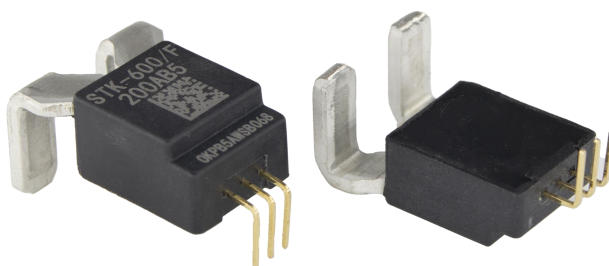


Current Sensor

Product Series: STK-600/F

Part number: STK-600/F-200AB5, STK-600/F-250AB5
STK-600/F-300AB5, STK-600/F-400AB5

Version: Ver 1.1



Sinomags Technology Co., Ltd

Web site: www.sinomags.com

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1. Introduction

The STK-600/F series current sensor is based on TMR (tunnel magnetoresistance) technology, 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

- AC Variable speed drives
- Electric welder power supply
- Motor driver
- BMS

General parameter

Parameter	Symbol	Unit	Value
Working temperature	T _A	°C	-40 ~ 125
Storage temperature	T _{stg}	°C	-40 ~ 125
Mass	m	g	4

Absolute maximum rating

Parameter	Symbol	Unit	Value
Supply voltage (not-destructive)	V _{CC}	V	6
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	U _d	kV	4	
Clearance distance (pri. -sec)	d _{Cl}	mm	8	Shortest distance through air
Creepage distance (pri. -sec)	d _{Cp}	mm	8	Shortest path along device body
Case material			V0 according to UL 94	

