

12MP MIPI CAMERA



GENERAL DESCRIPTION

The camera is equipped with SONY CMOS image(IM577) ,is supplied with an M12 lens that is focused and glued in our factory, can be adapted to diference SOC platforms.



KEY PARAMETERS



Features

- Output format: Uncompressed RAW format
- Industrial high performance
- Support different focal length lens
- Support external triggering
- Multi-Camera synchronization



Application

- Machine-vision
- Intelligent transportation
- Aeronautics and Astronautics
- Industrial inspection

Sensor	Sony 12MP IMX577 RGGB
ISP	/
Chip size	7.564 mm (H) × 5.476 mm (V)
Image Size	1/2.3 inch CMOS
Output Pixels	4056 (H) × 3040(V)
Frame rate	full resolution raw10 @60fps full resolution raw12 @40fps up to 240fps(raw10,1080P)
Pixel Size	1.55um*1.55um
HDR Support	Yes
Output data	MIPI/RAW@10bit/12bit
Power Supply	3.3V
Current	<300mA@3.3VDC
Camera interface	FPC
Connector	FH67-30S-0.5SV
Operating temp.	-20 to +75
Performance temp.	-20 to +60
Dimensions	W: 20mm, L:35mm, H:25mm
Weight	<50g

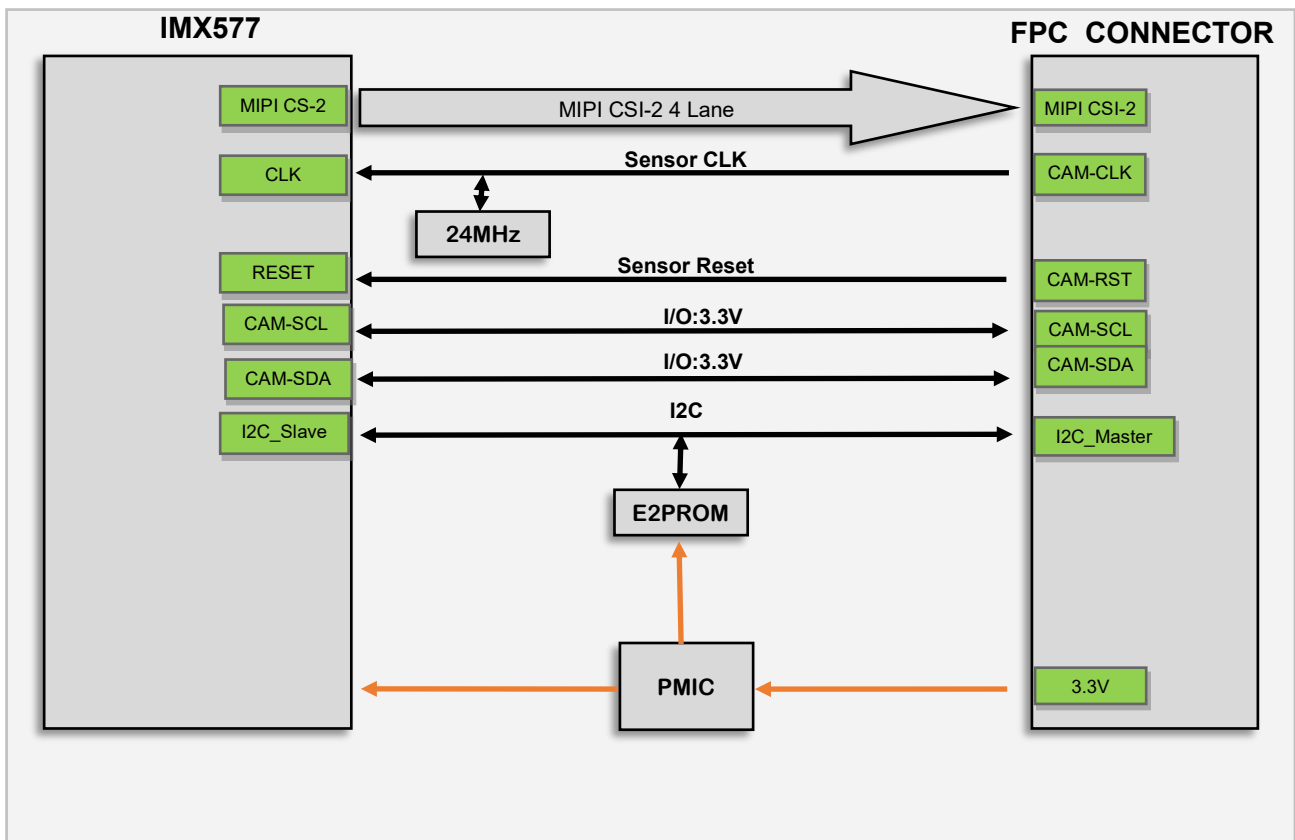




HARDWARE SETTING

EEPROM	
I2C Address	0xA0(8bit address)

