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產品規格書

PRODUCTION SPECIFICATION

IR/RGB 1080P Dual Camera

Model No. : DCSG20-PR-KX0

Fangtec Corporation



Revision History

Date	Rev.	Contents
2026/03/03	V1.0	First release

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1. Preface

This documentation describes product specifications to ensure design to meet customer's requirements.

DCSG20-PR-KX0 is an USB Video Class (UVC) compliant camera module with video feature, designed for portable notebook PC image applications. It is made up of the following components, CMOS sensor, lens, holder, backend, PCB, image processing circuit and connector, to come out a digital video device. It shall be a reliable device which is embedded in notebook PC to transfer video data through USB interface to notebook PC.

DCSG20-PR-KX0 not only offers up to FHD resolution (1920X1080) for image applications to take still image, but also offers video stream for end user to preview/record motion image through USB 2.0 interface. And It can support VGA (300K, 640x480) resolution up to 30 fps at YUY2 mode, 1080P resolution (1920x1080) up to 30fps at MJPG mode.

DCSG20-PR-KX0 builds in AE, AWB and AGC for automatic image control supported by CMOS sensor. For image quality control, it also offers UVC standardized User Interface (UI) to let end user well tune image by property page.



2. Features

- 1/2.9" 1080p RGB Camera Module
- 1/2.9" 1080p IR Camera Module
- Max frame rate up to 30fps
- Compliant USB 2.0 and USB Video Class
- Support still image capture and video streaming (RTSP)
- Automatic image control
 - ◆ Automatic Exposure Control (AEC)
 - ◆ Automatic White Balance (AWB)
 - ◆ Automatic Gain Control (AGC)
- Input Voltage: 5V
- Operate Temperature Range : -20°C~+70°C

3. Applications

- Security cameras
- 2D anti-counterfeiting
- Face Recognition

4. Key specifications

	IR Camera	RGB Camera
Interface	USB2.0	USB2.0
Compatibility	USB Video Class	USB Video Class
Image Sensor	GC2053 1/2.9"	GC2053 1/2.9" CMOS
CMOS sensor Active Pixels	1920(H) x 1080(V)	1920(H) x 1080(V)
Pixel Size	2.8 x 2.8 μm	2.8 x 2.8 μm
Shutter Type	Electronic rolling shutter	Electronic rolling shutter
Image/Video Format	YUY2, MJPG	YUY2, MJPG
Output Interface	USB2.0	USB2.0
Operating Temperature	-20°C to +70°C	-20°C to +70°C
FOV	D: 68.5° H: 61.1° V: 36.7°	D: 68.5° H: 61.1° V: 36.7°
Lens Construction	5P+ IR	5P+ IR
IR Filter	T _{avg} ≥ 90% 850±10nm	T _{avg} ≥ 97% 440~635 nm
Max Frame Rate	30 fps @1080P, MJPG	30 fps @1080P, MJPG
Operate Temperature	-20°C~+70°C	-20°C~+70°C
Stable image Temperature	0°C~+60°C	0°C~+60°C
Power Consumption	IR Camera	RGB Camera
Voltage	5V	5V
Rating Current	0.26A (max.)	0.17A (max.)
Watt	1.35W (max.)	0.84W (max.)

