

Hat ToF

SKU:U072



Description

Hat ToF is a high-precision laser distance sensor designed specifically for StickC. It integrates the ST laser ranging chip **VL53L0X** and **940nm VCSEL** emitter. By measuring the round-trip time of the laser signal to the object being measured, it can measure the absolute distance within a 2m range in less than 30ms. Unlike traditional distance measurement, it provides accurate distance measurement data regardless of the reflectivity of the target. In projects where data accuracy is important, such as distance measurement and obstacle detection, **Hat ToF** performs well.

Features

- High precision
- Maximum measurement distance of 2m
- Measurement accuracy $\pm 3\%$
- 940nm laser VCSEL
- Safety:
 - Class 1 laser device compliant with the latest standards
 - Standard IEC 60825-1:2014 - Edition 3

- Communication protocol: I2C address is **0x29** (G0/G26)
- Development Platform
 - UiFlow1
 - UiFlow2
 - Arduino IDE

| Includes

- 1 x Hat ToF
- 1 x Sticker

| Applications

- Obstacle detection
- Gesture recognition
- Laser ranging
- 3D structured light imaging (3D sensing)
- Camera assistance (ultra-fast autofocus and depth map)

| Specifications

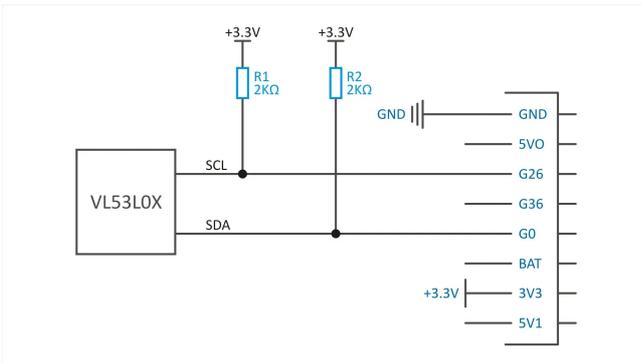
Specification	Parameter
Communication Protocol	I2C:0x29
Measurement Distance	0.3-2m
Measurement Accuracy	±3%
Product Size	24.0 x 20.0 x 13.7mm
Package Weight	3.8g
Package Size	138.0 x 93.0 x 15.0mm
Gross Weight	6.2g

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Measurement Range

Under normal conditions, the maximum testing distance is 120 cm. If the testing distance needs to reach 200 cm, the Long Range mode must be enabled, and the environment must be dark without infrared interference.

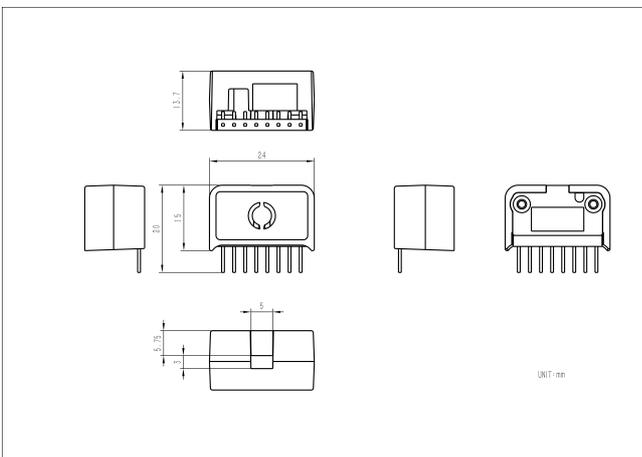
Schematics



PinMap

StickC	G0	G26	3.3V	GND
ToF HAT	SDA	SCL	3.3V	GND

Model Size



Datasheets

- [VL53L0X Datasheet](#)

Softwares

Arduino

- [Hat ToF Example](#)

| UiFlow1

- [Hat ToF UiFlow1 Docs](#)

| UiFlow2

- [Hat ToF UiFlow2 Docs](#)

| Easyloader

Easyloader	Download Link	Note
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| Video

[ToF_HAT.mp4](#)

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