CS30-MIPI Module Product Specification

Date	Version	Description
December 3, 2023	V0.1	First Draft

Contents

1、 Module Description

Product Description:

The CS30-MIPI module consists of RX component with a resolution of 640*480 and TX component operating in the 940nm wavelength, equipped with a ToF image sensor. Utilizing ToF technology, the module excels in capturing three-dimensional information about objects and spaces, showcasing remarkable features such as long-range capability and low power consumption. Additionally, the module employs a standard MIPI-CSI2 interface for the output of RAW data.

Product Features:

- Full resolution (1280 x 960) with up to 60 frames per second of raw data.
- MIPI-CSI2 standard interface: 2 lanes (1.6 Gbps per lane).
- Output formats: RAW10, RAW12.
- Camera Control Interface (CCI) and I2C compatible, two-wire serial communication circuit up to 1MHz.

2、Technical Parameters

Technical Parameters	
Resolution	640*480/320*240
FOV	H100°xV75°
Measure Distance	0.1-5m, indoor
VCSEL Wavelength	940nm
Accuracy	0.1~0.5m: ±2.5cm; 0.5~5m: ±1% @ 90% reflectivity
Dimensions	Appendix 1 2D drawing
Date Transmission	RAW10
Powering Method	IOVDD_ToF(1.8V)，VCSEL_3V3，VCC_3V3
Power Consumption	TBD
Operating System	Android, Windows, Linux, ROS
Operating Temperature	-10 ~ 50℃
Safety	Laser CLASS1

3、Storage Conditions

Conditions	Description	Min	Max	Unit
Storage Temperature		-15	60	°C
	Humidity	Temperature/RH: 40°C/90%		
Operating Temperature		-10	50	°C

4、Module Cleaning Procedures

1. Avoid using any chemicals or water on the camera lens.

2. Use a lens blower brush to remove dust and dirt from the lens as thoroughly as possible.

3. Wipe with a dry, clean microfiber cloth.

5、Disclaimer

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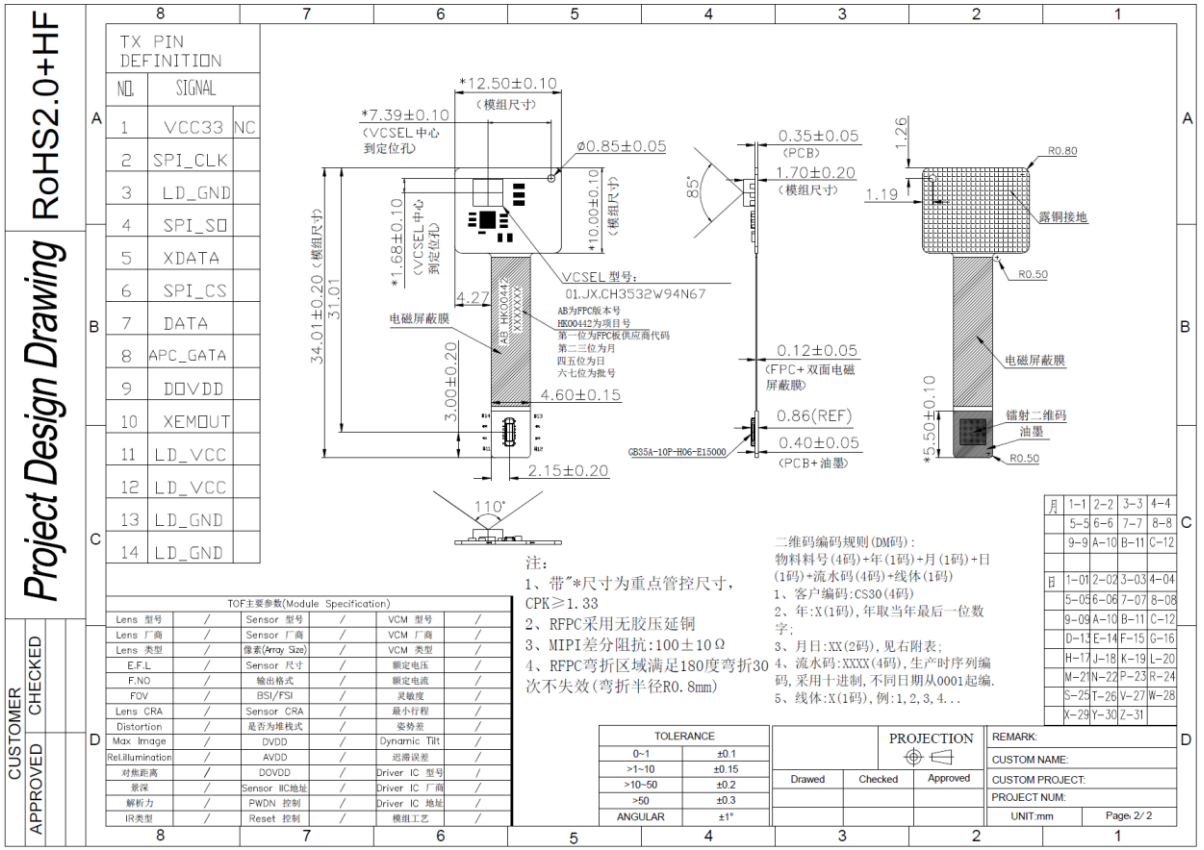
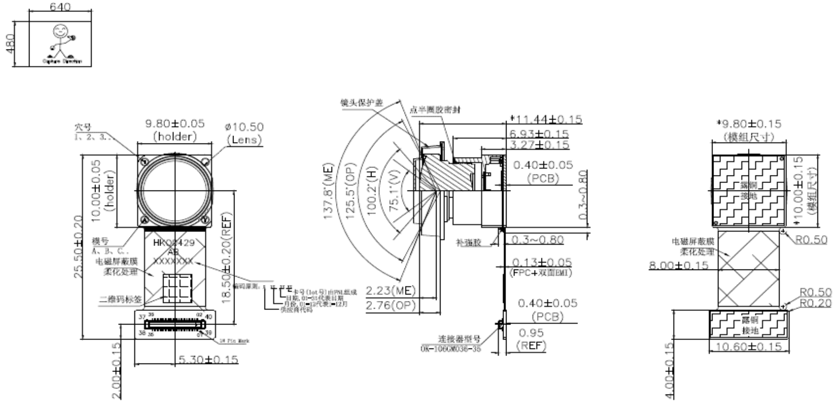
Appendix 1: Module Drawings



