



LEOPARD IMAGING INC

Rev. 1.3

# LI-OV580-OV9281ST

## Data Sheet

### Key Features

- USB 3.0 Super Speed support
- 8-bit RAW output without compression
- UVC compliance
- USB 2.0 backwards compatible
- Dual Camera
- Global shutter
- Provide customization services
- USB +5VDC powered device
- CMOS 1MP image sensor
- 3 Parts: 1 OV580 and 2 OV9281
- Weight: 6 g
- Part#: **LI-OV580-OV9281ST**

### Interface

- Part#: AXT524124 (on OV580)
- Number of Positions: 24
- Pitch: 0.016" (0.40mm)
- Number of Rows: 2

### SDK Supported

- Camera Tool Source Code in C#
- Capture & Display



### OV9281 module Spec

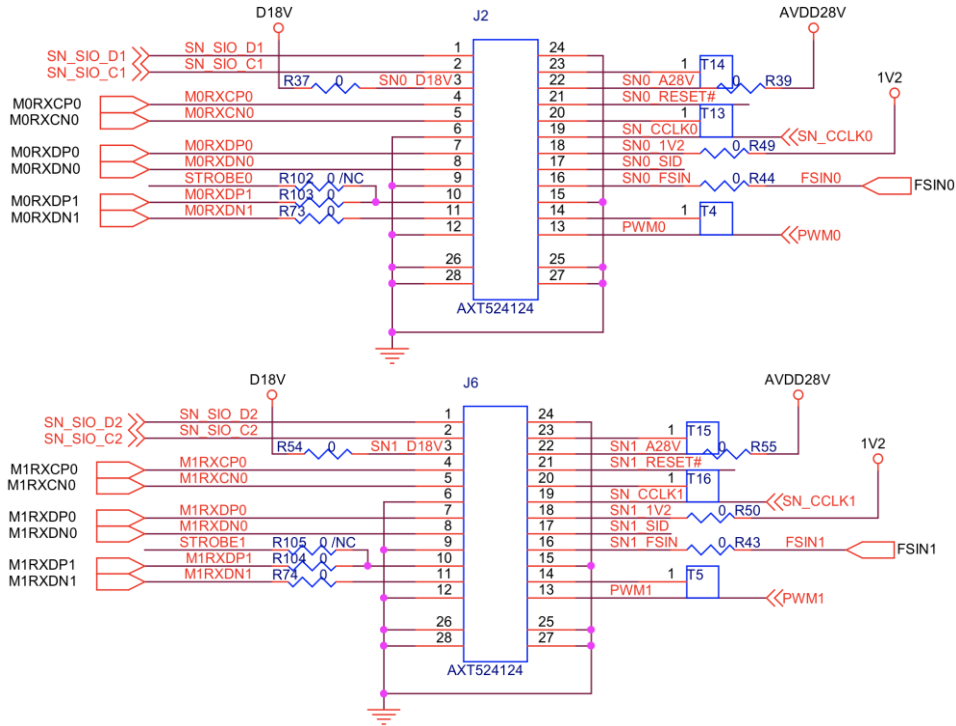
- Part#: LI-OV9281M-FF
- Resolution: 1296 x 816
- Sensor size: 1/4"
- Mono sensor
- MIPI Interface
- Connector: AXT624124
- Focusing range: 60cm ~ Infinity
- Focal Length: 2.0 mm
- Aperture, F/#: 2.5
- FOV (H): 103 °
- TV Distortion: < -88%



