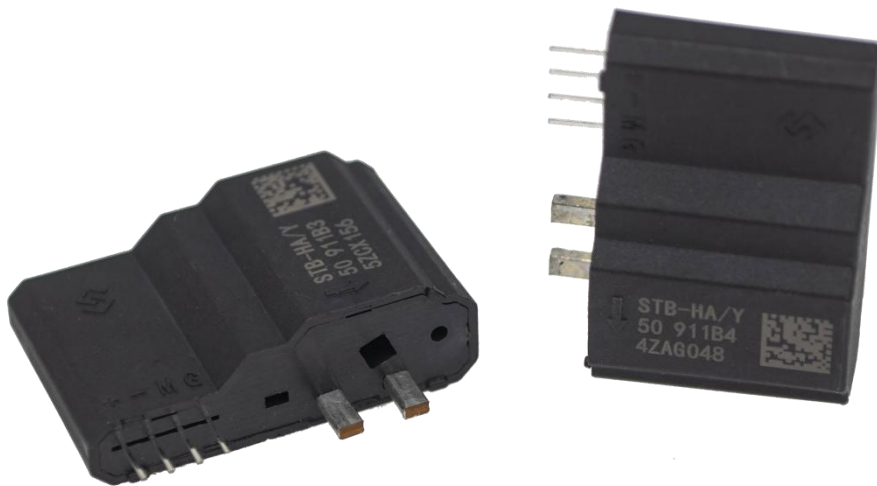


CURRENT SENSOR

PRODUCT SERIES: STB-HA/Y

PRODUCT PART NUMBER: STB-HA/Y

VERSION: Ver 1.2



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1. Description

STB-HA/Y series current sensors are based on close loop principle with TMR technology. The sensor can detect those current with DC, AC, pulse and irregular wave shape.

Typical application

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

General parameters

Parameter	Symbol	Unit	Value
Working temperature	T _A	°C	-40 ~ 85
Storage temperature	T _{stg}	°C	-40 ~ 105
Mass	m	g	13

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage	V _{cc_max}	V	±18
ESD rating (HBM)	U _{ESD_HBM}	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.

Electrical data

Primary nominal rms current I _{PN} (A)	Primary current measuring rang I _{PM} (A)	Primary conductor diameter x turns (mm)	Type
50	±150		STB-HA/Y

2. STB-50HA/Y parameters

Condition: $V_{CC} = \pm 15.0\text{ V}$, $N_P = 1$, $R_L = 10\text{ k}\Omega$, $T_A = 25^\circ\text{C}$, unless specified.

Parameters	Symbol	Unit	Min.	Typ.	Max.	Remark
Output Voltage	V_{out}	V	3.96	4	4.04	All series
Supply Voltage	V_C	V		$\pm 15 \pm 5\%$		All series
Current consumption	I_C	mA		$18 + I_P * N_P / N_S$		STB-HA/Y $N_S: 1000$
Linearity ($0 \dots \pm I_{PN}$)	ϵ_L	% of I_{PN}		± 0.5		All series
Electrical offset voltage	V_{OE}	mV	-40	0	40	$I_{PN} = 0\text{ A}$
Thermal drift of offset	TCV_{OE}	% of I_{PN}		± 1		All series
Thermal drift of gain	TCV_O	% of I_{PN}		1.5		All series
Step response time	t_r	μs		1.5		All series
Frequency bandwidth (-3dB)	BW	kHz		150		All series

3. Frequency band width

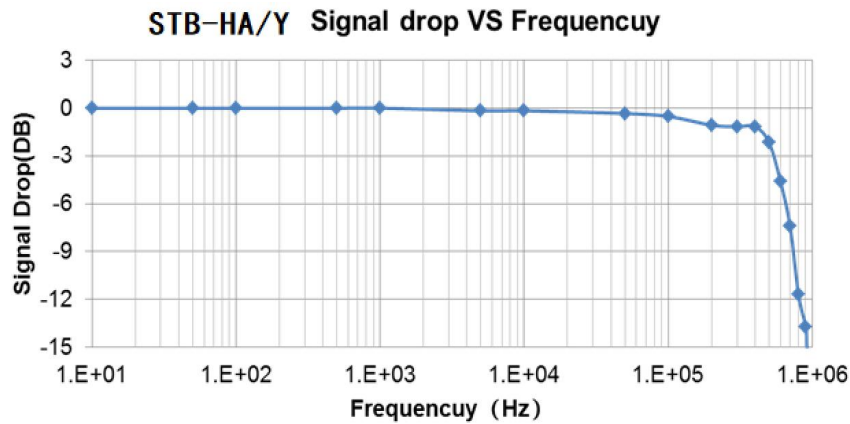


Fig.1 the band width of STB-HA/Y series current sensors.

