FSSTOF52000D

High accuracy ranging distance: 5 - 200cm

FOXCONN®
HON HAI TECHNOLOGY GROUP

Data Sheet

Overview

FSSTOF52000D ToF module is a high-accuracy, easy-to-use ranging module with easy-to-set configuration parameters. For ranging applications, this product uses IIC interfaces as its control interface. Support to modify the default address of the sensor, so that multiple groups of sensors can be connected to the system in the form of a bus.

Applications

- Automatic faucet and flushing valve control
- Object detection for copying and vending machines, smart shelves
- Client detection for ATM and kiosk
- Obstacle avoidance for UAV and sweeper
- Factory automation
- Personnel passing and intrusion detection
- Appliance switch (ex. lamp control)
- Assisted focus for camera

Features

- Safety Class 1 - 940nm Emitter, Compliant IEC 60825-1:2014-3rd edition working conditions
- High accuracy ranging distance: 5 – 200cm
- Fast response time for distance measurement
- Unique optical crosstalk compensation
- Single power supply
- Communication address changeable
- Bus line interface,

RoHS
LEAD FREE

HAL FREE

Rating and Property

Maximum Ratings: (25°C, unless otherwise specified)

Parameter	Symbol	Scope	Unit	Remarks
Power supply voltage	VDD	-0.5 to 3.6	V	
I2C voltage	VDDIO	-0.5 to 3.6	V	
Operating temperature	Topr	-20 to 70	℃	
Storage temperature	Tstg	-40 to 85	℃	

Recommended Operating Conditions: (25°C, unless otherwise specified)

Parameter	Symbol	Scope	Unit	Remarks
Power supply voltage	VDD	3.3V±5%	V	
I2C voltage	VDDIO	2.7 to 3.5	V	
Recommended operating temperature	Topr	-20 to 70	℃	
IO low level	VIL	-0.25 to 0.5	V	
IO high level	VIH	2.7to VDDIO+0.15	V	

Electrical and Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Current consumption	ICC_dis	-	15	-	mA	33ms cycle
I2C clock frequency	Fi2c	1	-	100	KHz	

VCSEL Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
VCSEL peak wavelength	λP_PS	-	940	-	mm	
VCSEL FOV	Fov	-	25	-	°	

Ranging Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Range accuracy (100mm)	Rinw1	-10	-	+10	mm	White 88%
Repeatability (100mm)	Rinrepw1	-10	-	+10	mm	Indoor: no infrared
Range accuracy (2000mm)	Ring3	-5	-	5	%	Gray 17%
Repeatability (2000mm)	Rinrepg3	-25	-	25	mm	Indoor: no infrared
Min ranging distance	Rinlmin	-	-	5	mm	White 88% Indoor: no infrared
Max ranging distance	Ringmax	200			cm	Indoor: no infrared

Ranging offset error

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Voltage drift	Vdrift			10	mm	Ta=25℃, VDD=VDDV=VDDIO =3.2～3.4V
Temperature drift	Tdrift			15	mm	Ta=-10℃～+60℃, VDD=VDDV=VDDIO=3.3 V

