Arducam®

Datasheet

OV5648 USB2.0 Wide Angle Camera Module

B0454

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1. Purpose

In order to fully describe the technical specifications referred to in technical cooperation, it usually needs to be expressed by a complete set of documents. As part of this, this datasheet specifies the specific technical specifications that a camera module should meet and is binding on this model.

2. Efficacity

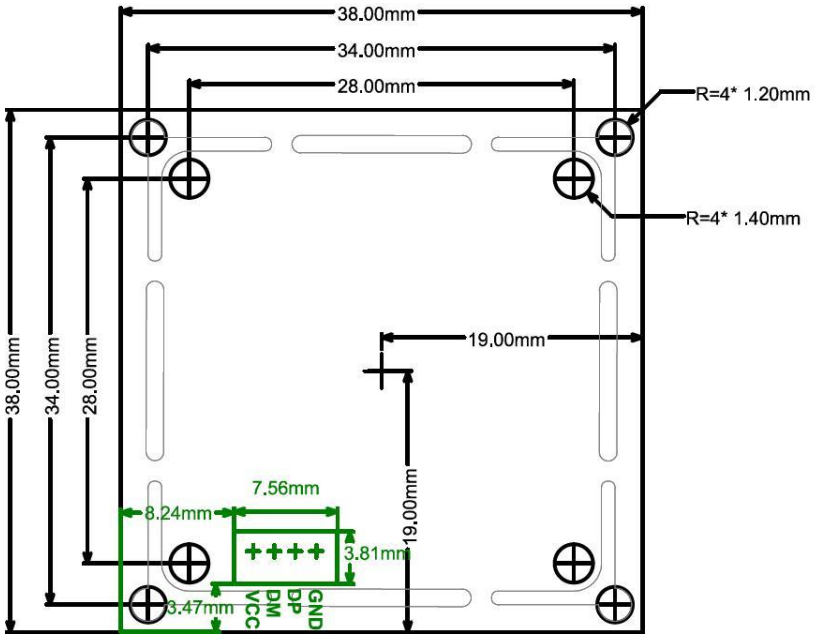
This datasheet shall prevail if this it's inconsistent with the specifications in the general technical specifications of such goods.

3. Technical Parameters

Items	Parameters
Sensor	1/4" OV5648
Maximum Effective Resolution	2592(H)x1944(V)
Data Format	MJPG/YUY2
Pixel Size	1.4 μm x 1.4 μm
Lens	FoV: 95°(H)
	EFL: 2.1
	Mount: M12*P0.5mm
IR Sensitivity	Integral 650 IR filter, only visible light
Frame rate	MJPG 15fps@2592*1944/2048*1536/1600*1200; 30fps@1920*1080/1280*960/1280*720/1024*768/800*600/640*360/640*480; YUY2 2fps@2592*1944/2048*1536; 5fps@1920*1080; 7.5fps@1600*1200/1280*960; 10fps@1280*720/1024*768; 20fps@800*600; 30fps@640*360/640*480
Auto control	Brightness, Contrast, Saturation, Sharpness, White Balance, Gain
Input Voltage	DC 5V
Working Current	MAX 300mA
Operating Temp.	-4°F~158°F (-20°C~+70°C)
Cable Length	Default 1M, optional 2M, 3M, 5M
System Compatibility	Windows, Linux, Mac, and Android with UVC
Connector No.	S4B-ZR
Dimension	38mmx38mm
Hole Pitch	28mmx28mm

