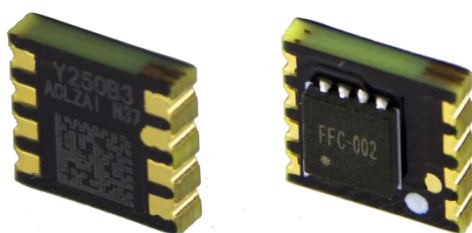


Current Sensor

Product Series: STK-616Y

Part number: STK-616Y-250B3

ersion: Ver 4.1



Sinomags Technology Co., Ltd

Web site: www.sinomags.com

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1. Introduction

STK-616Y series current sensor is designed based on open-loop principle. It is suitable for DC, AC pulsed and any kind of irregular current measurement under the isolated conditions.

Typical applications

- AC variable speed drives
- Switching power supply
- Motor control

General parameter

Parameter	Symbol	Unit	Value
Working temperature	T _A	°C	-40 ~ 105
Storage temperature	T _{stg}	°C	-40 ~ 125
Mass	m	g	10

Absolute maximum rating

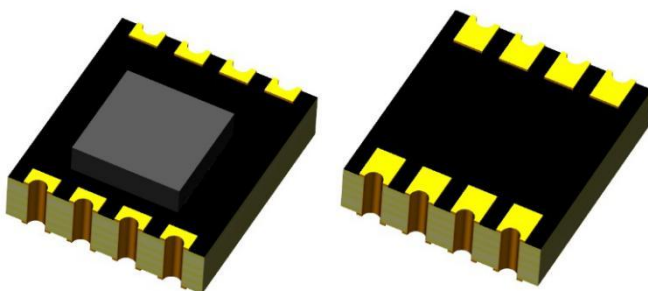
Parameter	Symbol	Unit	Value
Supply voltage	V _{CC}	V	6
ESD rating (HBM)	U _{ESD}	kV	4

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	1.4	All
Clearance distance (Shortest distance through air)	d _{Cl}	mm	1.5	All
Creepage distance (Shortest path along device body)	d _{Cp}	mm	1.5	All

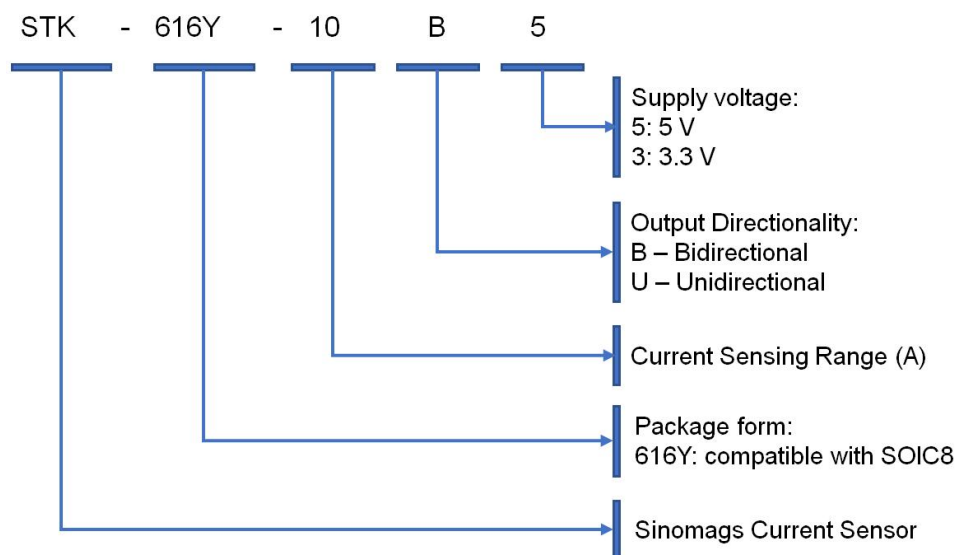
2. Package: SOIC8 compatible



3. Selection Guide

Part Number	Vcc(V)	Current Range (A)	Sensitivity (mV/A)	Offset (V)	Current Directionality	Top(°C)
STK-616Y-250B3	3.3	-50~ + 300	6.24	0.84	Bidirectional	-40~105

