LEOPARD IMAGING

LI-IMX678-MIPI-124H

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INTRODUCTION

The LI-IMX678-MIPI-124H is a MIPI CSI-2 camera with Sony diagonal 8.86 mm (Type 1/1.8) STARVIS2 CMOS color sensor IMX678 which has low power consumption and achieves high sensitivity, low dark current and no smear. This camera outputs RAW data.

SPECIFICATIONS

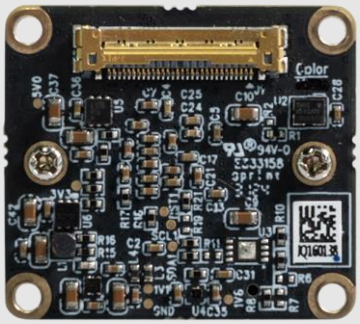
Sensor	Sony Diagonal 8.86 mm STARVIS2 CMOS Sensor IMX678
Optical Format	1/1.8"
Resolution	3856 (H) x 2176 (V) (active pixels)
Pixel Size	2.0 x 2.0 µm
Output Format	10-bit / 12-bit RAW data
Maximum Frame Rate	60 fps @ all-pixel scan mode
HDR (High Dynamic Range)	Supported
Color / Mono	Color sensor
EEPROM Memory Size	64 Kbit
Interface	4-lane MIPI CSI-2
Power Consumption	Approx. 0.6W
Operating Temp	-30°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 17 g
Part#	LI-IMX678-MIPI-124H

APPLICATIONS

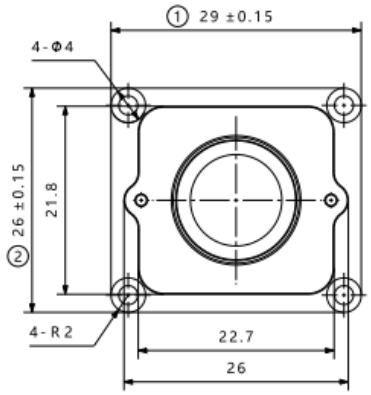
- IoT
- Drone
- Robots

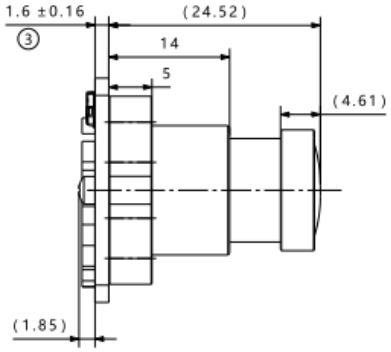
LENS SPECIFICATIONS

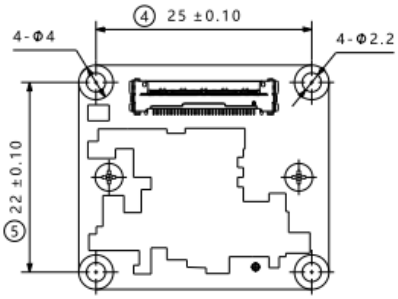
Effective Focal Length	3.8 mm
Aperture, F/#	2.6
Field of View (FOV)	124˚ horizontal
TV Distortion	-14.8%
Relative Illumination	77.9%
IR Filter	650 nm IR cut filter
Lens Mount	M12 x P0.5