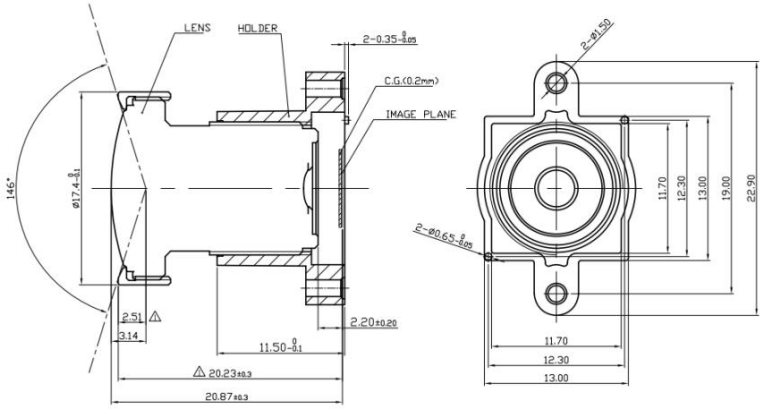
4. Overall Dimension Diagram

Unit: mm

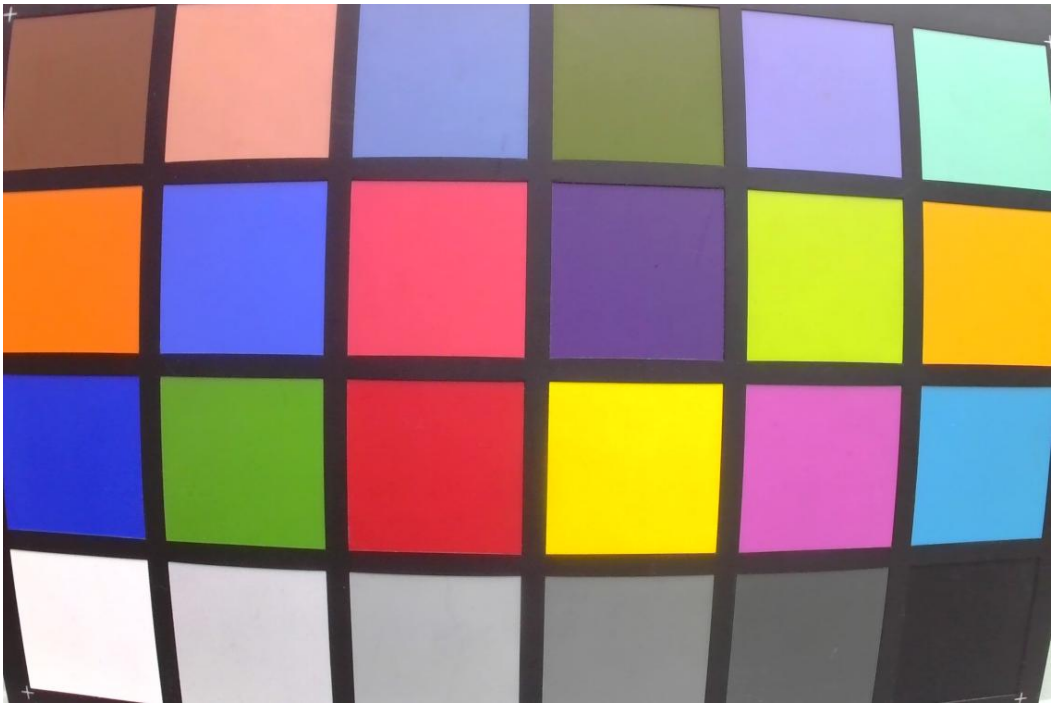


5. Lens Diagram

Unit: mm

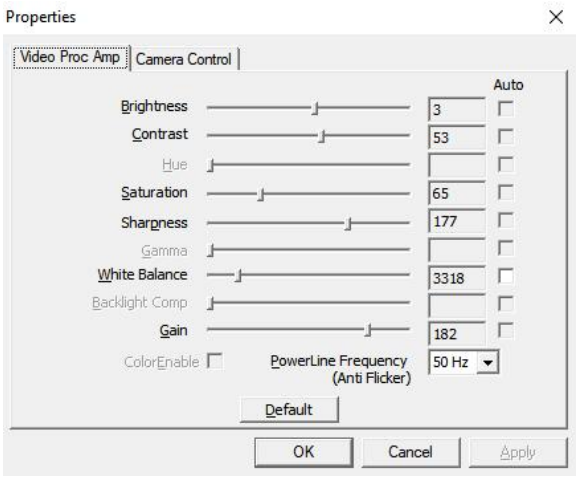


6. Imaging

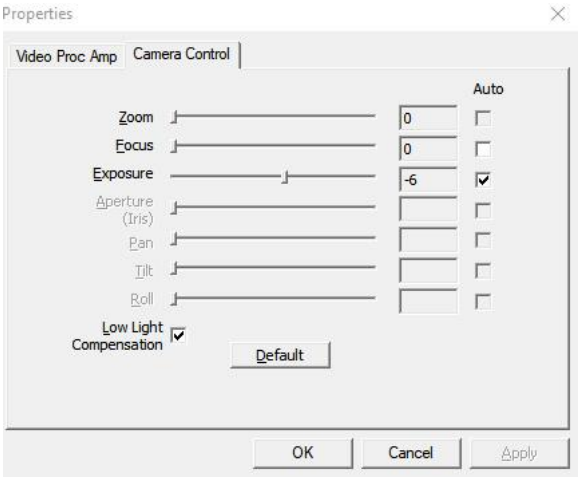


7. Camera Parameters Interface

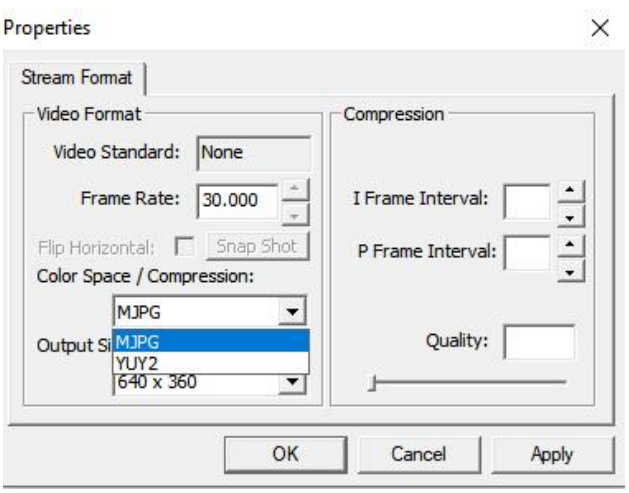
- Video Proc Amp

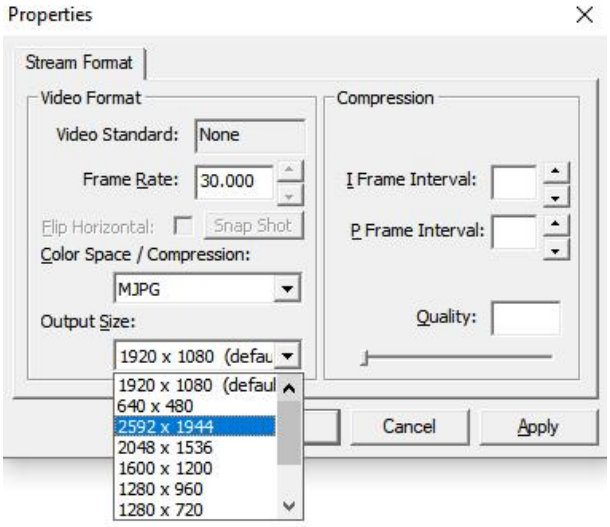


- Camera Control



- Video Capture Pin





8. Function Inspection Criteria

8.1 Function definition:

Camera module electrical performance and image quality.

8.2 Inspection methods

- Staff: Visual inspection personnel need to be trained and have normal color recognition ability. Their vision should be above 1.0 (or more than 1.0 after correction is acceptable), and their color discrimination ability can pass standard tests.
- Tool: Connect the computer, inspect images with Amcap software.
- Distance and Time

  Observation distance: 30~55cm

  Observation time for each surface: 3~5seconds
- Inspection condition: Visual inspection should be performed under unobtrusive fluorescent lamps, and its minimum illumination should be above 100 feet of candlelight, or 60W fluorescent lamps, inspected at 1.5m distance.

8.3 Accept criteria

- The image has no mess, color screen and discoloration.
- There is no white spot, black spot, dirt or dark angle in the image.

- The image is same clear on all corners

9. Visual Inspection Criteria

9.1 The definition of the appearance

Camera module appearance.

9.2 Test methods

- Staff: Visual inspection personnel need to be trained and have normal color recognition ability. Their vision should be above 1.0 (or more than 1.0 after correction is acceptable), and their color discrimination ability can pass standard tests.
- Distance and Time

  Observation distance: 50~75cm,

  Observation time for each surface: 3~5seconds
- Inspection condition: Visual inspection should be performed under unobtrusive fluorescent lamps, and its minimum illumination should be above 100 feet of candlelight, or 60W fluorescent lamps, inspected at 1.5m distance.
