

产品规格书
Specification产品名称 (Product) 数字摄像头模组 (Digital Camera Module)摄像头 (Camera Module): JDHD130-C版本号 (Version): 1.00镜头 (Lens): 2.1mm (650nm)

客户名称 (Customer): _____

客户型号 (Cust.P/N): _____

日期 (Date): _____

客户 CUSTOMER			承制方 MANUFACTURER		
品质 Quality	工程 Engineer	审批 Approved	审核 Checked	批准 Approved	销售 Sales

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版本更改 Version

日期/Date	版本/Ver.	修改版本/Modification
2015-11-20	1.00	第一版 (The first edition)

1. 概况 Profile:

JDHD130-C CMOS 彩色摄像模组, 采用 1/3' CMOS 影像传感器。适用于需要摄取视频信号的各种电子设备中, 智能曝光系统, 智能背光补偿, 自动避免 50Hz 光源闪烁等功能。

JDHD130-C CMOS camera module is comprised by 1/3" CMOS Image sensor, it applies to difference electric equipment that need capture video signal The main functions include intelligent exposure system, intelligent backlight compensation and auto avoid 50Hz light flicker etc.

2. 可选镜头 Lens

默认 3.6mm 镜头, 可选 2.8mm 镜头, 3.7mm 针孔镜头, 2.1mm 鱼镜头和其他客户指定的镜头。

Default 3.6mm lens, option 2.8mm lens, 3.7mm pinhole lens, 2.1mm fisheye lens and other lens which be specified.

3. 产品特性 Features

1. 输出格式: YUV422

Output Format: YUV422

2. 分辨率: 1280*800/1024*600/800*480/480*472 可调

Resolution: 1280*800/1024*600/800* 48/480 *472 adjustable

3. 可以通过 i2c 接口调整分辨率/亮度/对比度/色度/饱和度

The resolution/brightness/contrast/hue/saturation can be adjusted through the i2c interface

4. 智能背光补偿

Intelligent exposure and automatic white balance

4. 应用范围 Application

- 办公室电子设备 Office electronic device
- 仪器、仪表和测量用具 Equipment & Instrument and measuring tools
- 机器设备 Machine equipment
- 监视设备 (车用监视器、便携视频采集、远程监视) Supervising equipment (Car Monitor & Portable video capture and remote monitoring)
- 家居用品 (可视门铃、可视电话) Home supplies (Video door phone & video phone)

5. 电气规格 Specifications

NO	项目/Item	参数说明/Specification		备注/Remark
1	图像传感器/Image sensor	1/3inch CMOS		
2	图像制式/Video Format	彩色、数字接口/Color, digital interface		YUV4:2:2
3	有效像素/ Effective pixel	1280*800 等, 分辨率可调 1280*800 etc. resolution control		
4	同步方式/ Synchronously	独立帧、线同步信号 Independent frame and line synchronization signal		
5	水平解析度/ Resolution	1280 像素/1280 pixel		
6	像素大小/ Pixel size	3.75um*3.75um		
7	信噪比/ S/N ratio	44dB		
8	最低照度/ Min.Lux	5.5 V/lux-sec		
9	曝光系统/ Exposure system	智能曝光, 智能背光补偿, 自动避免 50Hz 光源闪烁 Intelligent exposure, intelligent backlight compensation, automatic avoidance of 50Hz light source flicker		
10	电子快门/ Electronic shutter	1/50(1/60)-1/10000S		
11	伽玛校正/ Gamma correction	>0.45		
12	夜视照明补偿/ Night vision lighting compensation	选配白光灯/ Equipped with white light		
13	帧率/Frame	25FPS		
14	启动时间/ starting time	<500ms		
15	输入电压/ Input voltage	DC3.3V		
16	功耗/ Power Consumption	<130mA		
17	工作环境温度/ Working Temp.	-30℃ ~ 70 ℃		
18	储存环境温度/ Storage Temp.	-40℃ ~ 85℃		
19	湿度/ Humidity	5~95% RH		
20	图像显示方向/ Direction	拍摄正立图像时基板放置方位 Front Stand		
21	产品尺寸/ Dimension	55 (L) × 38 (W) × 18.4 (H)		
22	镜头参数/Lens Parameter	焦距 Focus	2.1mm	
		视角 angle of view	160° ±3°	
		相对畸变 Distortion	<-14%	
		对焦距离 Focus Distance	40cm (近焦 Near) 1.5M (远焦 Far)	
		光谱特性 Spectrum	650nm 不感红外型 650nm without IR	

