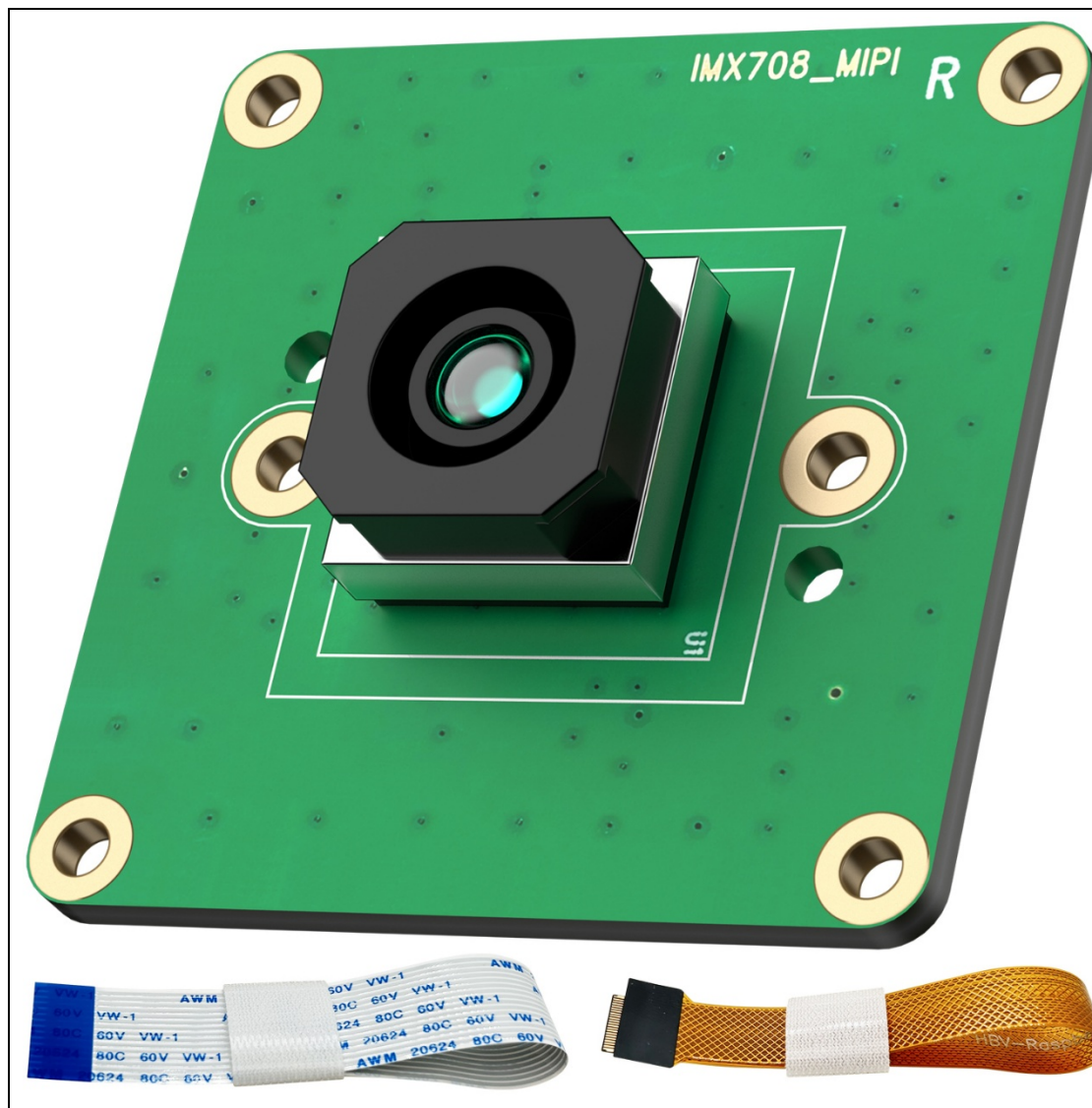


CAM-IMX708AF User Manual





CAM-IMX708AF

InnoMaker IMX708 Camera Module with
Fov75 degree Autofocus Len for
Raspberry PI

Date	Revision	Change Details
2024/09/08	V1.0	First Released

 www.inno-maker.com	CAM-IMX708AF InnoMaker IMX708 Camera Module with Fov75 degree Autofocus Len for Raspberry PI
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1 Description

1.1 Overview

CAM-IMX708AF Camera Module Feature with Sony IMX708 Sensor, Autofocus lens, IR-filter, Compatible with Raspberry Pi Camera Module 3 Standard Version.

