

ToF Module MTOF171000C0 Spec.



The high performance **MTOF171000C0** is a cost effective ToF(time-of-flight)Module system. Best-in-class distance measurement performance to a wide range of applications, including clean robot, tablets, Drone, and smart home applications.

MTOF171000C0's time-of-flight sensing technology is realized by Sharp's original SPAD (Single Photon Avalanche Diodes) It enables accurate ranging result, higher immunity to ambient light and better robustness to work by special optical package design. Please read this document before your design.



Products Benefits

- 940nm emitter classified as class 1 under operation condition by IEC 60825-1:2014-3rd edition
- Long range absolute range measurement up to 1.2m
- High speed distance measurement response
- Advanced optical cross-talk compensation
- Easy to set
- No additional optical calibration requirement
- Single power supply
- Lead-free, RoHS compliant



Fundamental function

■ Features

- Working range : 2cm~120cm (White Card)
- Accuracy : +4% at 120cm (White Card)
- Sensor Board Dimension (mm) : 10 x 12 x 3.5
- Programmable for Customization
- Flexible Control Interface with Uart / I2C Selectable

■ Pin define

Pin define
1 : VDD
2 : GND
3 : TXD
4 : RXD
5 : SCL
6 : SDA

1. Overview 概述

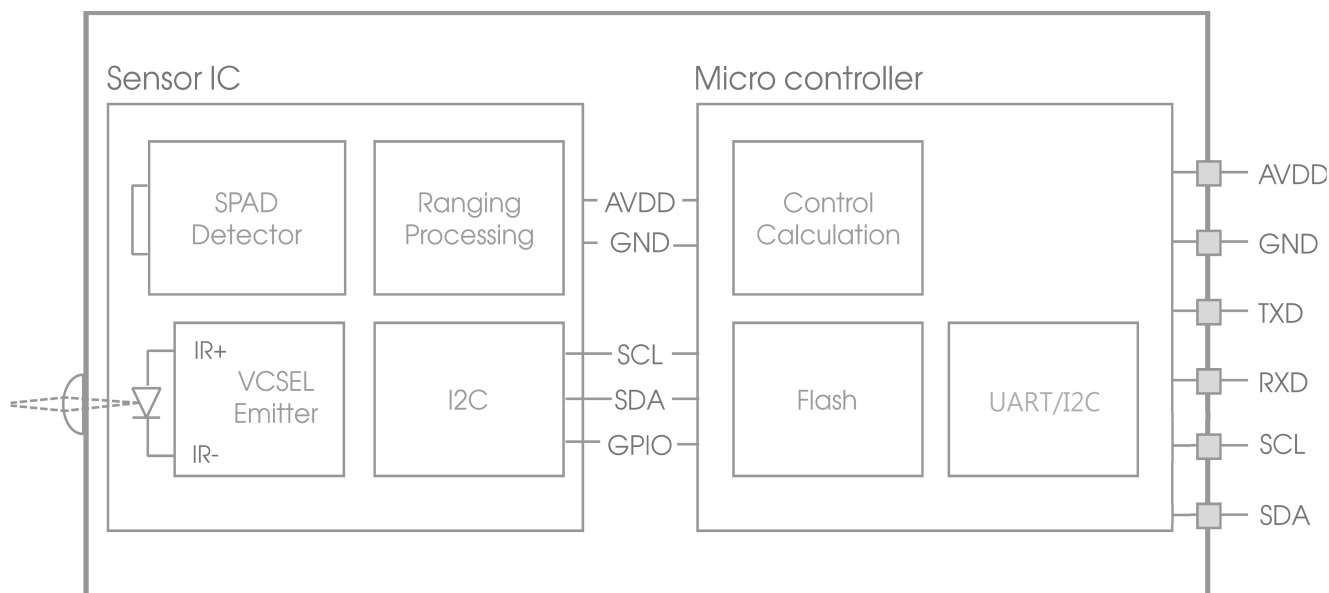
MTOF171000C0 ToF module is easy using for customer' s requirement, convenient setting for range measurement applications, this product can with the UART or I2C to be used as a control interface, for the details, please see this document.