2. Package: 5-pin package

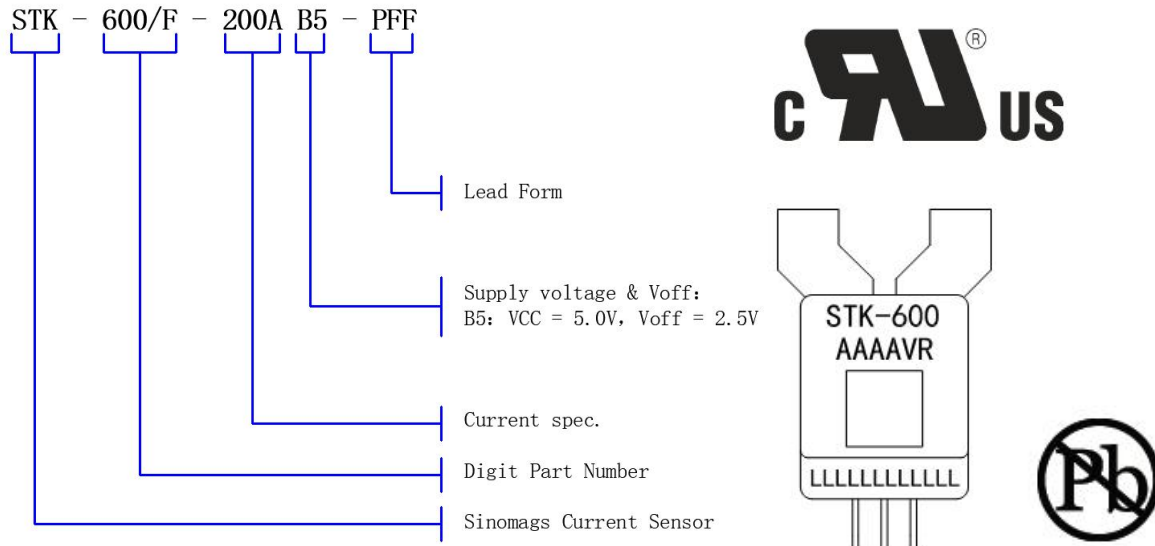


PFF Leadform

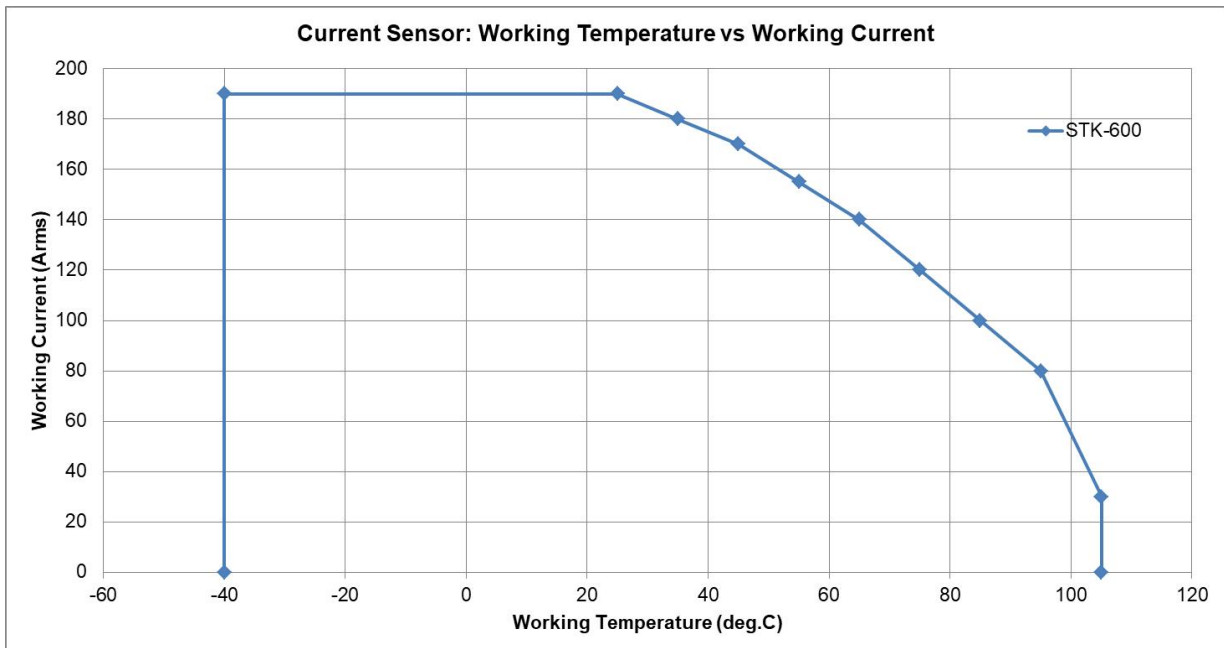
3. Features and Benefits

UL certified, File No. E507664.

4. Product Information



Production information is printed on the package surface by laser marking.



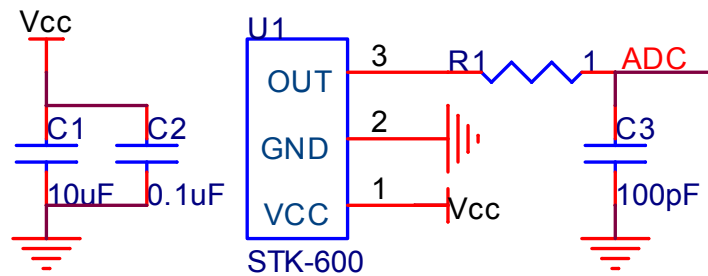
The relationship between working temperature & working current. It is suggested that the temperature of sensor not exceed 105 deg.C for better accuracy.

5. Electrical Data

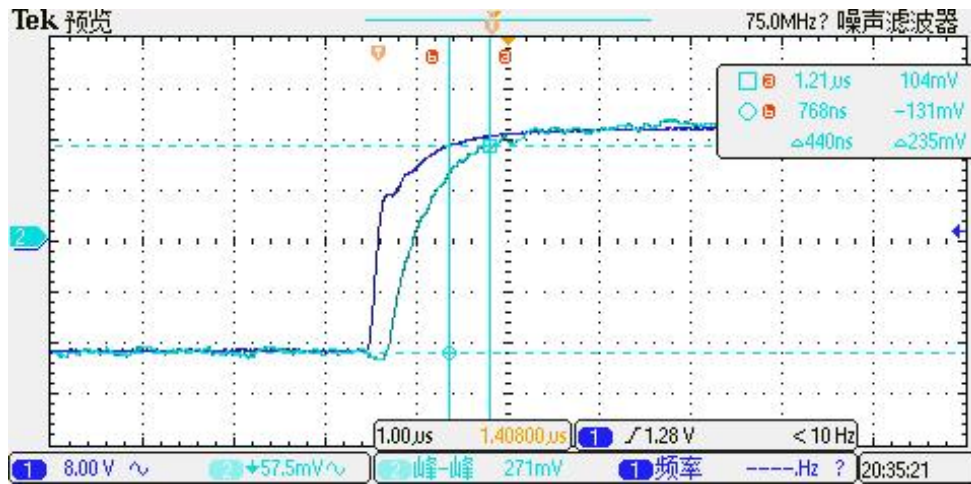
 Condition : $T_A = 25^{\circ}\text{C}$, STK-600/F/F-XXXAB5