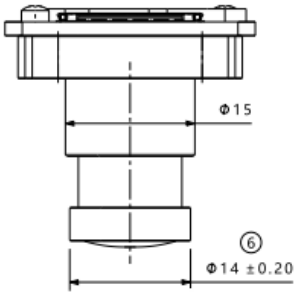


DIMENSIONS









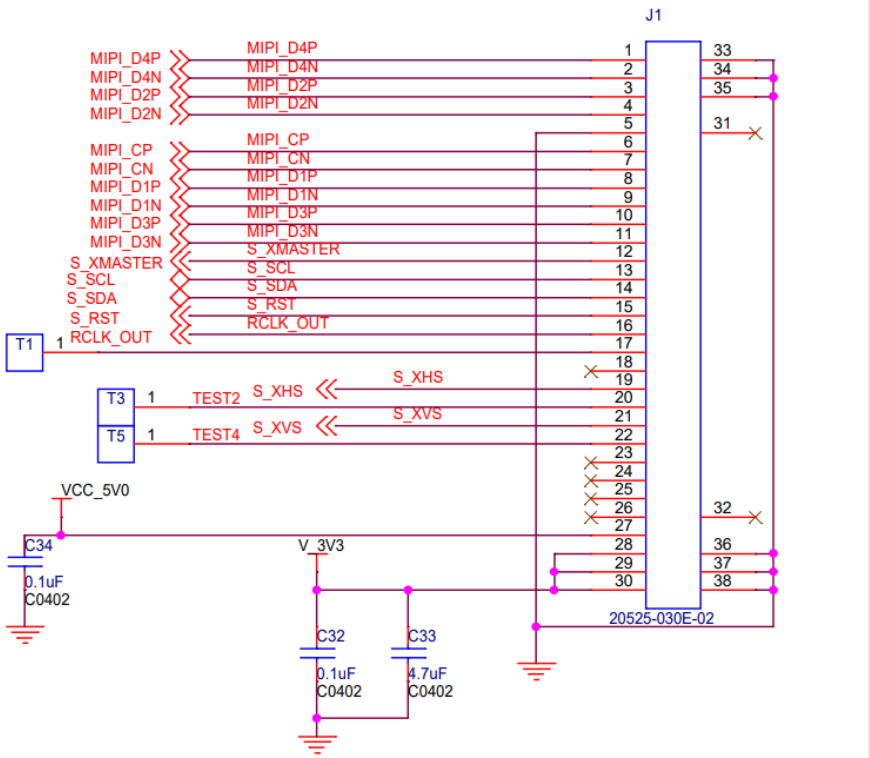
NOTE:

- ⊗ marked are important sizes.
- Tolerances for the 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				

MIPI INTERFACE

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX cable: LI-FAW-1233
- Sensor I2C Address: 0x1A (7-bit)
- EEPROM I2C Address: 0xA8 (8-bit)
- External Power Supply: 3.3V, 5V



Pinout Details

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI_D4P	OUTPUT	MIPI Data4 Differential Pair +	MIPI DPHY
2	MIPI_D4N	OUTPUT	MIPI Data4 Differential Pair -	MIPI DPHY
3	MIPI_D2P	OUTPUT	MIPI Data2 Differential Pair +	MIPI DPHY
4	MIPI_D2N	OUTPUT	MIPI Data2 Differential Pair -	MIPI DPHY
5	GND	-	-	-
6	MIPI_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI_D1P	OUTPUT	MIPI Data1 Differential Pair +	MIPI DPHY
9	MIPI_D1N	OUTPUT	MIPI Data1 Differential Pair -	MIPI DPHY
10	MIPI_D3P	OUTPUT	MIPI Data3 Differential Pair +	MIPI DPHY
11	MIPI_D3N	OUTPUT	MIPI Data3 Differential Pair -	MIPI DPHY
12	S_MASTER	INPUT	Master / Slave selection input (Reserved) Master mode in default	1.8V
13	S_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 1k on board)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	S_SDA	I/O	1.8V IO Camera I2C SDA signal (Pulled up to 1.8V with 1k on board)	1.8V
15	S_RST	INPUT	1.8V IO camera reset signal (Pulled up to 1.8V with 10k on board)	1.8V
16	RCLK_OUT	INPUT	Reserved CLK for camera (Must be provided from host side)	1.8V
17	TP	-	Test point	-
18	-	-	-	-
19	S_XHS	I/O	Horizontal sync signal	1.8V
20	TEST2	-	Test point	-
21	S_XVS	I/O	Vertical sync signal	1.8V
22	TEST4	-	Test point	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	5V0	POWER	5V power supply (Must be provided from host side)	5V
28	3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V
29	3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V
30	3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V

REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	24 Jun 2026

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