MTOF171000C0 ToF module針對客戶使用需求，方便設定用於測距相關應用，本產品可依據需求選擇透過 UART or I2C做控制介面使用，相關細節請見本文說明。

1.1 Technical specification 技術規格

Parameter	Characteristics
MCU	8051
ToF Sensor	GP2AP01VT10F
FoV	25°
Operating temperature	-20 ~ 70°C
Power supply voltage	3.0V ~ 3.6V
Current consumption	30mA (at 2.8V)
Working Cycle time	33msec
Working Distance	2cm ~ 120cm (White card) 2cm ~ 70cm (Gray card)
Measurement Accuracy	±4% at 120cm (White card) ±7% at 70cm (Gray card)
Control Interface	UART / I2C Selectable
Sensor board Package	6pin / 10×12×3.5mm

1.2 System block diagram 系統架構



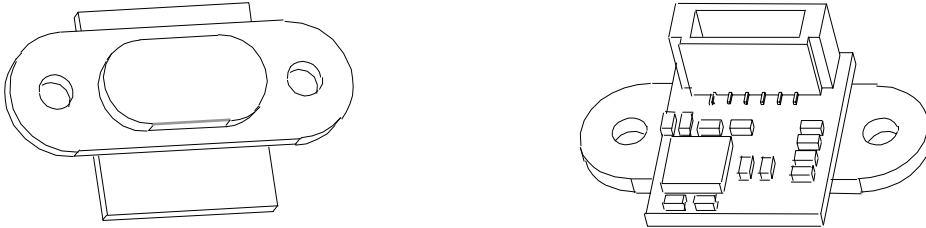
1.3 Device pin define 腳位定義

- 1:VDD: the power pin, power supplied from the control platform 3.3V to ToF Module
- 2:GND: ground pin , the same ground level with the control platform.
- 3:TXD: ToF Moudle data output terminal, which needs to connect to the data receiving end of the control platform UART interface, RXD port.
- 4:RXD: ToF Moudle data receiving terminal, need to connect to control platform UART interface data output port, TXD port
- 5:SCL: ToF Moudle serial clock pin, serial clock interface that needs to be connected to the I2C interface of control platform.
- 6:SDA: ToF Moudle serial data pin, serial data interface that needs to be connected to control platform I2C interface.