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal current	I_{PN}	A		50		STK-600/F-XXXAB5
Current range (refer remark)S	I_{PM}	A	-200		200	STK-600/F-200AB5
			-250		250	STK-600/F-250AB5
			-300		300	STK-600/F-300AB5
			-400		400	STK-600/F-400AB5
Sensitivity	Sens	mV/A		10		STK-600/F-200AB5
				8		STK-600/F-250AB5
				6.66		STK-600/F-300AB5
				5		STK-600/F-400AB5
Supply voltage	V_{CC}	V		$5 \pm 5\%$		All
Current consumption	I_{CC}	mA		6		All
Quiescent voltage $V_{out} @ 0\text{ A}$	V_{off}	V	2.48	2.5	2.52	All
Peak output voltage ($V_{out} @ \pm I_{PM}$) – V_{off}	V_{FS}	V		± 2		All
Internal output resistance	R_{out}	Ω		2		All
Rated linearity error	E_{LIN}	% I_{PN}		± 1		$\pm I_{PN}$
Step response time @90% of I_{PM}	t_{res}	μs		0.5		All
Frequency bandwidth (-3dB)	BW	kHz		800		All
Output voltage noise DC ~ 10 kHz DC ~ 100 kHz	V_{noise}	mVpp		20 30		All
Accuracy @ 25°C	E_{TOT}	% of I_{PM}	-2.4	± 1	2.4	All
Accuracy @ $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$	E_{TOT}	% of I_{PM}	-3.5		3.5	STK-600/F-200AB5 ~ STK-600/F-400AB5

6. Typical Application Circuit

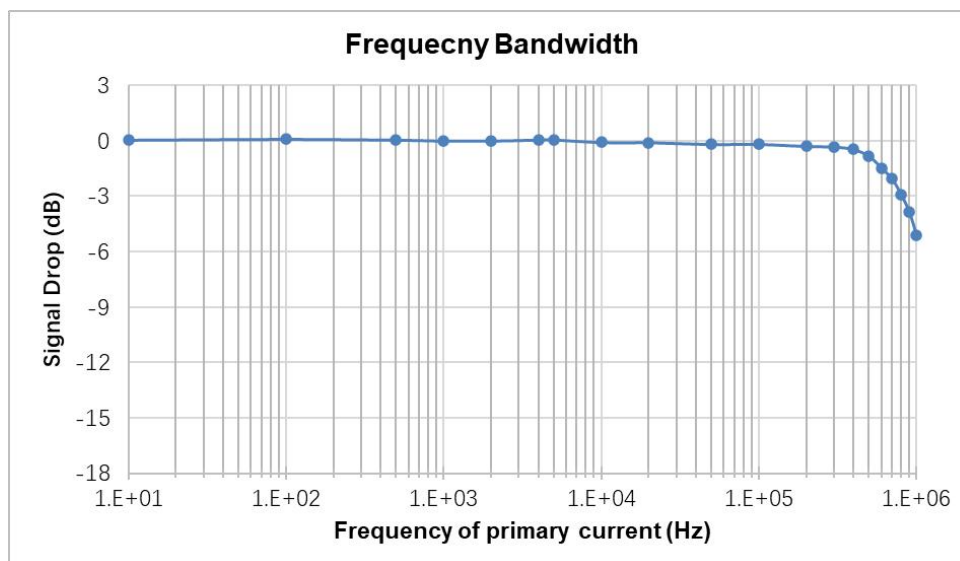


7. Response Time



STK-600/F response time

8. Frequency Bandwidth



STK-600/F bandwidth

9. Dimension & Pin Definitions