4. Production Information



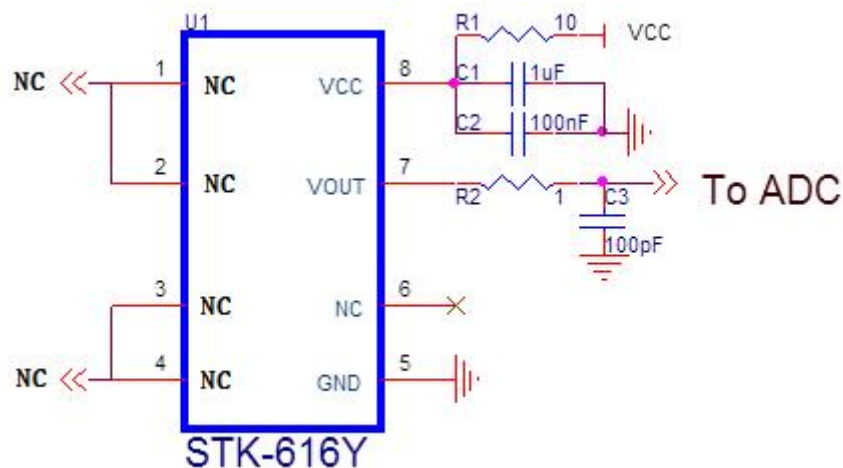
5. Electrical Data

Condition: $T_A = 25^{\circ}\text{C}$, $V_{CC} = 5$ or 3.3 V

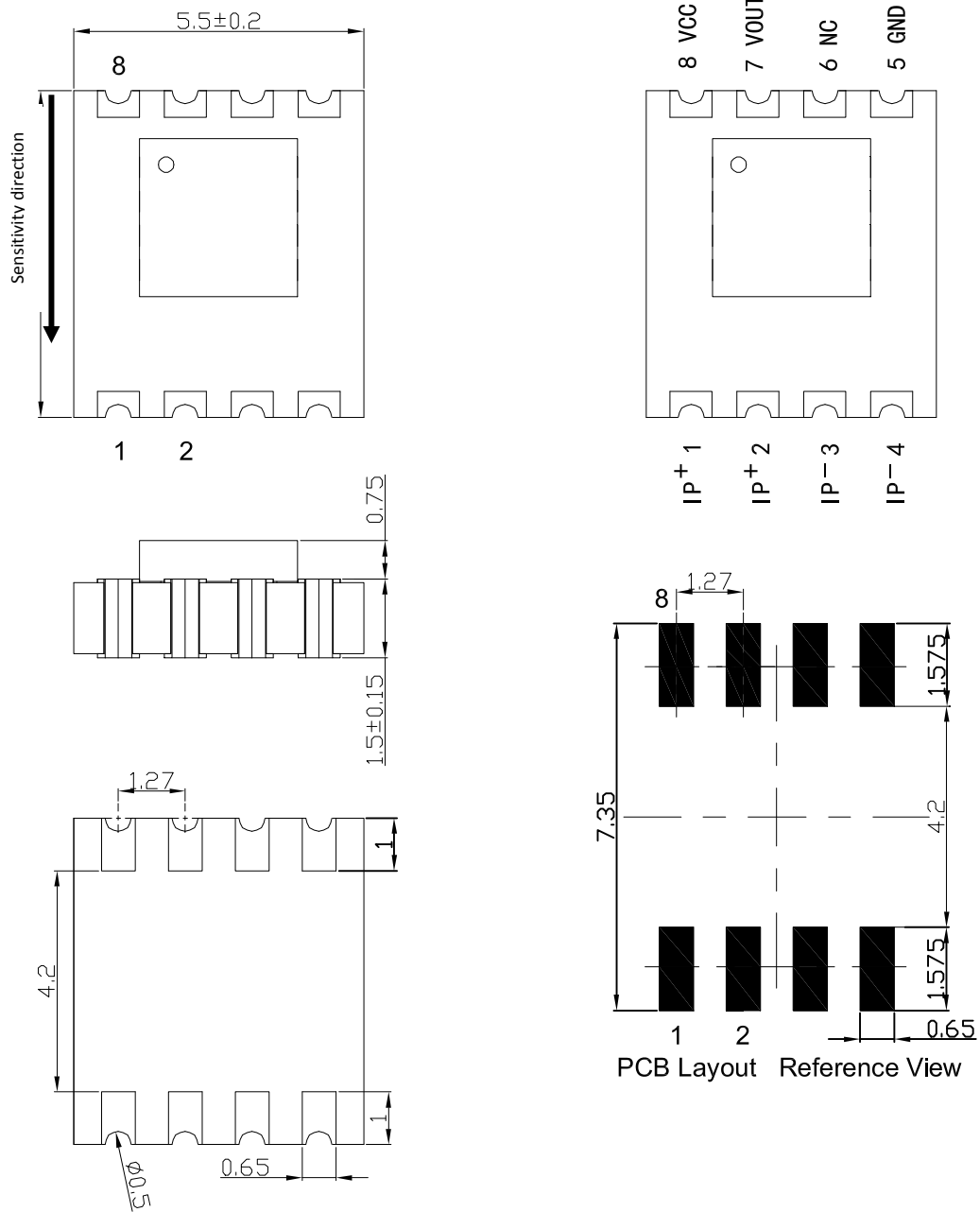
Parameter	Symbol	Unit	Min	Typ	Max	Comment
Supply voltage	V_{CC}	V		$3.3 \pm 5\%$		STK-616Y-250B3
Current consumption	I_{CC}	mA		6		
Primary nominal rms current	I_{PN}	A	-50	250		
Primary current measuring range	I_{PM}	A	-50		300	
Quiescent voltage $V_{out} @ 0\text{ A}$	$V_{IOUT(Q)}$	V	0.79	0.84	0.89	STK-616Y-250B3
Theoretical sensitivity	G_{th}	mV/A		6.24		
Internal output resistance	R_{out}	Ω		1		
Rated linearity error	E_{LIN}	% I_{PN}		± 1		$\pm I_{PN}$
Step response time	t_{res}	μs		100		All
Frequency bandwidth (-3dB)	BW	kHz		10		All
Output voltage noise DC ~ 10 kHz DC ~ 100 kHz	V_{noise}	mVpp		10 15		All
Accuracy @ 25°C	E_{TOT}	% of I_{PN}		± 1		All
Accuracy @ $-40^{\circ}\text{C} \sim 105^{\circ}\text{C}$	E_{TOT}	% of I_{PN}		± 3.5		All

