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We are dedicated to developing sensing technology, and providing customers with an innovative and diverse range products.

With the state-of-the-art algorithm technology, there are many brand products with our advanced image technology in the market.

MCY-6080 4K USB 2.0
Camera Module Datasheet

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Revision History

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2021/01/06	V1.0	First release



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1. Preface

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

MCY-6080-D23 is an USB Video Class (UVC) and USB Audio Class (UAC) compliant camera module with video and audio feature, designed for PC image applications. It is made up of the following components, CMOS sensor, lens, holder, backend, PCB, image processing circuit, connector and microphone, to come out a digital video and audio device. It shall be a reliable device to transfer video and audio data through USB interface to PC.

MCY-6080-D23 not only offers up to 4K resolution (3840X2160) 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 (640x480) resolution up to 30 fps at YUY2 mode, 4K resolution up to 30fps at MJPG mode. It also provides stereo audio input by two microphones.

MCY-6080-D23 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

- Compliant to USB2.0 and USB Video Class 1.1 standard, USB Audio Class 1.0 standard
- Support still image capture and video streaming
- Automatic image control
 - Automatic Exposure Control (AEC)
 - Automatic White Balance (AWB)
 - Automatic Gain Control (AGC)
- Brightness/Contrast adjustment
- Hue/Saturation adjustment
- Support 3840 x2160 frame rate up to 30fps @MJPG
- Support for still image resolution: 3840(H) x 2160(V)
- Audio input: 2x Microphone (Analog Microphone)
- LED indicated (blue)
- Input Voltage: DC 5V

3. Applications

- Conference call Cameras
- Surveillance Cameras
- FA Cameras
- Industrial Cameras



4. Key Specification

Module Specification						
Size(LWH/mm)	61.0 x 19.0 x 24.45 mm (include PCB Thickness)					
PCB Thickness	1.2 mm					
Output Interface	USB 2.0					
Image/Video Format	YUY2 & MJPG					
Output size	3840x2160					
	2592x1944					
	1920x1080					
	1280x960					
	1280x720					
	960x540					
	848x480					
	800x600					
	640x480					
	640x360					
320x240						
Video Class Compliant	YES					
Device Name	TBD					
PID	TBD					
VID	0x1BCF					
Operating Temperature	0°C to +70°C					
Storage Temperature	-40°C to +85°C					
Power Consumption						
	Min	Type			Max	
Input Supply Voltage	4.75	5.0V DC			5.25	
Un-configured Current	-	35 mA			-	
Operating Current	-	-			260 mA	
Max Frame Rates (fps)						
	320x240	640x480	1280x720	1920x1080	2592x1944	3840x2160



YUY2	30	30	10	5	1	1
MJPEG	30	30	30	30	30	30

Backend IC Specification	
Type	Backend IC with USB2.0 interface
Compatibility	USB Video class Compliant, Microsoft WHQL Certified
Support Sensor Size	Support Most popular CMOS sensors
OS Supported	Windows, Mac, Thin-client