- Observation angle: Observation angle between 40°~50°.

9.3 Accept criteria

- Cleanliness: Parts must be free of stains, dust, grease, and other stains. Smudges due to transportation materials are acceptable if they can be blown away or wiped off.
- Assembly surface: The parts to be assembled should avoid scratches, gouges, dents, bends, cracks, indentations, abrasions or other defects caused by improper assembly.

10. Reliability Test

Items	Condition	Specification
High Temperature Test	Temp.: 80℃	No abnormal
	Time: 96H	
Low Temperature Test	Temp: -20℃	No abnormal
	Time: 96H	
Humidity Test	Temp: 60℃	No abnormal
	Humidity: 80-85%	

Cable Tensile Strength Test	Time: 24H	No abnormal
	Loading weight：4KG	
	Time: 60s	
Drop Test	Hight: 60CM	Electric normal
	Number of times: 10	
	On the wood	
Vibration Test	Vibration machine vibration frequency to 50Hz	Electric normal
	Vibration amplitude: 1.5MM；	
USB Connector	Vibration time: 30 Minutes	Electric normal
	Number of times: 250	

11. Packing Request

- Products should be strictly based on product characteristics to develop corresponding packaging standards and follow the implementation to ensure that the product is used within the specified use and storage period, to achieve anti-static, moisture-proof, shock-proof, mildew-proof, anti-barbaric handling and other signs and related warranty requirements. Product packaging should be marked: Supply-side name / logo, Product Model specifications, containing the number, production date / batch number and order number.
- The product's outer packaging should be marked with: supplier name / sign, product model specification, built-in quantity, production date / batch number and order number.
- The packing and packing scheme are based on the customer's requirements, and the two parties will negotiate the specific details. The sealed samples shall prevail.

12. Others

- Changes to this acknowledgement need to be confirmed by both parties, and any modification by either party is invalid.
- This acknowledgment must be signed and returned within seven working days of receipt by the client, late regarded as the default.