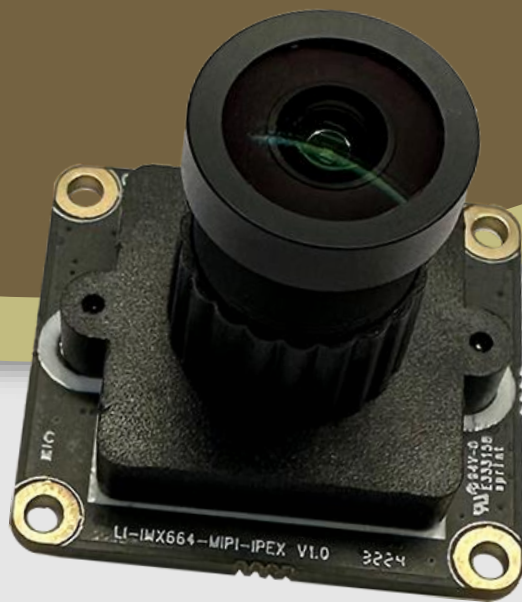




LEOPARD
IMAGING

LI-IMX664x-MIPI-129H



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INTRODUCTION

The LI-IMX664x-MIPI-129H is a MIPI CSI-2 camera with Sony diagonal 9.02 mm (Type 1/1.8) STARVIS2 CMOS color / mono sensor IMX664 which has low power consumption and achieves high sensitivity, low dark current and no smear. This camera outputs RAW data.

SPECIFICATIONS

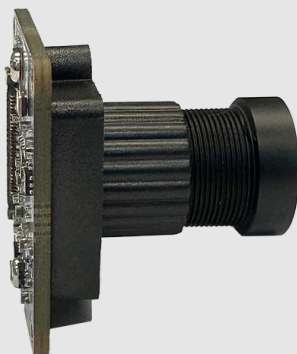
Sensor	Sony Diagonal 9.02 mm STARVIS2 CMOS Sensor IMX664	
Optical Format	1/1.8"	
Resolution	2704 (H) x 1536 (V) (active pixels)	
Pixel Size	2.9 x 2.9 μm	
Output Format	10-bit / 12-bit RAW data	
Maximum Frame Rate	10 bit: 120 fps @ all-pixel scan mode 12 bit: 90 fps @ all-pixel scan mode	
HDR (High Dynamic Range)	Supported	
ISP	Not included	
Color / Mono	Color / mono	
Interface	4-lane MIPI CSI-2	
Power Consumption	Color	TBD
	Mono	~ 560 mW (2704 x 1540 @ 30 fps)
Operating Temp	-30°C ~ +85°C	
Storage Temp	-40°C ~ +85°C	
Weight	~ 11 g	
Part#	Color	LI-IMX664C-MIPI-129H
	Mono	LI-IMX664M-MIPI-129H

APPLICATIONS

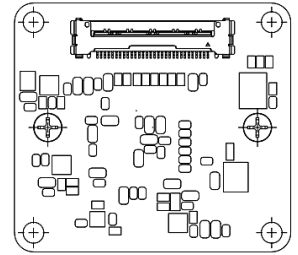
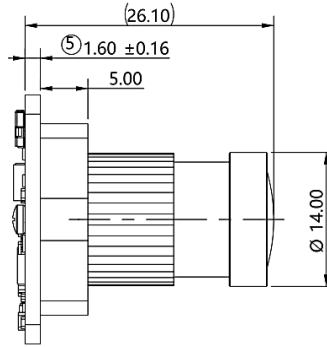
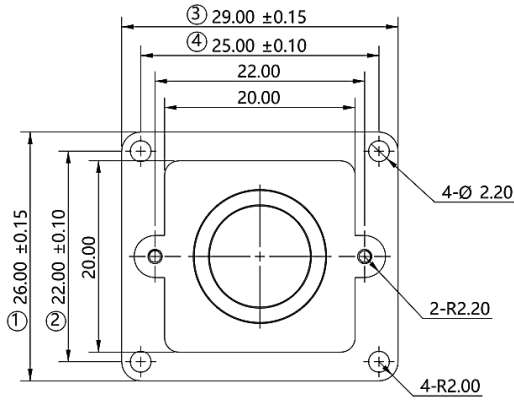
- IoT
- Drone
- Robots

LENS SPECIFICATIONS

Effective Focal Length	3.8 mm
Aperture, F/#	2.6
Field of View (FOV)	129° horizontal
TV Distortion	-14.8%
Relative Illumination	77.9%
IR Filter	650 nm IR cut filter (color version only)
Lens Mount	M12 x 0.5