*The above parameters refer to typical applications

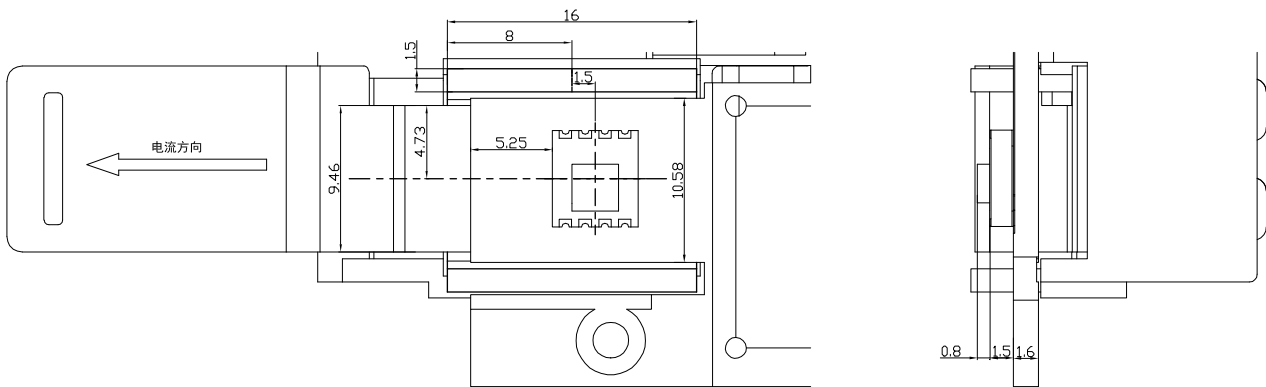
6. Typical Application Circuit



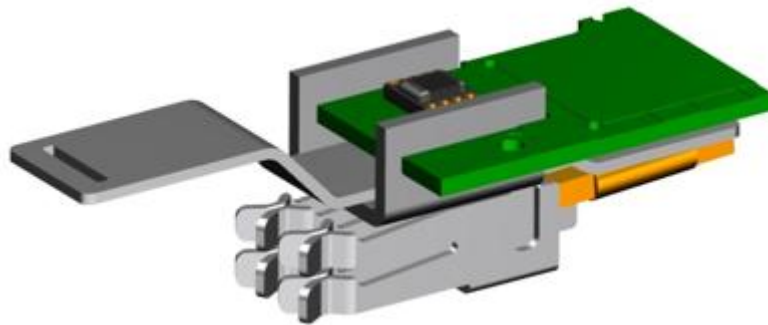
7. Dimension & Pin Definitions



8. Typical applications

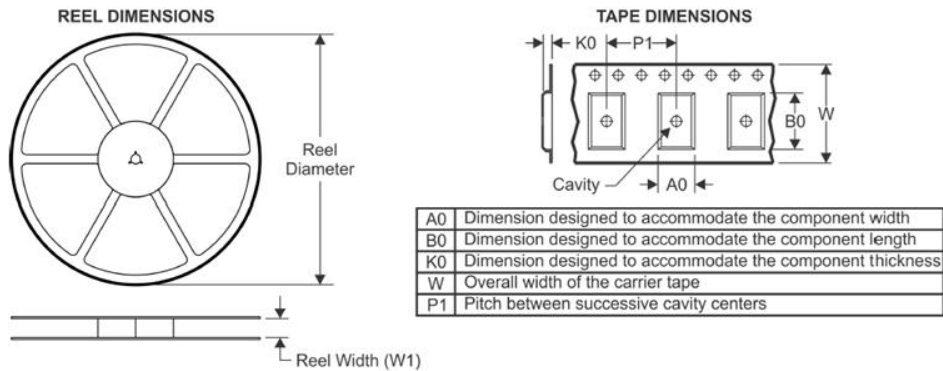


Unit :mm



9. Typical applications

TAPE AND REEL INFORMATION



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE

