

ToF Module FSTOF2003C0x Specifications

The high performance FSTOF2003C0X is a cost-effective short distance ToF (time-of-flight) Module. Best-in-class distance measurement performance for a wide range of applications, including cleaning robots, tablets, Drones, and smart home applications.

FSTOF2003C0X's ToF "time-of-flight" sensing technology is realized by Sharp's original SPAD (Single Photon Avalanche Diodes). It assures accurate ranging result, higher tolerance to ambient light and better robustness by special optical package design.

*Note: Please read this document in detail before you design your product.



Products Benefits

- Class 1 classified - 940nm emitter under operational condition by IEC 60825-1:2014-3rd edition
- Highly accurate measurement 1 -30cm
- Highly responsive fast distance measurement
- Advanced optical cross-talk compensation
- Easy to use
- No additional optical calibration needed
- Single power supply
- Lead-free, RoHS compliant

Fundamental function

■ Features

- Working range : 1cm~30cm (White Card)
- Accuracy : $\pm 5\%$ at 10cm (White Card)
- Sensor Board Dimension (mm) : 10 x 8 x 7.6

■ Pin define

FSTOF2003C0I

Pin define
1 : VDD
2 : GND
3 : SDA
4 : SCL

FSTOF2003C0U

Pin define
1 : VDD
2 : GND
3 : TXD
4 : RXD

Overview

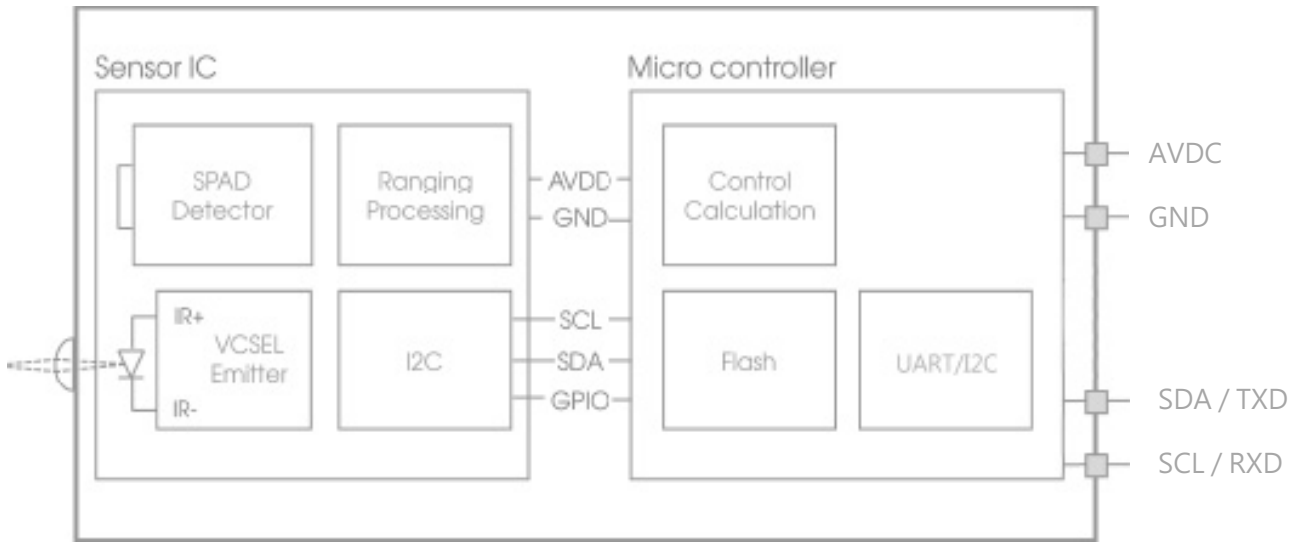
FSTOF2003C0X ToF module is highly accurate, highly precise, easy to use module with easy to set-up options for range measurement applications, this product uses I2C interface as its control interface.

For more details, please see this document in detail below.

