

# JV12-IMX577C-MIPI-HXXX

## 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

|                   |                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------|
| 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) x 3040(V)                                                                        |
| Frame rate        | full resolution raw10 @60fps<br>full resolution raw12 @40fps<br>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                                                                                      |



### 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

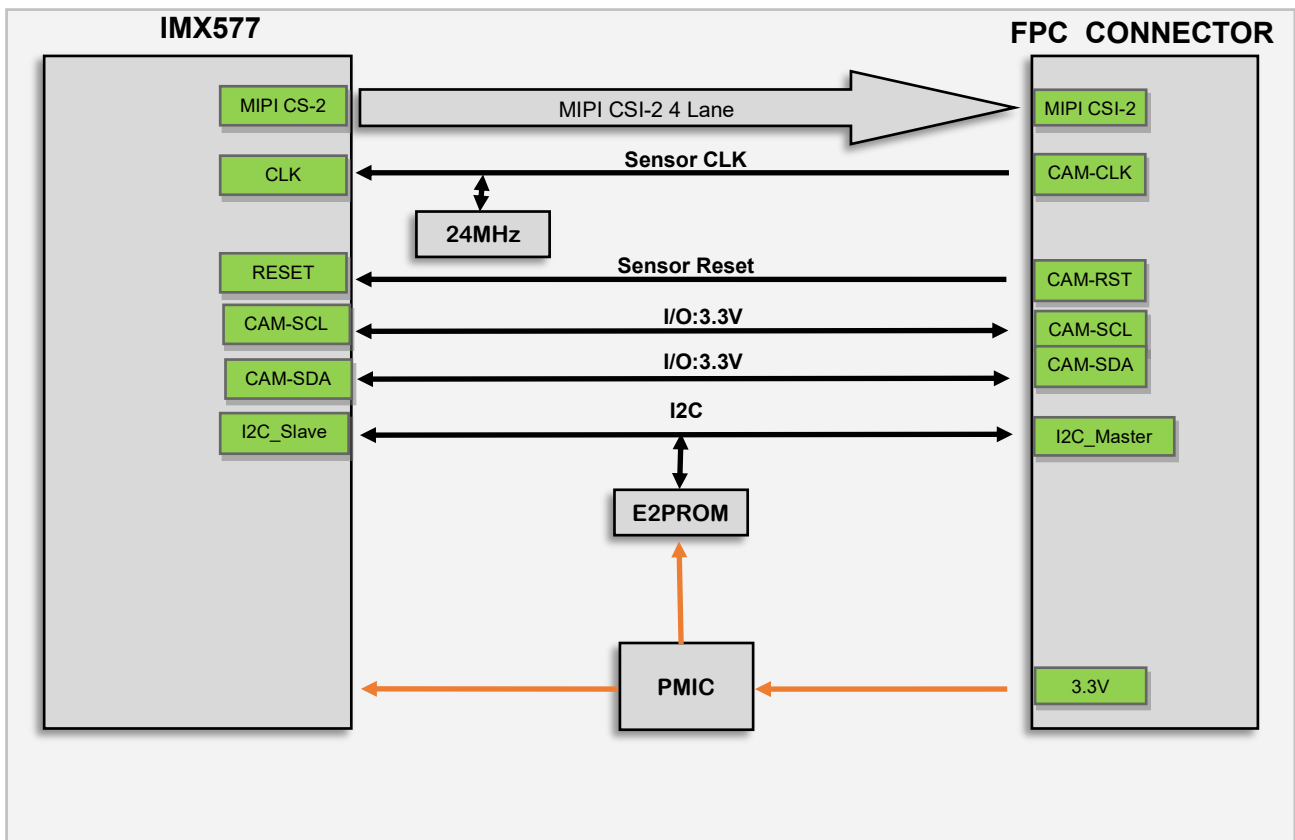




## HARDWARE SETTING

| EEPROM      |                    |
|-------------|--------------------|
| I2C Address | 0xA0(8bit address) |