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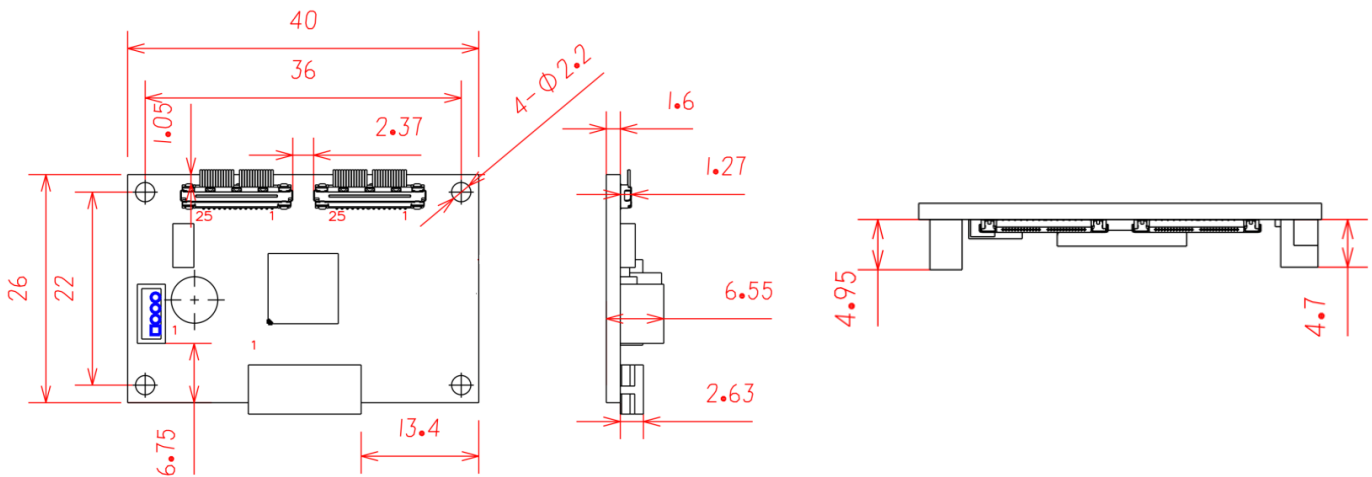
## Pin Assignment (OV580)



## Pin Assignment (OV9281)

No.	Name	No.	Name	No.	Name	No.	Name
1	SDA	7	MDP0	13	ILPWM	19	XCLK
2	SCL	8	MDN0	14	GPIO2	20	STROBE
3	DOVDD1.8V	9	GND	15	GND	21	RESET
4	MCP	10	MDP1	16	FSIN	22	AVDD2.8V
5	MCN	11	MDN1	17	SID	23	ULPM
6	GND	12	GND	18	DVDD1.2V	24	GND