Sensor	
Model	IMX577
I2C Address	0x34 (8bit address)



Block Diagram

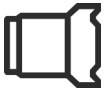




Pin Definitions

NO	Pin Name	Type	Description
1	E2PPROM-WP	INPUT:3.3V	Write protection for E2PROM L: to disable writing; H: indicates
2	FSTROBE	OUTPUT:1.8V	Trigger output
3	/		
4	GND	POWER	
5	GPO	OUTPUT:1.8V	Reserved output
6	XVS	I/O:1.8V	Used as a vertical synchronization signal in dual sensor applications
7	GND	POWER	
8	D1_N	OUTPUT	MIPI
9	D1_P	OUTPUT	MIPI
10	GND	POWER	
11	D2_N	OUTPUT	MIPI
12	D2_P	OUTPUT	MIPI
13	GND	POWER	
14	CLK_N	OUTPUT	MIPI
15	CLK_P	OUTPUT	MIPI
16	GND	POWER	
17	D3_N	OUTPUT	MIPI
18	D3_P	OUTPUT	MIPI
19	GND	POWER	
20	D4_N	OUTPUT	MIPI
21	D4_P	OUTPUT	MIPI
22	GND	POWER	
23	SENSOR-RESETn	INPUT:1.8V	Sensor reset signal
24	CAM-CLK	Clock signal (24MHZ)	Clock signal input (module default built-in crystal oscillator)
25	GND	POWER	
26	CAM-SCL	I/O:3.3V	Pull up 10K(address: 7'H1A or 0X1A)
27	CAM-SDA	I/O:3.3V	Pull up 10K(address: 7'H1A or 0X1A)
28	GND	POWER	
29	VCC-3.3V	POWER	
30	VCC-3.3V	POWER	