6. 可靠性测试 Reliability Testing

NO	试验项目 Testing Item	试验条件 Testing Conditions	判定标准 Judgment Standard
1	高温功能试验 High Temp. Test	正常通电, 高温 70℃; 8H 通电 Normal electricity, high temp.70℃; 8H aging test	在 8H 测试中工作正常 Proper Functioning in 8H
2	低温功能试验 Low Temp. Test	正常通电, 低温-20℃; 8H 通电 Normal electricity, low temp.-20℃; 8H aging test	在 8H 测试中工作正常 Proper Functioning in 8H
3	温湿度测试 Temp.& Humidity test	温度 70℃; 湿度 93%; 32H 通电 Temp.:70℃; Humidity 93%;32H aging test	在 32H 测试中工作正常 Proper Functioning in 32H
4	高温贮存试验 High Temp. storage test	温度 85℃; 8H Temp.:85℃;8H	恢复常温后产品产品正常 Proper Functioning after test
5	低温贮存试验 Low Temp. storage test	温度-40℃; 8H Temp.: -40℃;8H	恢复常温后产品产品正常 Proper Functioning after test
6	寿命试验 Aging Test	12V 通电; 连续开关机; 48H 12V DC; Continuous on/off; 48H	在 48H 测试冲击中工作正常 Proper Functioning after 48H
7	间断电源试验 Discontinuous power supply test	常温下各输入 9V\12V\15V, 5 秒循环开关机。每个电压通电 4H Input 9V\12V\15V, turn on/off in every 5s, test 4H for each voltage	每个电压冲击工作正常 Every Voltage works good after shock
8	静电放电试验 ESD test	接触放电 Contact discharge: 6.0KV 空气放电 Air discharge: 8.0KV 水平/垂直接触放电: 8.0KV Horizontal / Vertical discharge: 8.0KV	产品功能和外观无问题 Function and appearance are all ok
9	振动试验 Vibration test	1. 振动标准: (1). 振动方向: Y 方向 (2). 振动幅度: 2mm (3). 振动频率: 10HZ to 50HZ (4). 振动表面: 紧靠一角的三个面 (5). 振动时间: 30 分钟/每个面 1. Vibration standard: (1). Direction: Y direction (2). Range: 2mm (3). Frequency: 10HZ to 50HZ (4). Surface: 1 surface fixed when testing another 3 surface (5). Time: 30mins./every surface	振动后, 摄像机结构及功能应正常, 所有配套附件及吸塑不出现异常现象 The camera structure & function working good after vibration, all accessories & blister have no change.

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跌落试验
Drop test

1. 跌落标准:
(1). 跌落地面:水泥地板或钢板
(2). 跌落方位:一角、三边、六面
(3). 跌落方式:自由下落
(4). 跌落高度:根据产品的重量依照下表而定

1. Drop standard:
(1). Floor: concrete floor steel plate
(2). Direction: corner, three sides, six surface
(3). Drop way: free falling
(4). Height: according to the product's weight as follows:

重量 Weight	高度 Height
0kg<W≤4. 5kg	91cm
4. 5kg<W≤11. 8kg	76cm
11. 8kg<W≤23. 1kg	61cm
23. 1kg<W≤45. 4kg	46cm