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



**Block Diagram**

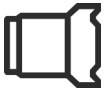




## Pin Definitions

| NO | Pin Name      | Type                 | Description                                                              |
|----|---------------|----------------------|--------------------------------------------------------------------------|
| 1  | E2PPROM-WP    | INPUT:3.3V           | Write protection for E2PROM<br>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<br>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<br>built-in crystal oscillator)       |
| 25 | GND           | POWER                |                                                                          |
| 26 | CAM-SCL       | I/O:3.3V             | Pull up 10K(address: 7'H1A or<br>0X1A)                                   |
| 27 | CAM-SDA       | I/O:3.3V             | Pull up 10K(address: 7'H1A or<br>0X1A)                                   |
| 28 | GND           | POWER                |                                                                          |
| 29 | VCC-3.3V      | POWER                |                                                                          |
| 30 | VCC-3.3V      | POWER                |                                                                          |



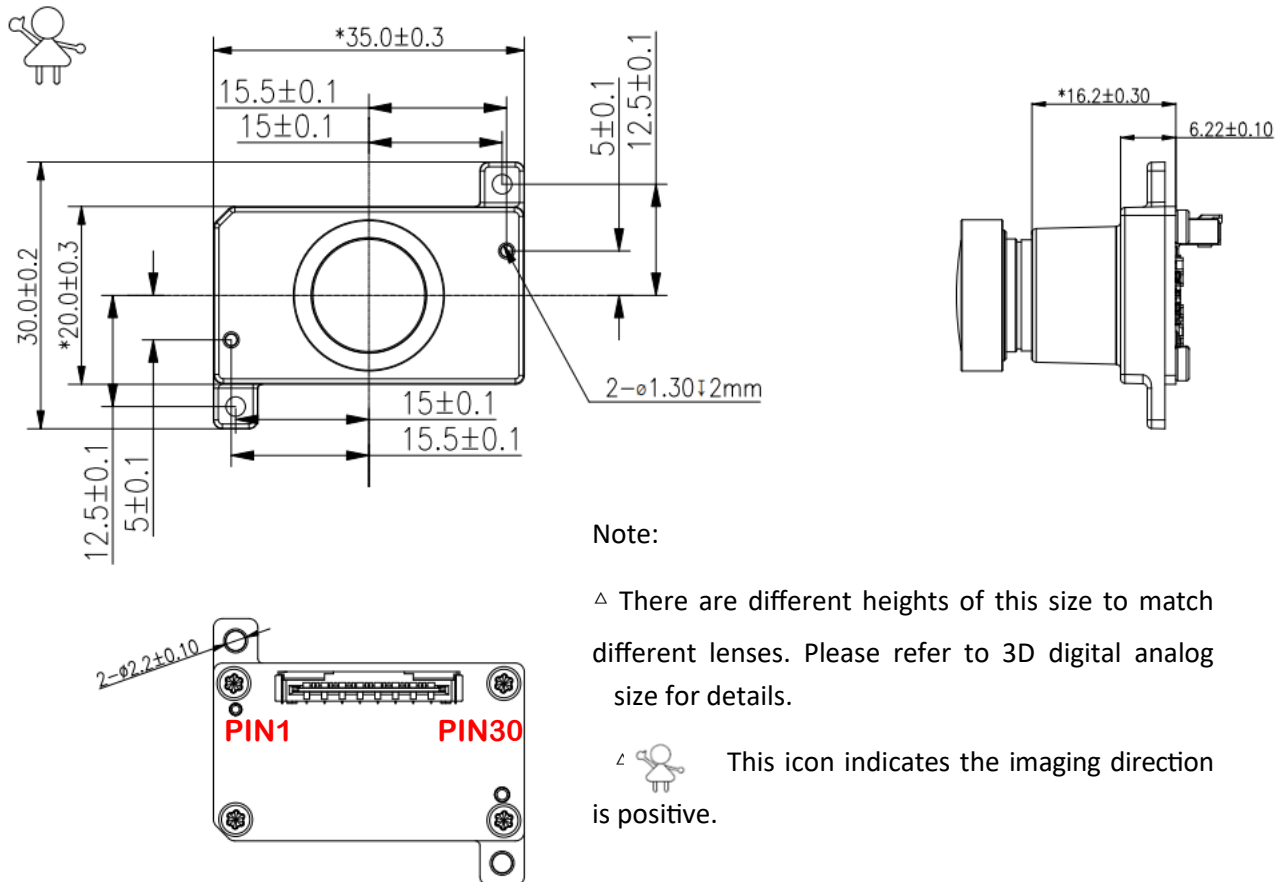


## MODEL AND LENS

| Model                  | HFOV | VFOV | F.No | EFL    | Max Optical Distortion | Lens Mount |
|------------------------|------|------|------|--------|------------------------|------------|