## Dimensions (OV580)



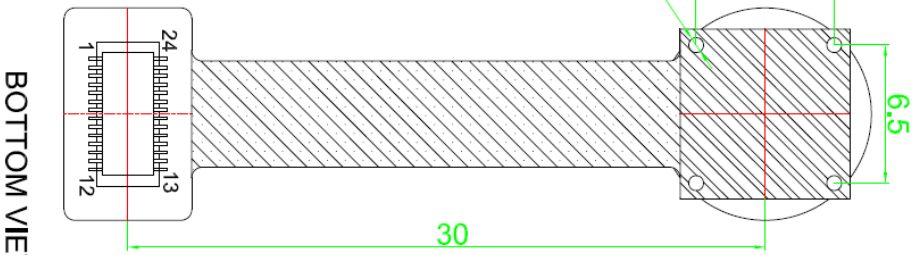
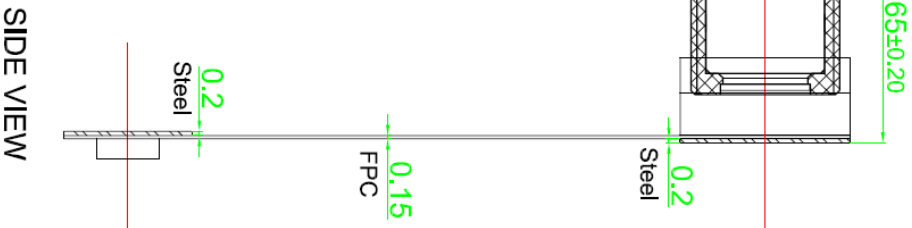
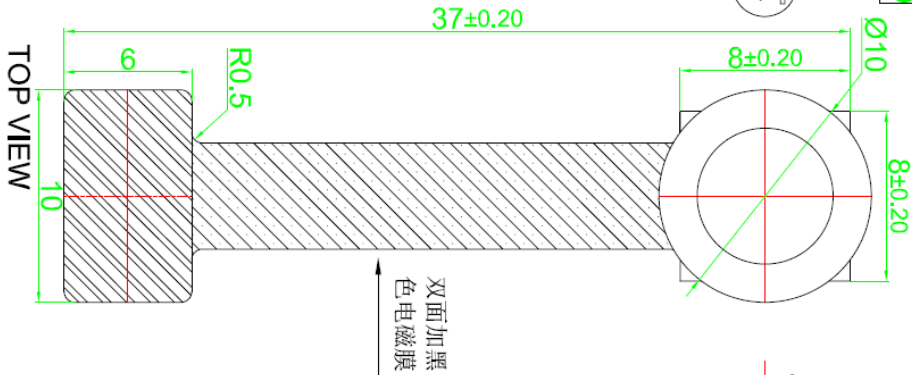
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General Behavior		
Video Resolution @ Frame rate	1280 x 800 @ 100 fps 1280 x 800 @ 50 fps 640 x 400 @ 200 fps 640 x 400 @ 50 fps 640 x 800 @ 100fps (single camera) 640 x 800 @ 50fps (single camera) 320 x 400 @ 200fps (single camera) 320 x 400 @ 50 fps (single camera)	
Sensitivity	TBD	
Interface (Optical)		
IR cut filter	No	
Sensor specification	OmniVision mono 1MP image sensor OV9281	
Shutter	Global Shutter	
Format	1/4"	
Resolution	H:1296, V:816	
Pixel size	H: 3 um, V: 3 um	
Interface (Electrical)		
Interface	USB 3.0	
Supply voltage	USB 3.0 +5 VDC power source	
Current consumption	Approx. 250mA at 5 VDC	
Interface (Mechanical)		
Dimensions	OV580	L: 40 mm, W: 26 mm, H: 6.55 mm
	OV9281	L: 37 mm, W: 8 mm, H: 10 mm
Weight (with lens)	6 g	
Environmental		
Max. temperature (operation)	-30 °C ~ 70 °C (-22 °F~ 158 °F)	
Max. temperature (storage)	0 °C ~ 50 °C (32 °F~ 122 °F)	
Max. humidity (operation)	20 % ~ 80 %, relative, non-condensing	
Max. humidity (storage)	20 % ~ 80 %, relative, non-condensing	



**ROHS**



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**LI-OV9281-MIP1-H103**

**QR-RD-F002 Rev-A**

advert:  
 basic tolerance: ±0.1mm  
 label have ""'s emphasis dimension

Optical Lens Specification:  
 Focusing Range 60cm ~ Infinity  
 Focal Length 2.0mm  
 F Number 2.5  
 Fov(H) 103°  
 TV Distortion <-25%

NO.	SYMBOL	QTY	DESCRIPTION
1	SDA	1	
2	SCL	1	
3	DOVDD1.8V	1	
4	MCP	1	
5	MCN	1	
6	DGND	1	
7	MDPO	1	
8	MDNO	1	
9	DGND	1	
10	MDP1	1	
11	MDN1	1	
12	DGND	1	
13	ULPM	1	
14	GPI02	1	
15	AGND	1	
16	FSN	1	
17	SID	1	
18	DVDD1.2V	1	
19	XCLK	1	
20	STROBE	1	
21	RESET	1	
22	ARD02.8V	1	
23	ULPM	1	
24	DGND	1	

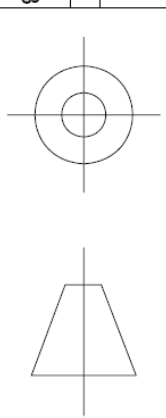
NO	ITEM	QTY	DESCRIPTION
1	Steel	2	
2	FPC	1	
3	TAKING LENS	1	
4	Sensor	1	OV9281 CSP
5	Connector	1	AXT824124

Note:# Image direction register use default settings.  
 Output format: Mono RAW No Filter FPC 做4层板

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Reinforcement: 10F1 Version: 1.0  
 Proportion: 1:1 Unit: MM



Draft: \_\_\_\_\_ Date: \_\_\_\_\_  
 Check: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approval: \_\_\_\_\_ Date: \_\_\_\_\_

Project Name: LI-OV9281-MIP1-H103

NO	Change item	Version	Date
	Original	V1.0	2017-07-04

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