跌落后, 摄像机结构及功能应正常,
所有配套附件及吸塑不出现异常现象

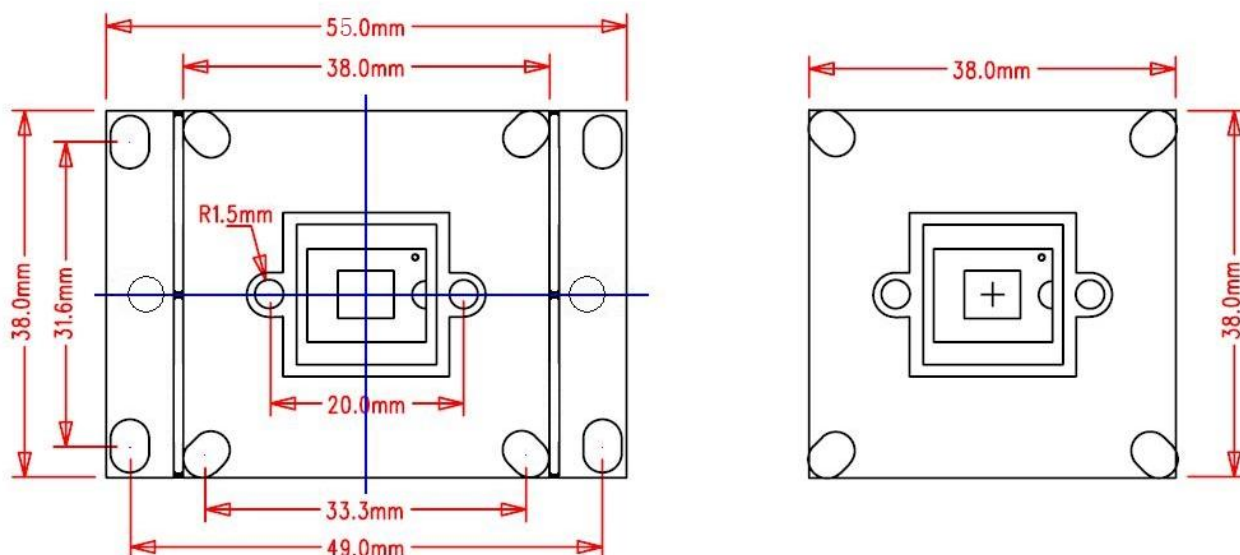
The camera structure and function is normal after dropped, all of accessories& blister are well.

7. 结构图及接口定义/ Structure Diagram and interface definition

7.1 结构图 Structure Diagram

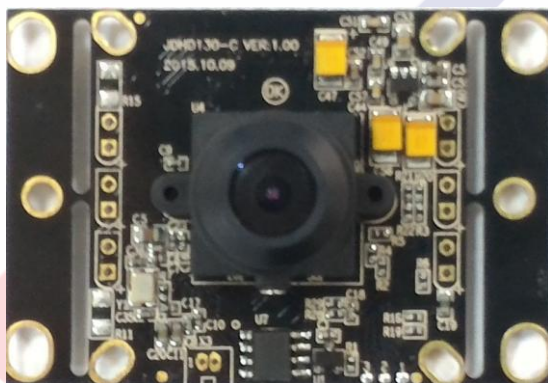
以下标注尺寸单位为: mm, 公差为 ± 0.2 mm(已标注公差除外)

Following size units are: mm, tolerance ± 0.2 mm(exclude marked)