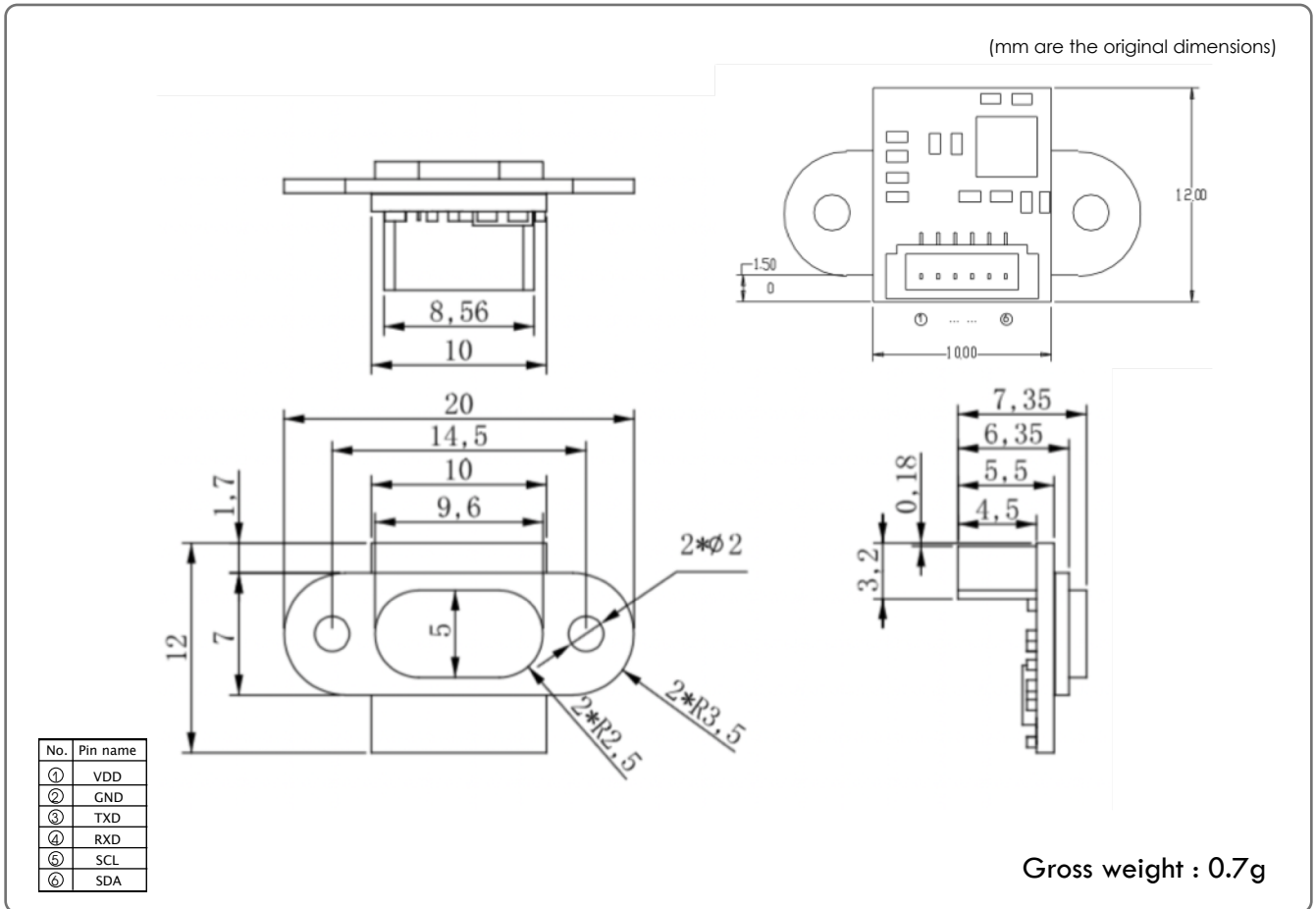
- 1 : VDD : 電源接口端,由控制平台供電3.3v 給ToF Module
- 2 : GND : Ground線,需要與控制平台同一個地的準位
- 3 : TXD : ToF Moudle 資料輸出端,需要連接到控制平台UART介面的資料接收端, RXD端口
- 4 : RXD : ToF Moudle 資料接收端,需要連接到控制平台UART介面的資料輸出端, TXD端口
- 5 : SCL : ToF Moudle串列時鐘線, 需要連接到控制平台I2C介面的串列時鐘接口
- 6 : SDA : ToF Moudle串列資料線, 需要連接到控制平台I2C介面的串列資料接口