RoHS2.0+HF

Project Design Drawing



TOF PIN DEFINITION		
1	AVDD	
2	AVDD	
3	AVDD	
4	DGND	
5	DGND	
6	VSYNC_IN	
7	MCP	
8	DGND	
9	MCN	
10	RESET	
11	DGND	
12	DGND	
13	MDP0	
14	MDP1	
15	MDN0	
16	MDN1	
17	DGND	
18	DGND	
19	DGND	
20	SDA	
21	DATA	
22	SCL	
23	XDATA	
24	DGND	
25	DGND	
26	APC_GATE	
27	SPI_CS	
28	XEMOUT	
29	SPI_SO	
30	DGND	
31	SPI_CLK	
32	MCLK	
33	DGND	
34	DGND	
35	VDDPG_IVDS	
36	VDDPG_IVDS	
37	DOVDD	
38	DOVDD	
39	AGND	
40	AGND	

注：
1、带*标志的为重点尺寸,CPK≥1.33;
2、软板区域为两层无胶压延铜基材,柔化处理;
3、MIPI差分阻抗：100±10Ω;
4、FPC弯折区域满足180度折弯30次不失效(弯折半径R=0.8mm);
5、模组处于不工作状态时，建议关闭全部电源.
6、EEPROM:GT24P256C-2CSLI-TR,IIC地址：0xA0(W)/0xA1(R);
7、OTP烧录：无;
8、Lens：春虹，L061D.

TOF主要参数(Module Specification)					
Lens 型号	L061D	Sensor 型号	SSK330XX	VCM 型号	/
Lens 厂商	chunhong	Sensor 厂商	Samsung	VCM 厂商	/
Lens 类型	4P	像素(Array Size)	640*480	VCM 类型	/
E.F.L	2.534mm	Sensor 尺寸	1/3 inch	额定电压	/
F.NO	1.2±5%	输出格式	RAW	额定电流	/
FOV	[illegible]	BSI/FSI	/	灵敏度	/
Lens CRA	<23.7°	Sensor CRA	30°	最小行程	/
Distortion	<11.8%	是否为模拟式	/	姿势差	/
Max Image	ø6.1	DVDD	1.05V	Dynamic Tilt	/
Rel.Illumination	>65.9%	AVDD	2.8V	迟滞误差	/
对焦距离	30cm	DOVDD	1.8V	Driver IC 型号	/
景深	10cm~700cm	Sensor IIC地址	0x20(W)/0x21(R)	Driver IC 厂商	/
解析力	TBD	PWDN 控制	/	Driver IC 地址	/
IR类型	0263T/940nm	Reset 控制	低有效	模组工艺	COB

二维码编码规则(DM码)：
物料料号(4码)+年(1码)+月(1码)+日(1码)
+流水码(5码)+线体(1码)
(5码)
1、项目编码:SU01(4码)
2、年:X(1码),年取当年最后一位数字;
3、月日:XX(2码),见右附表;
4、流水码:XXXXX(5码),生产时序列编码,采用
十进制,不同日期从00001起编.
5、线体:X(1码),例:1,2,3,4...

月	1-1	2-2	3-3	4-4
	5-5	6-6	7-7	8-8
	9-9	A-10	B-11	C-12
日	1-01	2-02	3-03	4-04
	5-05	6-06	7-07	8-08
	9-09	A-10	B-11	C-12
	D-13	E-14	F-15	G-16
	H-17	J-18	K-19	L-20
	M-21	N-22	P-23	R-24
	S-25	T-26	V-27	W-28
	X-29	Y-30	Z-31	

TOLERANCE	
0~1	±0.1
>1~10	±0.15
>10~50	±0.2
>50	±0.3
ANGULAR	±1°

PROJECTION

Drawed	Checked	Approved

REMARK:
CUSTOM NAME:
CUSTOM PROJECT:
PROJECT NUM:
UNIT:mm | Page: 2/2

CUSTOMER
APPROVED
CHECKED