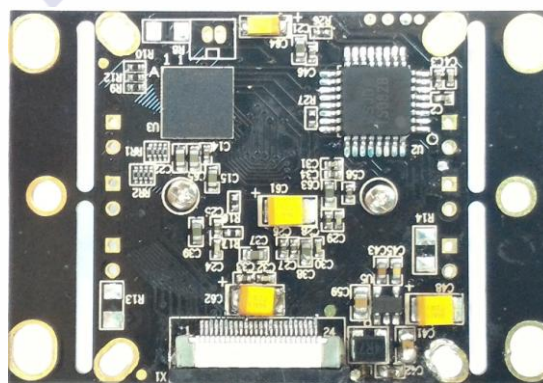


实物图/Picture of real products

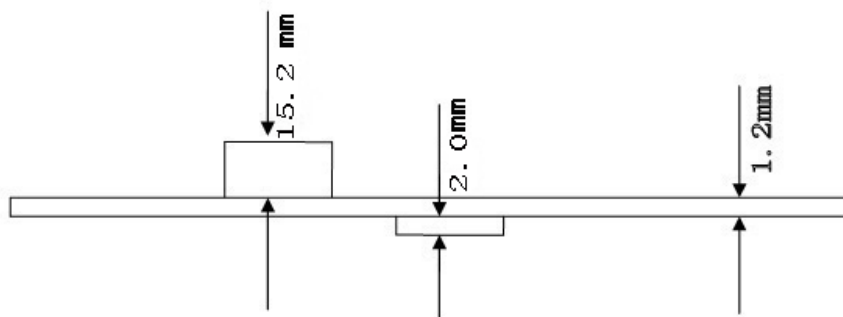
正面 (front):



背面 (rear):



1 ↑ 24 ↑



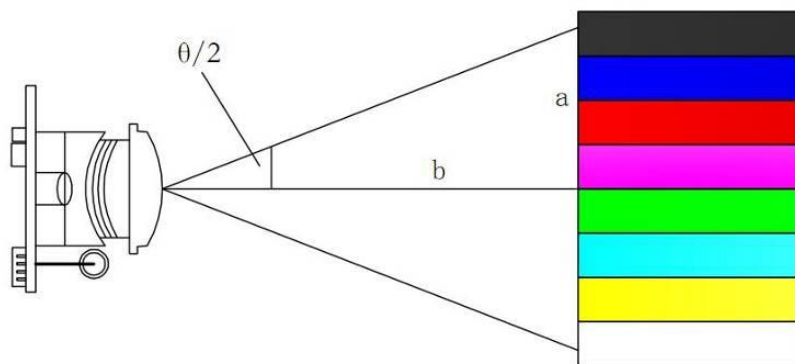
7.2 接口定义/ interface definition

NO.	接口定义 interface definition	说明/state
1	NC	
2	NC	
3	D2	
4	D1	
5	D3	
6	D0	
7	D4	
8	PCLK	摄像头输出时钟/Camera output clock
9	D5	
10	DGND	
11	D6	
12	MCLK	NC 摄像头输入时钟, 主板预留 (使用摄像头自带晶振) NC Camera input clock, mainboard reserved (use camera with crystal oscillator)
13	D7	
14	DOVDD	3.3V 电压 (主板提供, 主板兼容 2.8V) 3.3V voltage (mainboard supply and mainboard is Compatible with 2.8V)
15	DVDD	NC (预留 1.5V) / NC (reserved 1.5V)
16	HSYNC	
17	PWDN	NC (使能脚, 主板预留) / NC (Enable feet, mainboard reserved)
18	VSYN	
19	RESET	NC (复位脚, 使用摄像头自带复位芯片, 内部复位和外部复位二选一) NC (Reset feet, Use cameras with reset chip, choose one of External reset and internal reset)
20	SCL	
21	AVDD	3.3V 电压 (主板提供, 主板兼容 2.8V) 3.3V voltage (mainboard supply and mainboard is Compatible with 2.8V)
22	SDA	
23	AGND	
24	LED	增加图像控制 LED 脚 (摄像头输出, 高电平时灯灭, 低电平时灯亮), 该信号用于主板控制 LED 灯的电源 Add image to control the LED feet, camera output, High electric lights went out at ordinary times, light is on when low electric level. The signal is used for mainboard to control power of Led)

8. 视场角 View Angle

标注尺寸单位为: mm, 公差为±0.2mm

Size units are: mm, tolerance±0.2mm



标准彩条

$$\tan(\theta/2) = a/b \Rightarrow \theta = 2\arctan(a/b)$$

测量满景时镜头到彩条板距离
b, 可以约算出视角

注: 测量满景时镜头到彩条板距离 b, 可以约算出视角

Note: The view angle could be calculated though measure b distance between lens to testing board.