Module outline dimension

8.0000
6.1000

VDD
GND
SDA / TXD
SCL \ RXD

3.5000

3.9350

7.6000

1.0000

2.6000

6.2000

10.0000
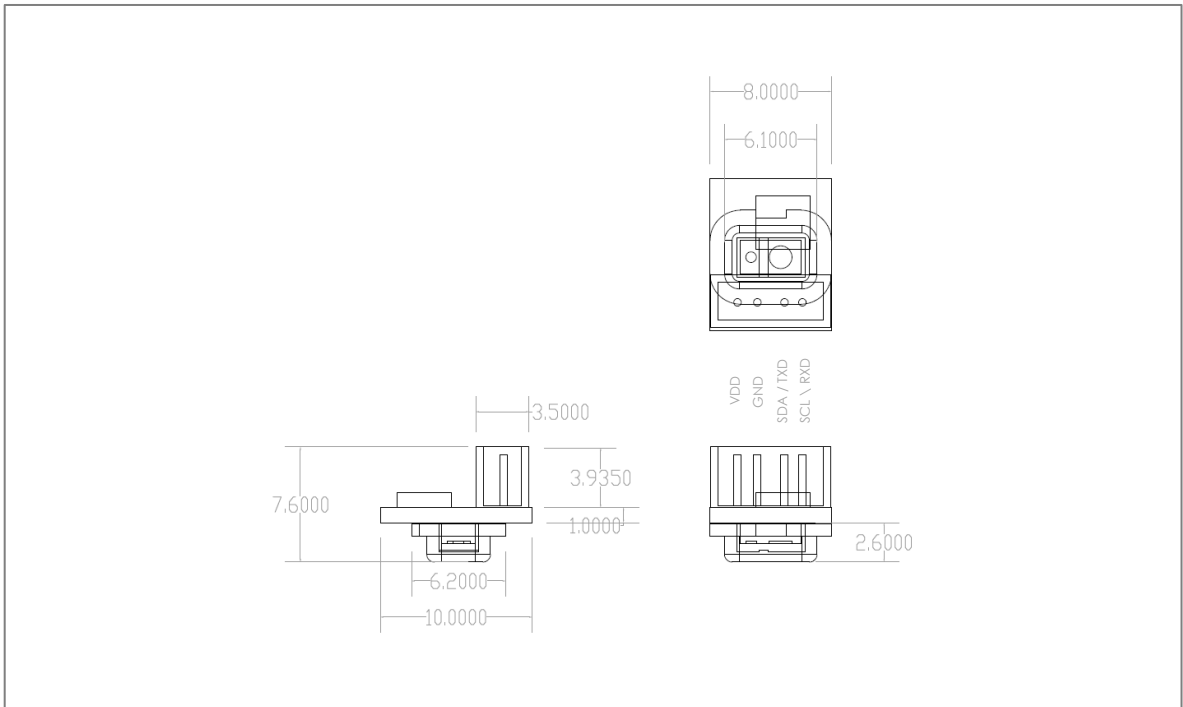
Recommend Connector
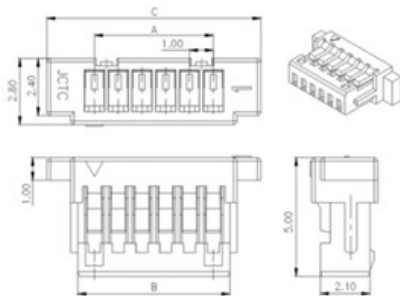
JCTC 11002H00 – 4P
http://www.jctc.com.cn/
Dimensional Information:

A : 3.00
B : 4.40
C : 7.00

JEU SH1.0
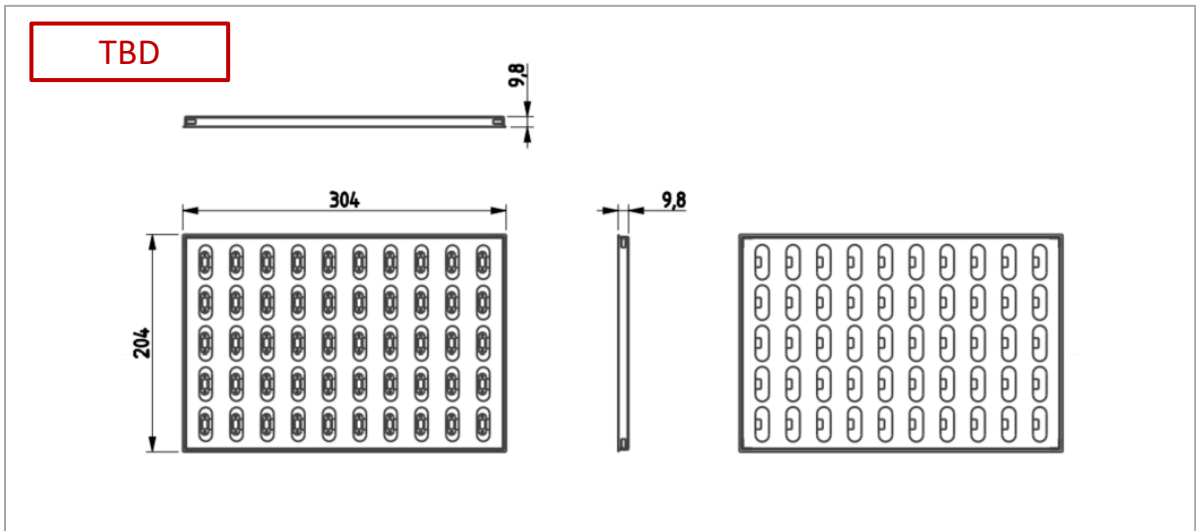http://m.jeudz.com/news_view_536_161.html