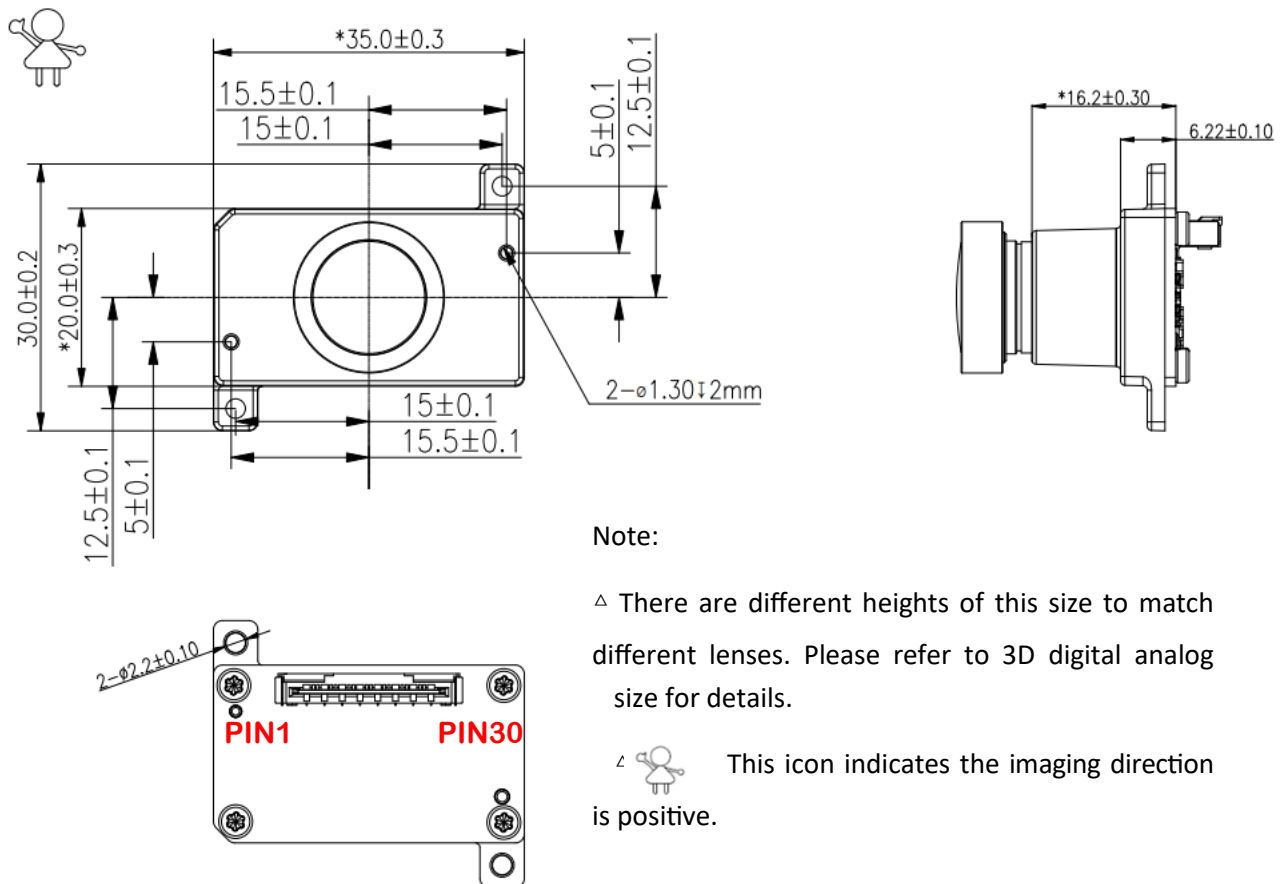


MODEL AND LENS

Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Lens Mount
SG12-IMX577C-MIPI-H60K	61°	45°	F2.1	6mm	-19.5%	M12*P0.5
SG12-IMX577-MIPI-H90J	89°	72°	F2.6	3.25mm	-3%	M12



DIMENSIONS

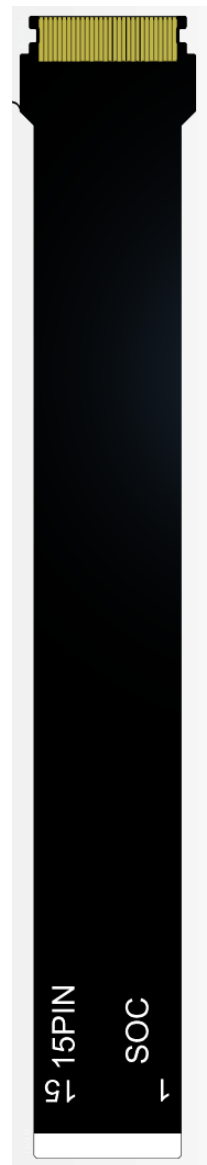


Accessories

Through 2 types of FPC cables, 15pin and 22pin signals can be output. Different specifications can be selected according to the needs.

Part number	Name	description	remark
339901-0010	22Pin FPC	Spacing 0.5mm length 120mm	Jetson Orin Nano/NX DK 4lane
339901-0011	15Pin FPC	Spacing 1mm length 120mm	Jetson Nano/Raspberry Pi 2lane

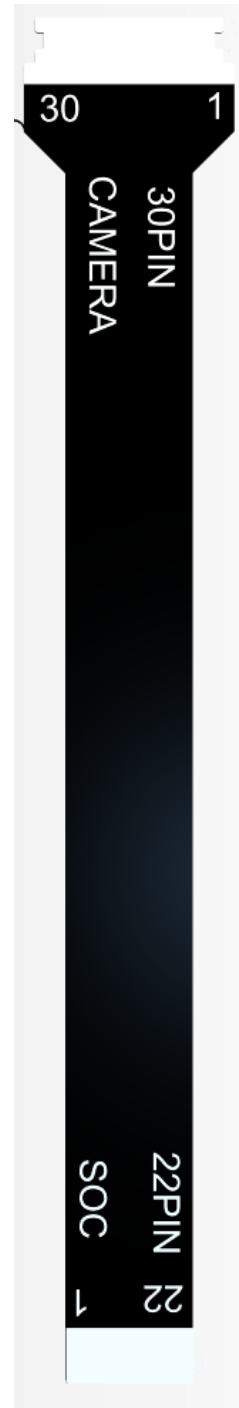
15Pin	
1	GND
2	D1N
3	D1 P
4	GND
5	D2 N
6	D2 P
7	GND
8	CLK N
9	CLK P
10	GND
11	SENSOR-RESETn
12	CAM-CLK
13	CAM-SCL
14	CAM-SDA
15	VCC-3.3V





Pin Definitions

22Pin	
1	GND
2	D1 N
3	D1 P
4	GND
5	D2 N
6	D2 P
7	GND
8	CLK N
9	CLK P
10	GND
11	D3 N
12	D3 P
13	GND
14	D4 N
15	D4 P
16	GND
17	SENSOR-RESETn
18	CAM-CLK
19	GND
20	CAM-SCL
21	CAM-SDA
22	VCC-3.3V





PLATFORMS SUPPORT

Platforms	Product Link
NVIDIA Jetson Platforms (Jetson Orin Nano/NX) 	Provide development driver package https://www.sensing-world.com/jetson_camera_ecosystem 





Revision History

Version	Description	Release date
Rev1	First Release	2023.04
Rev2	1.Added description of frame rate 2.Added remarks of FPC	2023.06
Rev3	Updated adaptive lens information	2023.08
Rev4	Add block diagrams, pin definitions, lens specifications, etc	2024.06