3 Design and Application 設計與應用

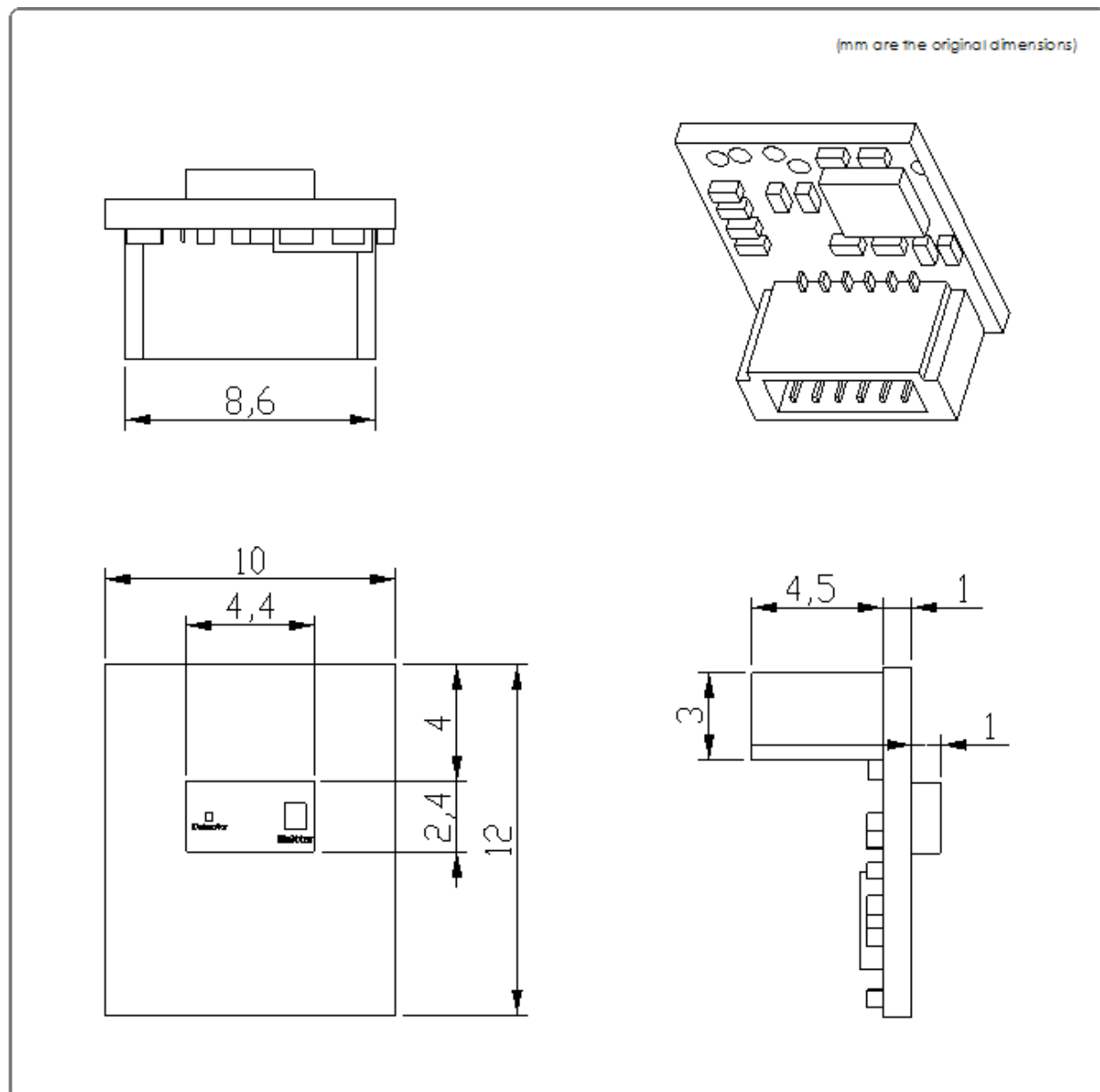
3.1 OUTLINE design 機構外觀



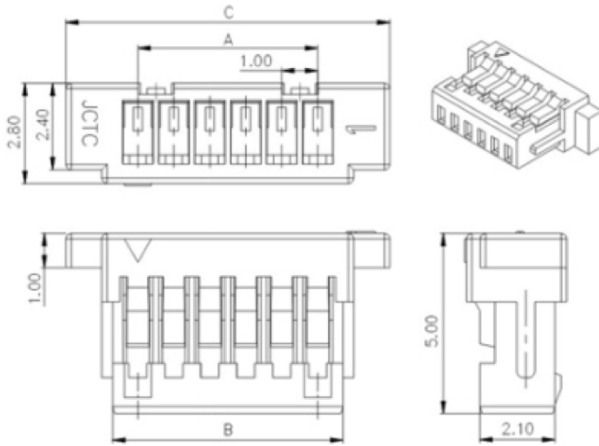
Module OUTLINE



PCBA OUTLINE



Recommend Connector



Dimensional Information:

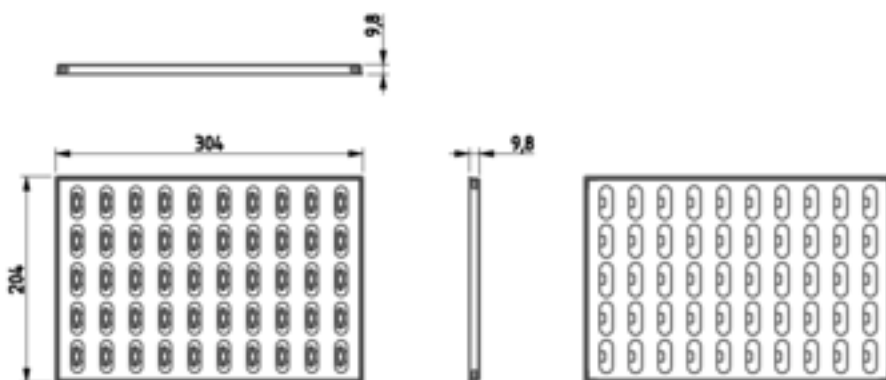
A	B	C
5.00	6.40	9.00

*Suitable JCTC 11002 series Terminal

*Mates with JCTC 11002 series single row Wafer

包裝方案

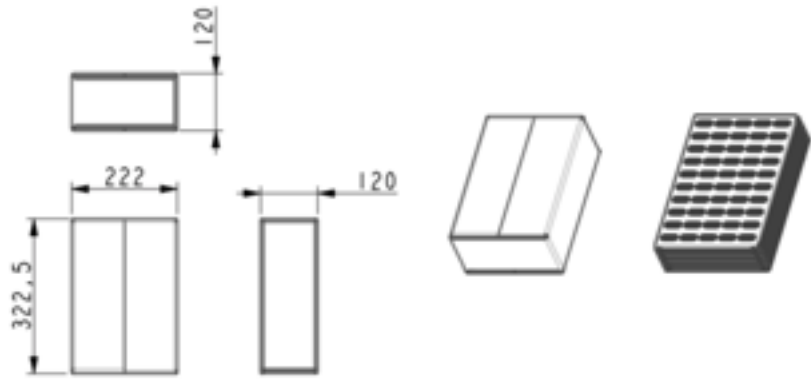
Tray盤:



說明:

- 1、材質:PS吸塑·防靜電;
- 2、顏色:托盤黑色·蓋盤透明色;
- 3、包裝數量:5行10列·一板共計50個產品;
- 4、包裝外尺寸:304mm * 204mm * 9.8mm;

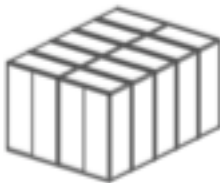
小包裝:



說明:

- 1、材質:瓦楞紙K=K 三層 單坑;
- 2、顏色:牛皮紙原色+表面印刷內容;
- 3、包裝數量:6層·每層1個Tray盤·一個小內包裝共計300個產品;
- 4、紙箱尺寸:322.5mm * 222mm * 120mm;

大包裝:



說明:

- 1、材質:瓦楞紙K=K 五層 雙坑;
- 2、顏色:牛皮紙原色+表面印刷內容;
- 3、包裝數量:5層·每層2個小內包裝·一個大包裝共計3000個產品;
- 4、紙箱尺寸:463.5mm * 335mm * 626mm;