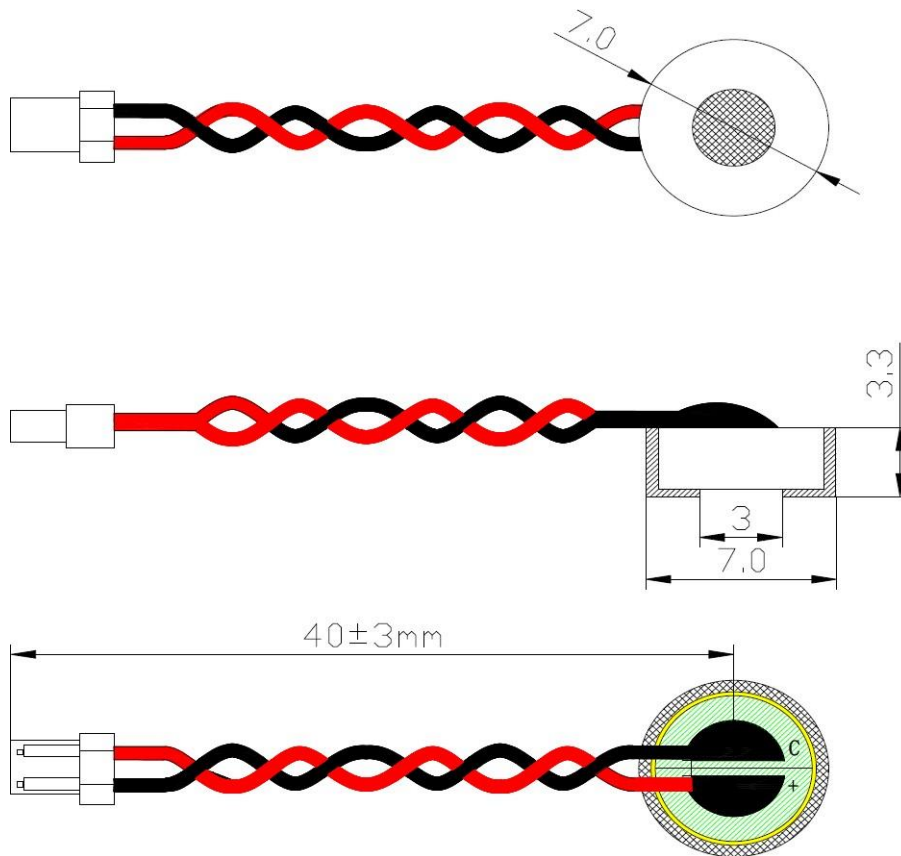
Sensor Specification	
Optical format	1/2.8-inch 8.46M CMOS Sensor
Active resolution	3840Hx2160V
Unit pixel size	1.45µm x 1.45µm

Lens Specification	
F/No.	2.7 ± 5%
Field of View	88.2° (Diagonal)
TV Distortion	<-0.12%
Construction	4 Glass + 2 Plastic
IR Filter	T _{avg} ≥ 93% @460~635nm



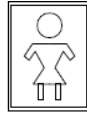
5. Microphone Specification

Item	Test Conditions	Min	Standard	Max	Unit
Directivity		Omni-directional			
Sensitivity	f=1kHz, Pin=1Pa	-31	-28	-25	dBFS
Output impedance	f=1kHz			2.2	KΩ
Current Consumption	VCC =2.0V,RL=2.2KΩ			400	μA
S/N Ratio	f=1kHz, Pin=1Pa	65			dB
Decreasing Voltage	VCC=1.0V to2.0V			-3	dB
Maximum input S.P.L				110	dB