CAM-IMX708AF can be used to take full HD video as well as stills photographs and feature an HDR mode up to 3 megapixels. It carries IR cut filter. Its operation is fully supported by the libcamera library, including Camera Module 3's rapid autofocus feature: this makes it easy for beginners to use, while offering plenty for advanced users. Camera Module 3 is compatible with all Raspberry Pi computers.

CAM-IMX708AF Camera Module Third Generation: Back-illuminated and stacked CMOS 12-megapixel image sensor (IMX708) with HDR for up to 3-megapixel output

High-quality Image Output: 4608 × 2592 pixels, carrying IR cut filter, along with built-in 2D DPC and QBC Re-mosaic function, offering high SNR

Autofocus System: Phase detection autofocuses

CSI-2 serial Data Output: 2-wire serial communication, supporting I2C fast mode and fast-mode plus

1.2 Features:

- Back-illuminated, stacked CMOS 12-megapixel IMX708 image sensor
- High signal-to-noise ratio (SNR), built-in 2D dynamic defect pixel correction (DPC)
- Phase detection autofocus (PDAF) for rapid autofocus
- Diagonal field of view: 75 degrees, common video modes: 1080p50, 720p100, 480p120, output RAW10
- Supports Raspberry PI5, PI4, PI3



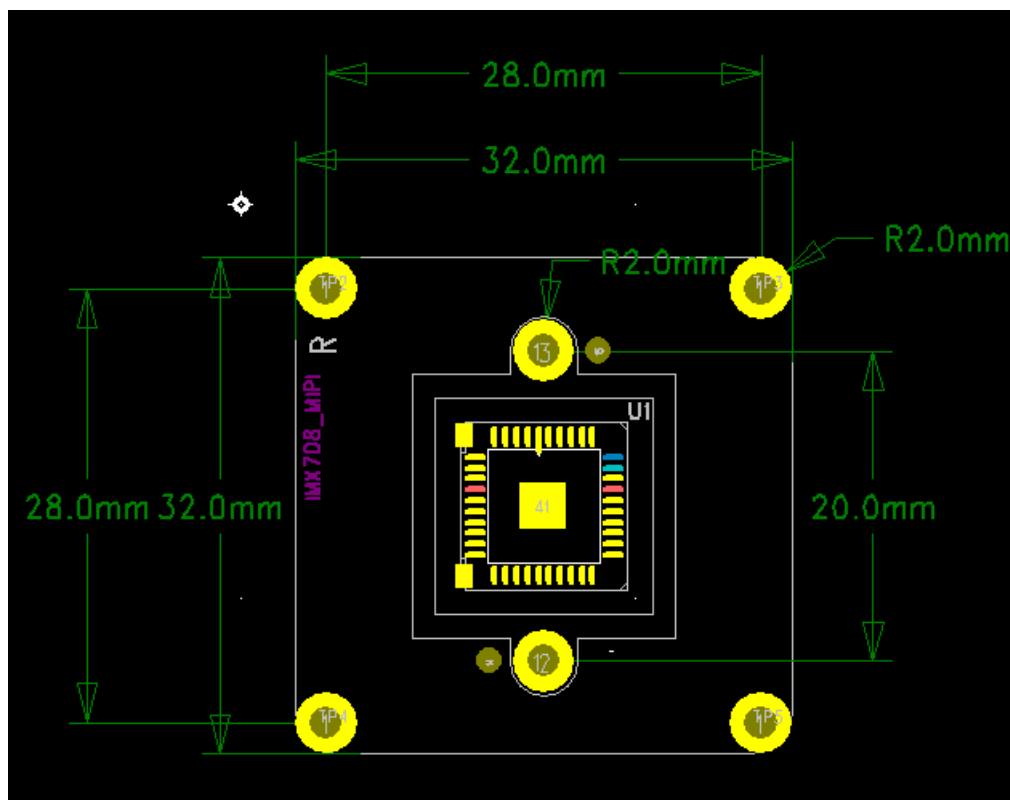
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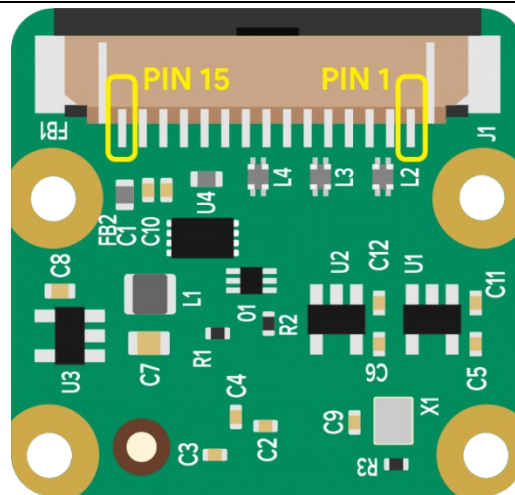
Sensor:	Sony IMX708
Resolution:	11.9 megapixels
Sensor size:	7.4mm sensor diagonal
Pixel size:	1.4 μ m $\times$ 1.4 μ m
Common video modes:	1080p50, 720p100, 480p120
Output:	RAW10
IR filter:	Yes
Autofocus system:	Phase Detection Autofocus
Dimensions:	32x32mm(12.4mm height for Wide variants)
Ribbon cable length:	150mm
Cable connector:	15PIN x1mm FPC 22PINx0.5mmFPC