Technical specification

Parameter	Characteristics
MCU	8051
ToF Sensor	GP2AP03VT00F
FoV	25°
Operating temperature	-20 ~ 70°C
Power supply voltage	3.0V ~ 3.6V
Current consumption	10mA
Working Cycle time	36msec
Working Distance	1 cm ~ 30cm (White card)
Measurement Accuracy	±5% at 10cm (White card)
Control Interface	FSTOF2003C0I(I2C) / FSTOF2003C0U(UART)
Sensor board Package	4pin / 10×8×7.6mm

System block diagram



Device Pin Define

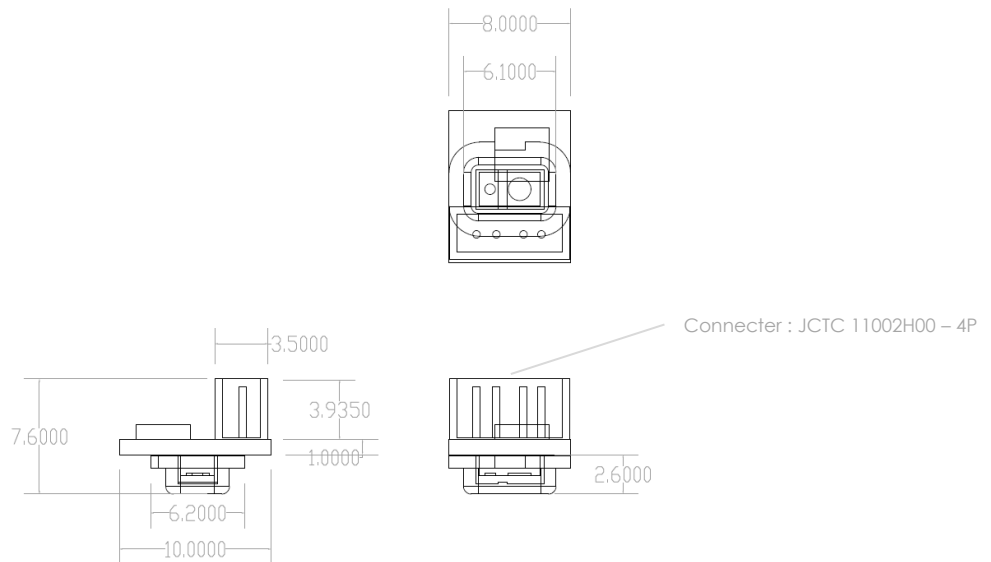
Pin Name	Description	Remark
VDD	Supply Voltage	
GND	Ground	
SDA	I2C : Serial data	3.3V Logic
TXD	UART : Transmitting pin	
SCL	I2C : Serial clock	3.3V Logic
RXD	UART : Receiving pin	

Design and Application

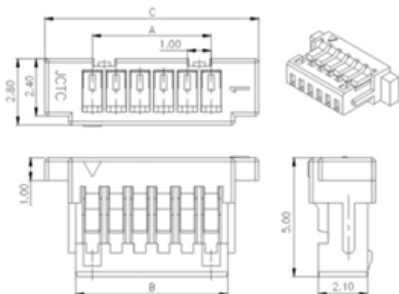
Appearance



Module OUTLINE



Recommend Connector



JCTC 11002H00 - 4P

<http://www.jctc.com.cn/>

Dimensional Information:

A : 3.00

B : 4.40

C : 7.00

JEU SH1.0

http://m.lieudt.com/news_view_536_161.html

Dimensional Information:

