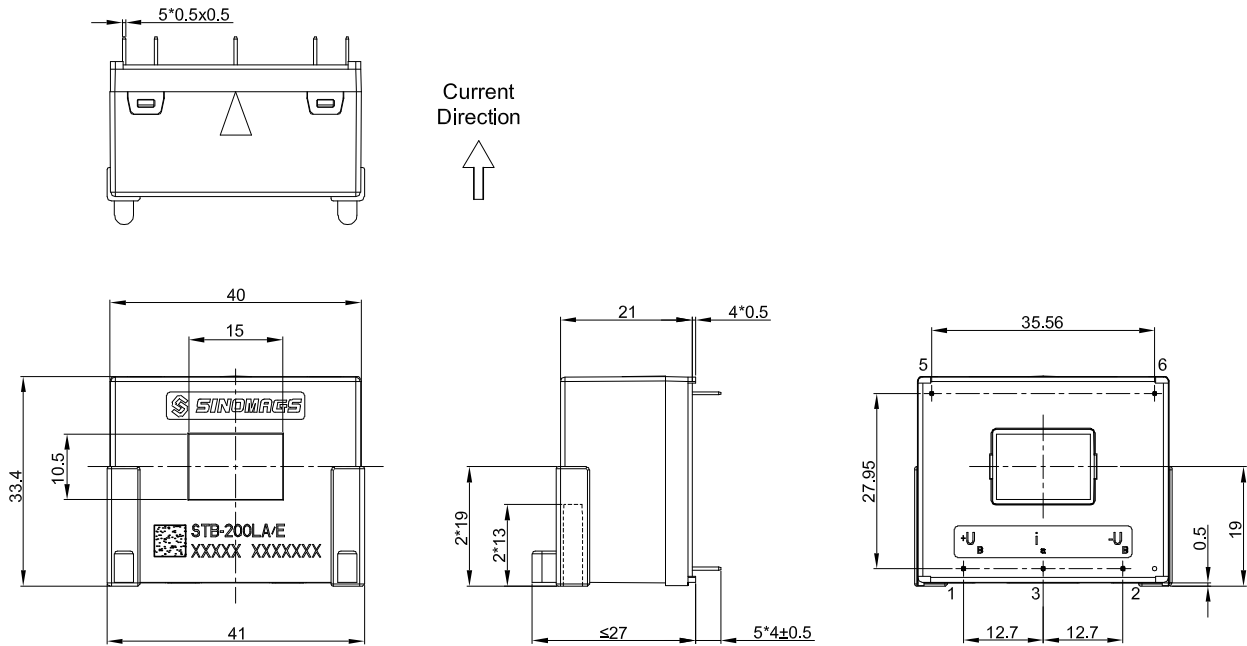
Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/ 1s	U_d	kV	3	Pin 1-3 to Cu-bar in the center hole
Clearance distance (pri. -sec)	dCl	mm	8	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	8	Shortest path along device body

2. Electrical parameters (STB-200LA/E)

Condition: $V_{CC} = \pm 15.0 \text{ V}$, $T_A = 25^\circ\text{C}$, $R_M = 10 \Omega$, unless specified.

Parameters	Symbol	Unit	Min.	Typ.	Max.	Remark
Primary nominal RMS current	I_{PN}	A		200		
Output current	I_{SN}	mA		100		
Supply voltage	V_{CC}	V		± 15		$\pm 5\%$ error
Maximum supply voltage (without function)	V_{CCmax}	V			± 18	
Primary current measuring range	I_{PM}	A	-350		350	$R_M < 15 \Omega$
Current consumption	I_{CC}	mA				
Internal resistance	R_S	Ω			61	
Measuring resistance	R_M	Ω	10		200	
Turns ratio	N_S	N_T		1: 2000		
Offset current	I_O	mA			0.05	$I_P = 0$, $T_A = 25^\circ\text{C}$
	I_{Oges}				0.05	Including I_O , I_{Ot} , I_{OT}
Offset current drift	I_{Ot}	mA			0.05	
Offset current temperature drift	I_{OT}	mA			0.05	$T_A = -40^\circ\text{C} \sim 70^\circ\text{C}$
Hysteresis of I_O	I_{OH}	mA			0.085	
Supply voltage rejection ratio	$\Delta I_O / \Delta V_C$	mA/V			0.01	
Linearity error within I_{PN}	ε_L	% of I_{PN}			0.1	
Delay time at I_{PM}	$\Delta t(I_{PM})$	μs			1	$d_i/d_t = 100\text{A}/\mu\text{s}$
Response time	t_r	μs			1	90% of I_{PN}
Frequency range (with limited amplitude)	F	kHz	DC		100	
Measuring accuracy	X	%			0.5	$T_A = 25^\circ\text{C}$
Temperature drift of X	X_{Ti}	%			0.1	$T_A = -40 \dots 70^\circ\text{C}$

3. Dimensions: STB-200LA/E



3D VIEW

Material : Fit UL94V-0 & RoHS requirements ;
General tolerance : ± 0.3
Unit :mm