| JV12-IMX577C-MIPI-H60K | 61°  | 45°  | F2.1 | 6mm    | -19.5%                 | M12*P0.5   |
| JV12-IMX577-MIPI-H90J  | 89°  | 72°  | F2.6 | 3.25mm | -3%                    | M12        |



## DIMENSIONS

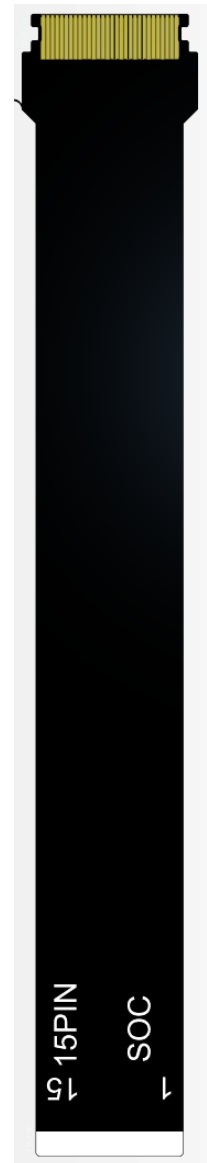


## Accessories

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<br>length 120mm | Jetson Orin Nano/NX DK<br>4lane   |
| 339901-0011 | 15Pin FPC | Spacing 1mm<br>length 120mm   | Jetson Nano/Raspberry Pi<br>2lane |

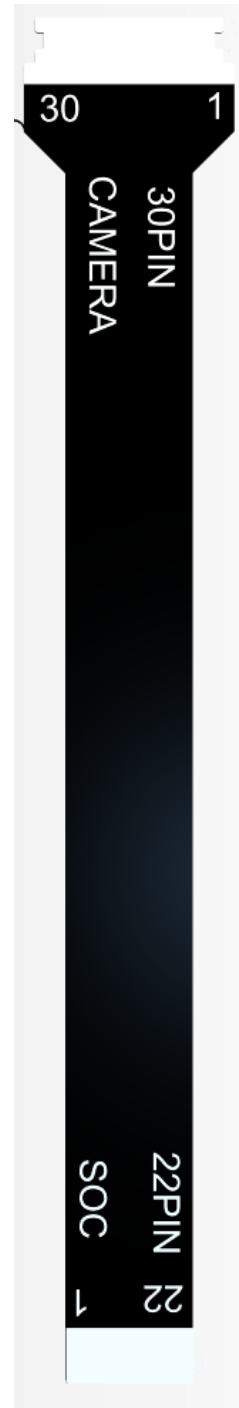
| 15Pin |               |
|-------|---------------|
| 1     | GND           |
| 2     | D1N           |
| 3     | D1 P          |
| 4     | GND           |
| 5     | D2 N          |
| 6     | D2 P          |
| 7     | GND           |
| 8     | CLK N         |
| 9     | CLK P         |
| 10    | GND           |
| 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                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>NVIDIA Jetson Platforms<br/>(Jetson Orin Nano/NX)</p> <div></div> | <p>Provide development driver package</p> <p><a href="https://www.sensing-world.com/jetson_camera_ecosystem">https://www.sensing-world.com/jetson_camera_ecosystem</a></p> <div></div> |





## Revision History

| Version | Description                                                   | Release date |
|---------|---------------------------------------------------------------|--------------|
| Rev1    | First Release                                                 | 2023.04      |
| Rev2    | 1.Added description of frame rate<br>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      |





# Contact Us

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