4. Step response time

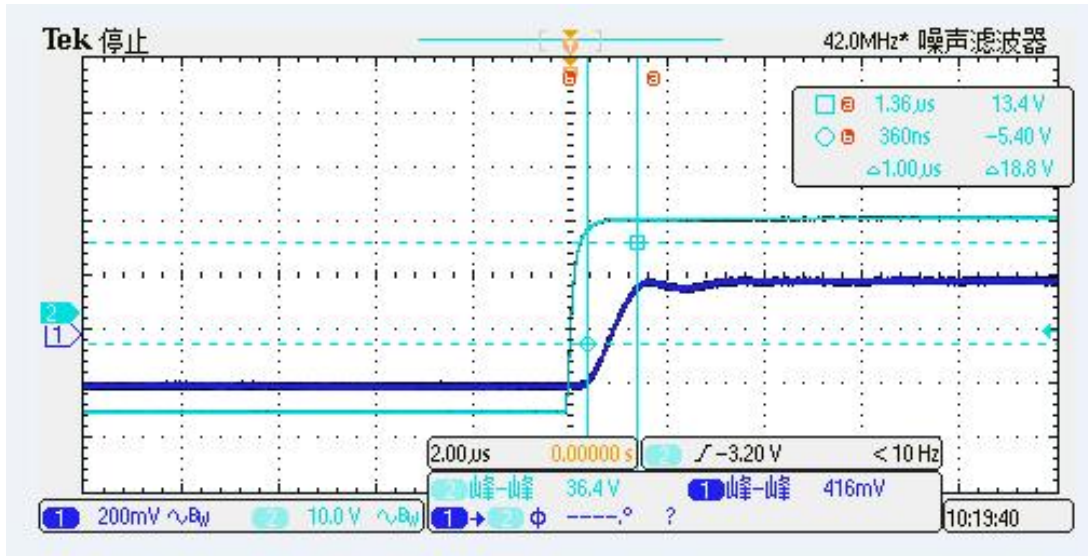
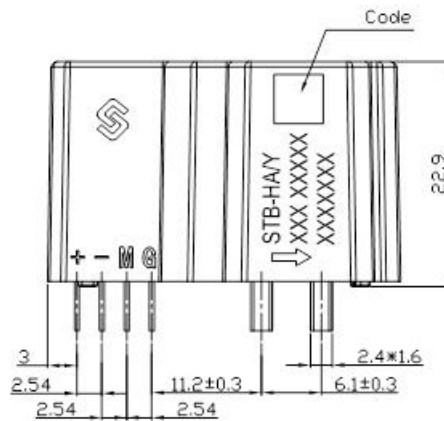
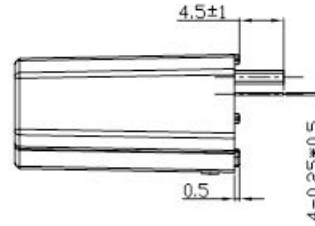
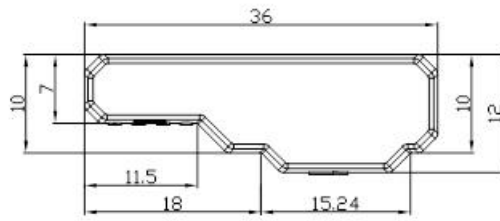


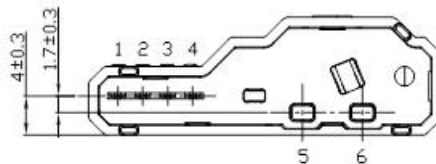
Fig.2 the step response time of STB-HA/Y current sensors. The light blue is primary current, while the dark blue is output signal of current sensor. The step response time is less than 1.5 μ s.

5. STB-HA/Y: Dimensions & Pins & Footprint



Terminals

(1)	+15V
(2)	-15V
(3)	Output
(4)	0V
(5)	Input current (+)
(6)	Input current (-)



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