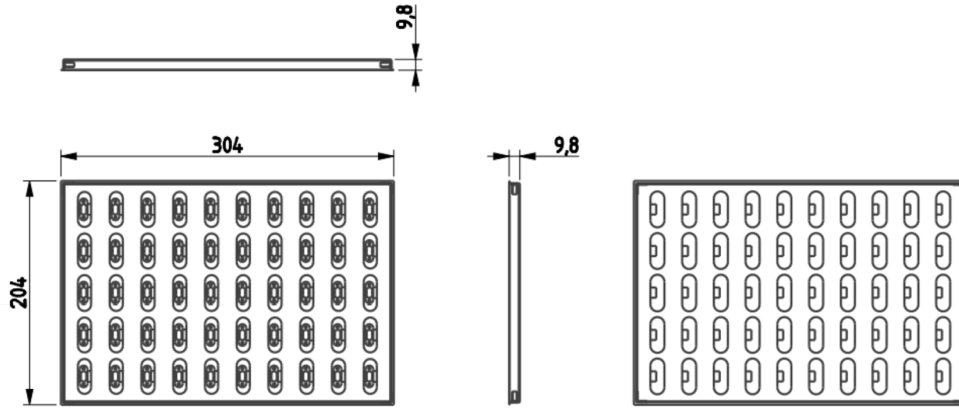
A : 3.00

B : 4.40

C : 7.00

Packing (Temporary)

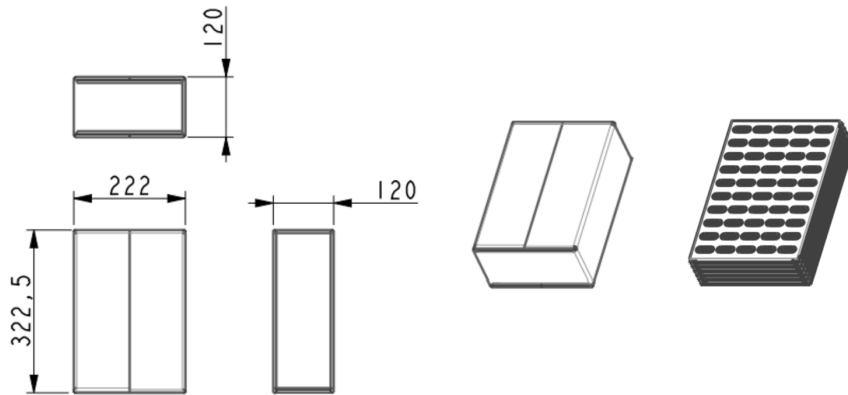
Tray:



Tray Description:

- 1 \ Material : anti-static PS VAC Form;
- 2 \ Tray Color: Black
- 3 \ Cover Color: Transparent;
- 4 \ Quantity :Store 50 products in a tray by 10pcs x 5pcs order ;
- 5 \ Tray Dimension: 304mm * 204mm * 9.8mm;

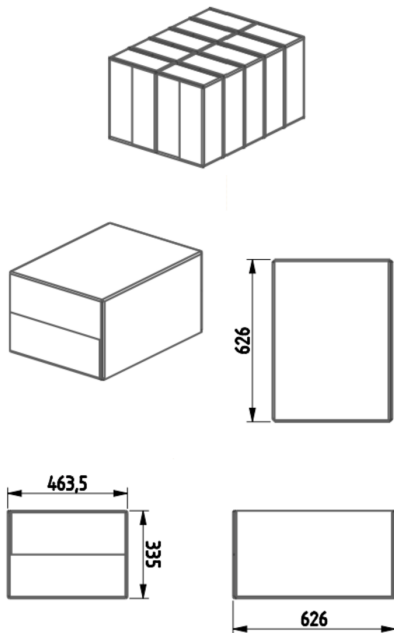
Small Package:



Description:

- 1 \ Material: Corrugated Fiberboard;
- 2 \ Exterior: khaki + Indications;
- 3 \ Quantities: One box with 6 trays ,each trays has 50 products,
Total 300products;
- 4 \ Box Dimension:322.5mm * 222mm * 120mm;

Large Package:



Description:

- 1 \ Material: Corrugated Fiberboard;
- 2 \ Exterior: khaki + Indications;
- 3 \ Quantities: 5 layers \ Each layer has 2 small package
(300 products) \ Total 3000 products;
- 4 \ Box Dimension:463.5mm * 335mm * 626mm;