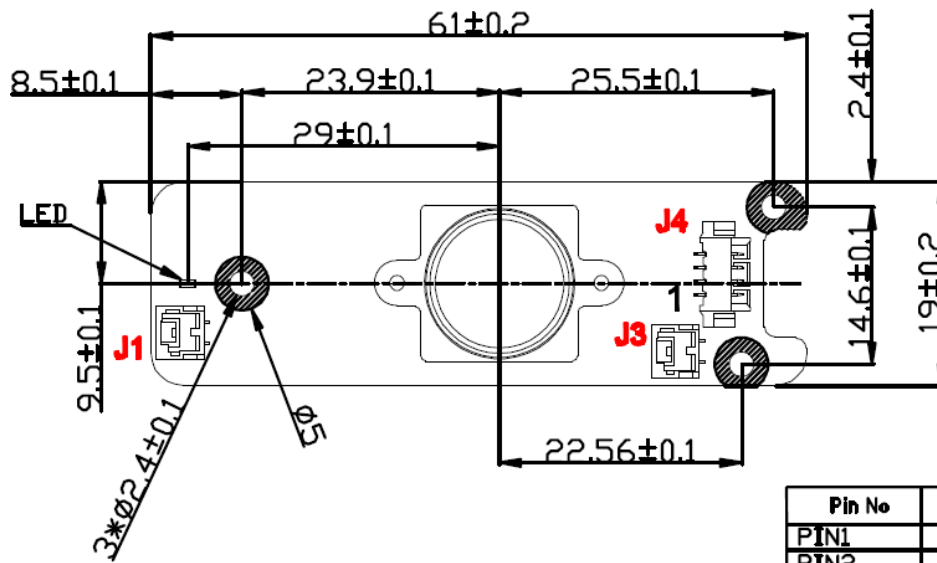




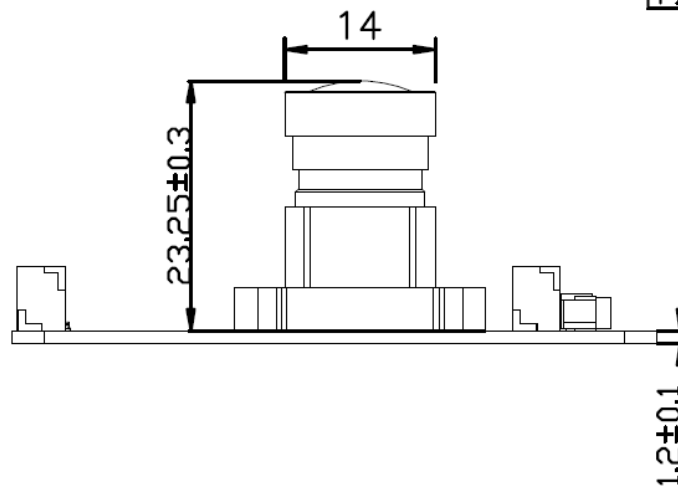
6. Outline Specification



Capture
Direction



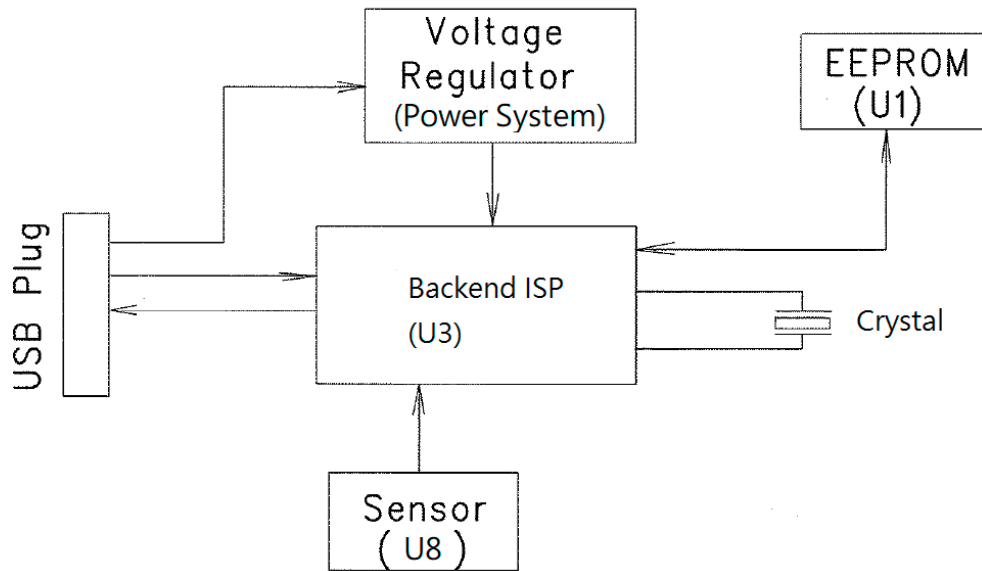
Pin No	Definition
PIN1	VCC 5V
PIN2	USB D-
PIN3	USB D+
PIN4	GND





7. Block Diagram

Block Diagram



8. PCB connector interface description

J1 is analog microphone connector - pitch 1.0mm 2 Pin WTB

J3 is analog microphone connector - pitch 1.0mm 2 Pin WTB

J4 is for USB interface connector - pitch 1.25mm 4 Pin WTB