2 Hardware

2.1 Camera Size



2.2 Camera Module Pins Out



Pin #	Name	Description
1	GND	Ground
2	CAM_D0_N	MIPI Data Lane 0 Negative
3	CAM_D0_P	MIPI Data Lane 0 Positive
4	GND	Ground
5	CAM_D1_N	MIPI Data Lane 1 Negative
6	CAM_D1_P	MIPI Data Lane 1 Positive
7	GND	Ground
8	CAM_CK_N	MIPI Clock Lane Negative
9	CAM_CK_P	MIPI Clock Lane Positive
10	GND	Ground
11	CAM_IO0	Power Enable

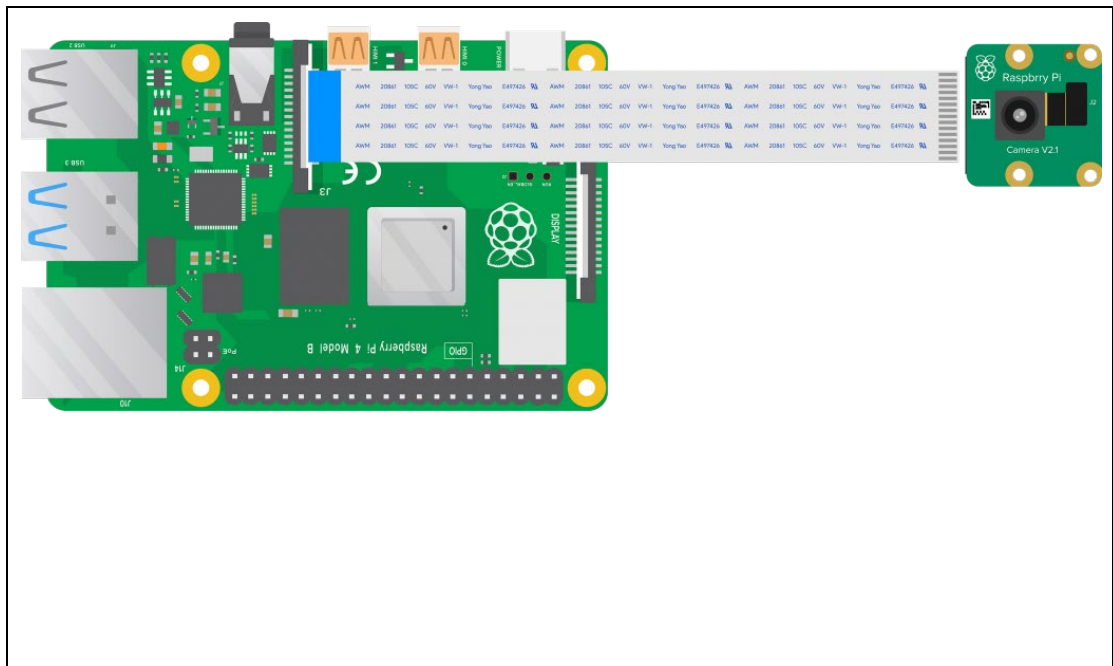
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12	CAM_IO1	LED Indicator
13	CAM_SCL	I2C SCL
14	CAM_SDA	I2C SDA
15	CAM_3V3	3.3V Power Input

2.3 Autofocus Lens Information

Focus range	10cm–∞
Focal length	4.74mm
Diagonal f ield of view	75 degrees
Horizontal f ield of view	66 degrees
Vertical f ield of view	41 degrees
Focal ratio (F-stop)	F1.8
IR-Filter	Yes

2.4 Connection





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3 Software

3.1 Modify config.txt

```
sudo nano /boot/config.txt
```

For the latest version raspberry Pi OS, it should be

```
sudo nano /boot/firmware/config.txt
```

3.2 Add the content below to the last line

```
dtoverlay=imx708
```

Change to

```
camera_auto_detect=1
```

to

```
camera_auto_detect=0
```

3.3 Reboot and use below command to preview

```
libcamera-hello -t 0
```

4 Documentation

- [Camera Description on Raspberry Pi](#)
- [Camera Software On Raspberry Pi](#)