9. 包装 Packing



步骤 1: 用 8*9 气包袋包装。

Step1:use 8*9 bubble bag



步骤 2: 用 5.6CM(长)*3.5CM(宽)*4.4CM(高)包装盒。

Step 2: Use 5.6CM(L)*3.5CM(W)*4.4CM(H)Packing box.



步骤 3: 把装有板的汽包袋装入包装盒。

Step 3: put the board into packing box



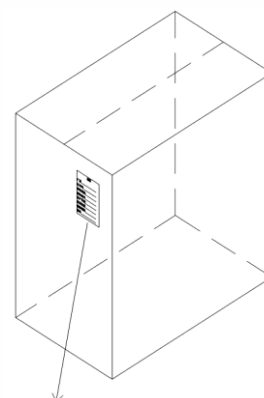
步骤 4: 然后盖上包装盒贴上型号。

Step 4: then packed and stick P/N No.



步骤 5:把已检验合格品放入包装箱

Step 5:put all the boxes to carton



步骤 6:贴好物品标签并用胶纸包好纸箱

Step 6: Stick label and packed the carton

10. 外箱标签 Carton Mark

外箱标签的内容如下 The carton box mark include below information:

厂 家 码 Vendor Number :

订 单 号 Order Number :

物料规格 Part Specifications :

原料编号 Part Number :

生产日期 Production Date :

交货数量 Delivery Qty :

保障期限 Delivery Date :

备 注 Remark :

11. 注意事项 Notes

- 1、输入电压请勿超过规格书上规定值以免损坏模组。

The input voltage don't exceed the value stated on the specification , in order to avoid damage to the module.

- 2、接口连接线不能接反，接反容易烧坏板子，对产品的使用造成影响。

The connector can't be reversed , reverse burn the board and affect the use of the product.

- 3、此驱动板为电子产品,所以加工、组装、操作时需注意防静电措施，以免影响产品性能。

This is a electronic product, so processing, assembly , operation need to take anti -static measures to avoid affecting product performance.

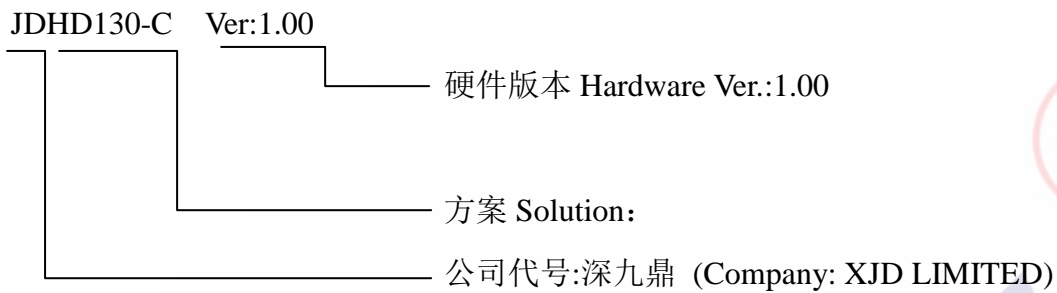
- 4、镜头是玻璃制品小心拿放，以免破裂。

Lens is glass product, place carefully to avoid breakage.

- 5、镜头是玻璃制品注意防尘、防损，以免影响图像效果。

Lens is glass-made product, please take anti-dust, loss prevention measures to prevent the image quality.

12. 命名规则 Naming Rule



13. 配线 Accessory Cable

无配线

No Accessory