DIMENSIONS



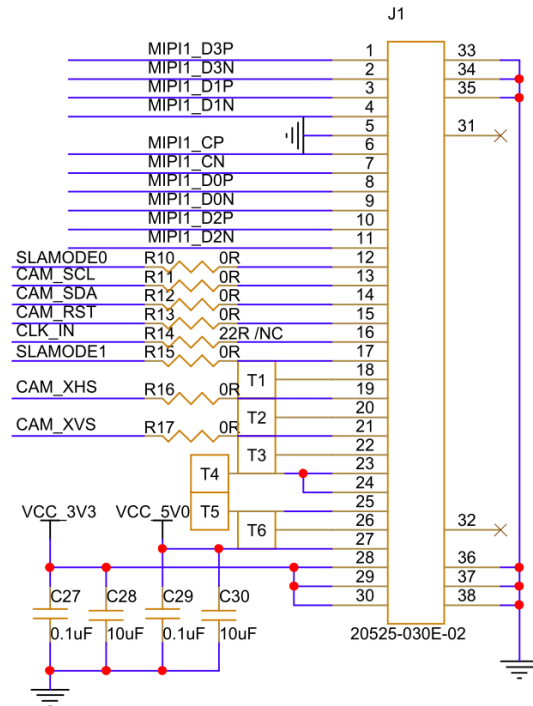
NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked – refer to the Tolerance table.
- All materials are compliant with RoHS requirements.
- Unit: mm

TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X ≤ 400	±10'
120 < X ≤ 400	±0.5			X > 400	±5'
400 < X ≤ 1000	±0.8				
X > 1000	±1.2				

INTERFACE J1

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-03
- Sensor I2C Address: 0X10 (7-bit)
- External Power Supply: 5V0, 3.3V



PINOUT DETAILS OF J1

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI_D3P	OUTPUT	MIPI Clock Data3 Differential Pair +	MIPI DPHY
2	MIPI_D3N	OUTPUT	MIPI Clock Data3 Differential Pair -	MIPI DPHY
3	MIPI_D1P	OUTPUT	MIPI Clock Data1 Differential Pair +	MIPI DPHY
4	MIPI_D1N	OUTPUT	MIPI Clock Data1 Differential Pair -	MIPI DPHY
5	GND	GND	Ground signal for digital and analog	-
6	MIPI_CLKP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI_CLKN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI_D0P	OUTPUT	MIPI Clock Data0 Differential Pair +	MIPI DPHY
9	MIPI_D0N	OUTPUT	MIPI Clock Data0 Differential Pair -	MIPI DPHY
10	MIPI_D2P	OUTPUT	MIPI Clock Data2 Differential Pair +	MIPI DPHY
11	MIPI_D2N	OUTPUT	MIPI Clock Data2 Differential Pair -	MIPI DPHY
12	SLAMODE0	INPUT	Reference pin, Select slave address	1.8V
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Internally pulled-up to 1.8V using 1KΩ)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	CAM_SDA	I/O	1.8V IO Camera I2C SDA signal (Internally pulled-up to 1.8V using 1K Ω)	1.8V
15	CAM_RST	INPUT	1.8V IO camera reset signal (Active low signal)	1.8V
16	CLK_IN	INPUT	Reserved(NC)	1.8V
17	SLAMODE1	INPUT	Reference pin, Select slave address	1.8V
18	N/A	-	No Connection	-
19	CAM_XHS	I/O	Horizontal sync signal	1.8 V
20	N/A	-	No Connection	-
21	CAM_XVS	I/O	Vertical sync signal	1.8 V
22	N/A	-	No Connection	-
23	N/A	-	No Connection	-
24	N/A	-	No Connection	-
25	N/A	-	No Connection	-
26	N/A	-	No Connection	-
27	VCC_5V0	POWER	5.0V Power supply for camera board	5V
28	VCC_3V3	POWER	3.3V Power supply for camera board	3.3V
29	VCC_3V3	POWER	3.3V Power supply for camera board	3.3V
30	VCC_3V3	POWER	3.3V Power supply for camera board	3.3V

● REVISION HISTORY

Revision	Description	Release Date
1.0	First Release.	24 Sep 2024
1.1	1. Changed P/N from LI-IMX664C-MIPI-129H to LI-IMX664x-MIPI-129H. 2. Added mono camera module info,	17 Mar 2025
1.2	Added IR Filter note.	28 Apr 2026

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