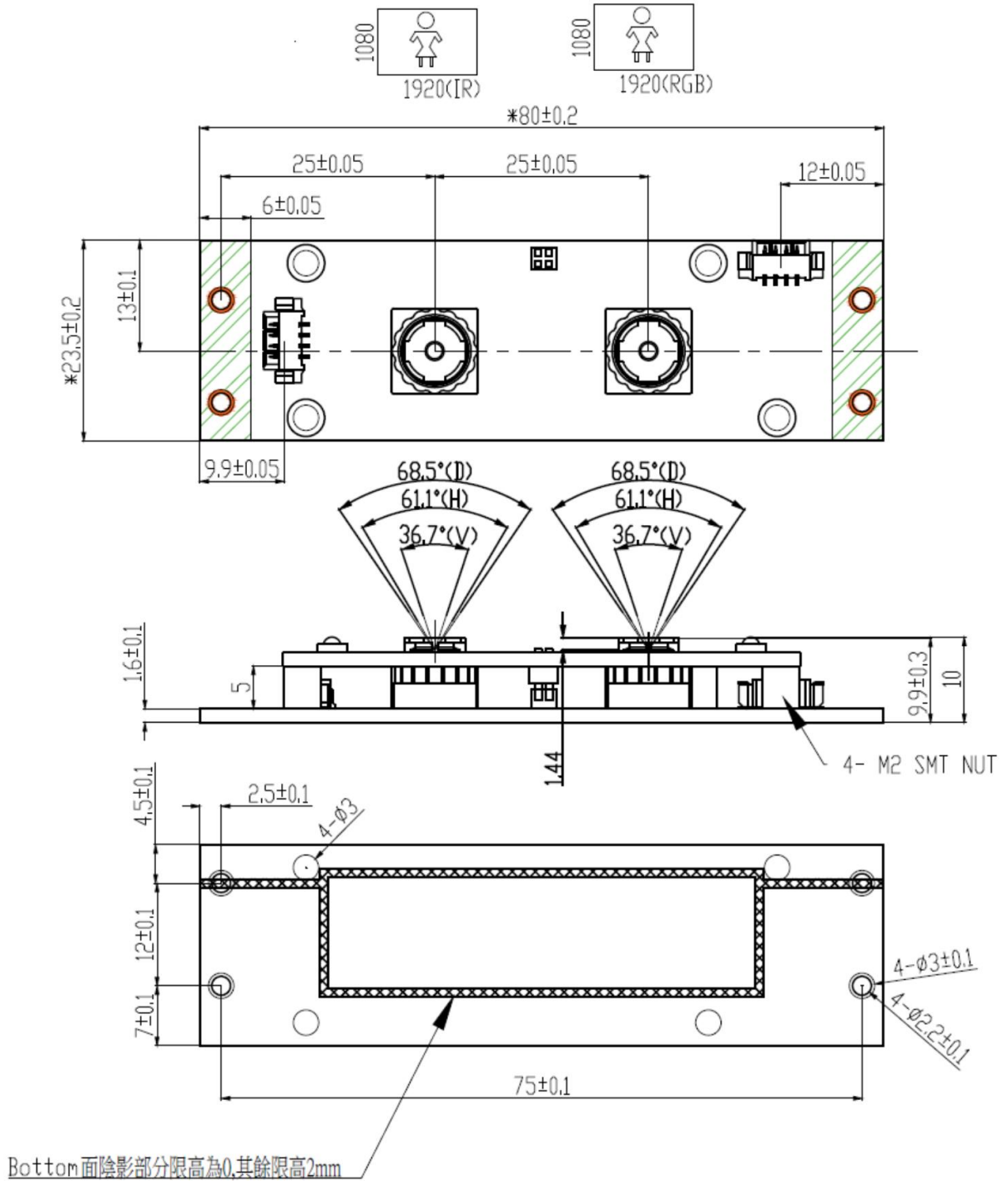


Max Frame Rates (fps)				
	640x360	640x480	1280x720	1920x1080
YUY2	30	30	10	5
MJPG	30	30	30	30

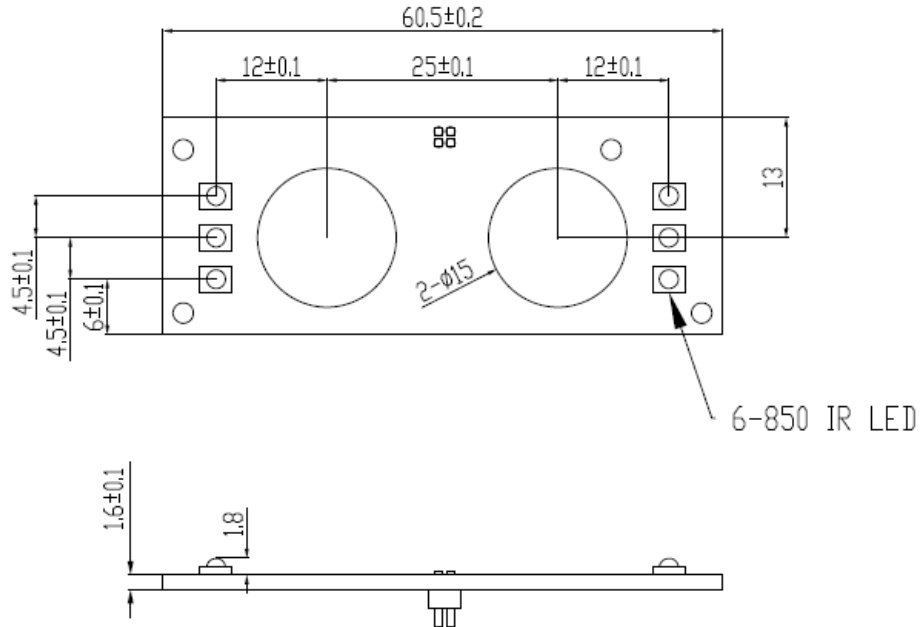
5. Pin Description

Pin Description			
Pin Number	Name	Pin Type	Function Description
1	VCC	Power	USB Power Supply 5.0V
2	D-	DM	USB Data Transmission
3	D+	DP	USB Data Transmission
4	GND	GND	System Ground

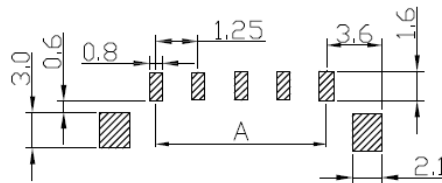
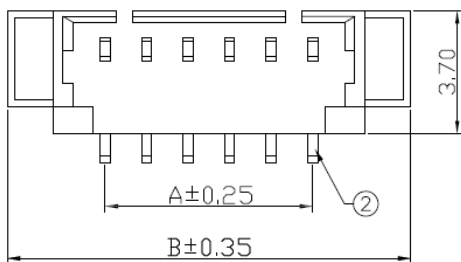
6. Outline Specification (Camera Module)



7. Outline Specification (LED Board)



8. Connector Specification



PCB HOLES (THE PATTERN SIDE)
NOTE: GENERAL TOLERANCE: $\pm 0.1\text{mm}$

Circuits	Dimensions	
	A	B
2	1.25	7.75
3	2.50	9.00
4	3.75	10.25
5	5.00	11.50
6	6.25	12.75
7	7.50	14.00
8	8.75	15.25
9	10.00	16.50
10	11.25	17.75
11	12.50	19.00
12	13.75	20.25
13	15.00	21.50
14	16.25	22.75
15	17.50	24.00