Dimensional Information:
A : 3.00
B : 4.40
C : 7.00

C
A
1.00

2.80
2.40

JCTC

1.00

B

5.00

2.10

Packing

- ## Tray

Explain:
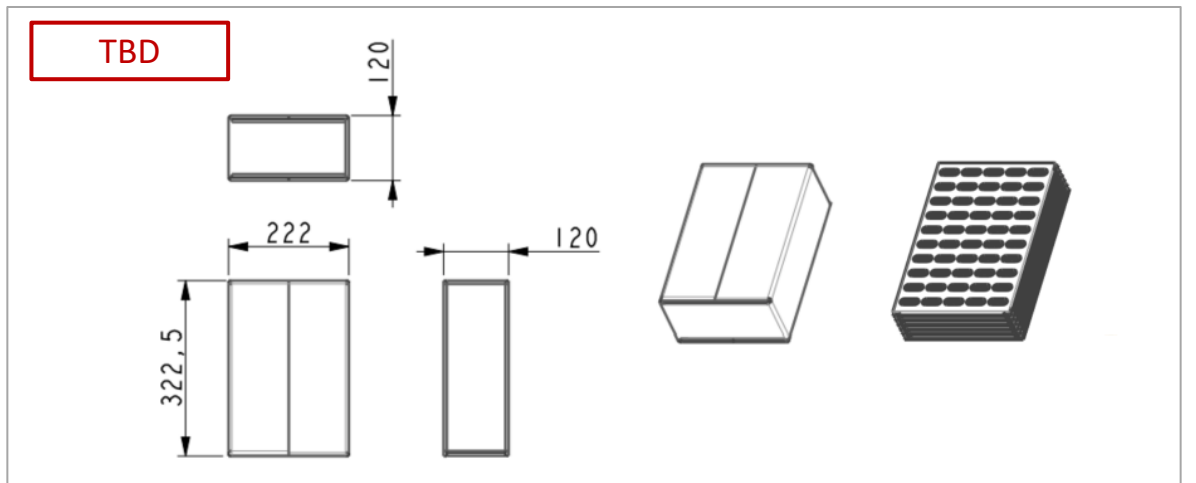1、 Material: PS blister, antistatic
2、Packing quantity: 5 rows and 10 columns, a total of 50 products on one floor
3、Size: 204 * 204 * 9.8 mm

TBD

- ## Outer Packing

Explain:
1、 Material: corrugated paper
2、Packaging quantity: 6 layers, one pallet per layer, 300 products in one packaging box
3、Size: 322.5 * 222 * 120 mm

TBD

- Foxconn Technology Group_Socle is continually improving the quality, reliability, function and design. Foxconn Technology Group_Socle reserves the right to make changes without further notices.

- The warranty period for Socle product is one year after shipment.
- During the period, if there are any products problem, we will repair (if applicable), replace or refund. Except the above, both parties will discuss to cope with the problems.
- The failed Socle product after the above one year period will be coped with by Socle, provided that both parties shall discuss and determine on sharing responsibility based on the analysis results thereof subject to the above scope of warranty.

- The warranty described herein is only for Socle product itself which are purchased by or delivered to customer. Damages arising from Socle product malfunction or failure shall be excepted.

- To avoid damage to the equipment, it should be handled with care during all stages of storage, handling, assembly and testing, products should be protected from drops and bumps, and ESD protection and dust protection measures should be taken

- We will not be responsible for the Socle product due to the malfunction or failures thereof which are caused by:
- (1) storage keep trouble during the inventory in the marketing channel.
- (2) intentional act, negligence or wrong/poor handling.
- (3) equipment which Socle products are connected to or mounted in.
- (4) disassembling, reforming or changing Socle products.
- (5) installation problem.
- (6) act of God or other disaster (natural disaster, fire, flood, etc.)
- (7) external factors (abnormal voltage, abnormal electromagnetic wave, fire, etc.)
- (8) special environment (factory, coastal areas, hot spring area, etc.)
- (9) phenomenon which cannot be foreseen based on the practical technologies at the time of shipment.
  (10) the factors not included in the product specification sheet.
- The products shown in this publication are designed for the general use in electronic applications such as office automation, equipment, communications devices, audio/visual equipment, electrical application and instrumentation purpose, non-infringement and merchantability.

- This product is not intended to be used for military, aircraft, medical, life sustaining or lifesaving applications or any other application which can result in human injury or death.

- Please contact Socle sales agent for special application request.

- Parameters provided in datasheets may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated in each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Socle's terms and conditions of purchase, including but not limited to the warranty expressed therein.

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