



LEOPARD
IMAGING

LI-IMX785-MIPI-120H



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INTRODUCTION

The LI-IMX785-MIPI-120H is a high-performance camera module featuring Sony's 5.12 MP diagonal 9.46 mm (Type 1/1.7) CMOS sensor IMX785 with STARVIS 2 technology. It delivers superior low-light sensitivity and high dynamic range, making it ideal for security surveillance, in-vehicle recorders, aerial photography, and industrial machine vision applications demanding excellent image quality in challenging lighting condition

SPECIFICATIONS

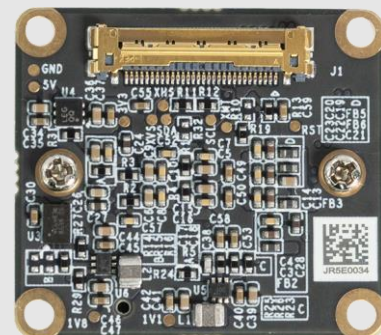
Frame Rate	30 fps @ 2592 (H) x 1944 (V)
Output Format	10-bit / 12-bit RAW
EEPROM Memory Size	4 Kbit
Sensor	Sony diagonal 9.46 mm (Type 1/1.7) CMOS sensor IMX785
Optical Format	1/1.7"
Resolution	2608 (H) x 1960 (V) (Active Pixel)
Pixel Size	2.74 μm $\times$ 2.74 μm
Color / Mono	Color
Interface	4-lane MIPI CSI-2
Power Consumption	~0.4 W (30 fps @ 2592 $\times$ 1944)
Operating Temp	TBD
Storage Temp	TBD
Weight	~17 g

APPLICATIONS

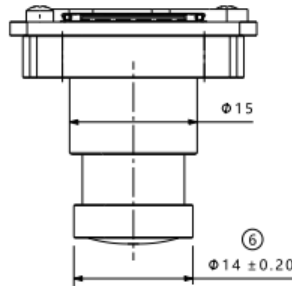
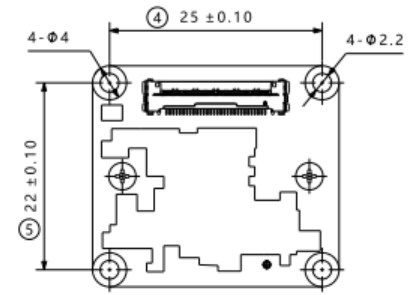
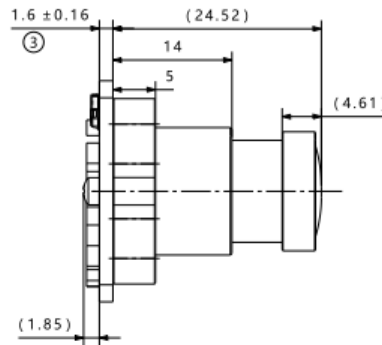
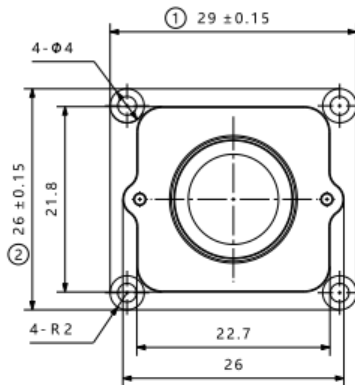
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LENS SPECIFICATIONS

Effective Focal Length	3.8 mm
Aperture, F/#	2.6
Field of View (FOV)	124° horizontal
TV Distortion	-15.9%
Relative Illumination	29.6%
IR Filter	650 nm IR cut filter
Lens Mount	M12 x P0.5



DIMENSIONS



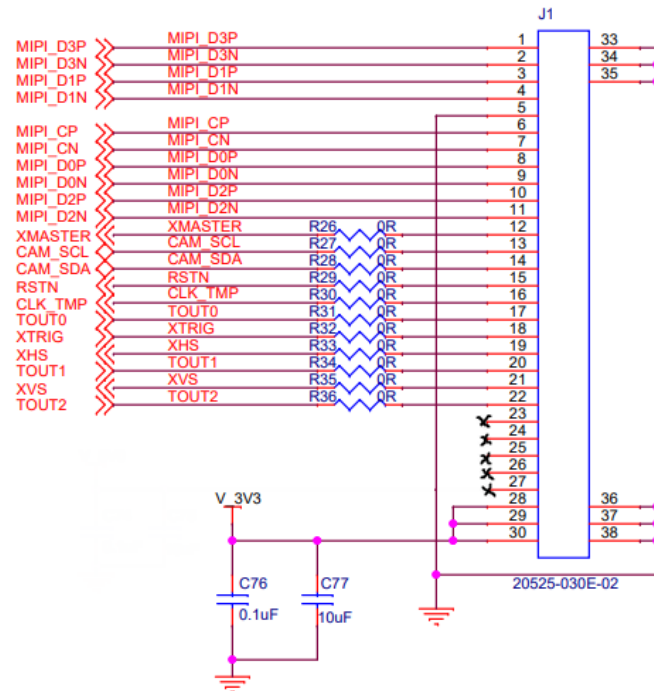
NOTE:

- ⊗ 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: 0x34 (8-bit)
- EEPROM I2C Address: 0xA8 (8-bit)
- External Power Supply: 3.3V



PINOUT DETAILS

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI1_D3P	OUTPUT	MIPI Data Lane 3 Differential Pair +	MIPI DPHY
2	MIPI1_D3N	OUTPUT	MIPI Data Lane 3 Differential Pair -	MIPI DPHY
3	MIPI1_D1P	OUTPUT	MIPI Data Lane 1 Differential Pair +	MIPI DPHY
4	MIPI1_D1N	OUTPUT	MIPI Data Lane 1 Differential Pair -	MIPI DPHY
5	GND	POWER	Ground signal for digital and analog	-
6	MIPI_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI_D0P	OUTPUT	MIPI Data0 Differential Pair +	MIPI DPHY
9	MIPI_D0N	OUTPUT	MIPI Data0 Differential Pair -	MIPI DPHY
10	MIPI1_D2P	OUTPUT	MIPI Data Lane 2 Differential Pair +	MIPI DPHY
11	MIPI1_D2N	OUTPUT	MIPI Data Lane 2 Differential Pair -	MIPI DPHY
12	XMASTER	INPUT	XMASTER/SLAVE Select	1.8V
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 1kΩ on board)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	CAM_SDA	I/O	1.8V IO Camera I2C SDA signal (Pulled up to 1.8V with 1k Ω on board)	1.8V
15	RSTN	INPUT	1.8V IO camera reset signal (Active Low) (Pulled up to 1.8V with 10k Ω on board)	1.8V
16	CLK_TMP	INPUT	Reserved CLK for camera (Provided from host side)	1.8V
17	TOUT0	OUTPUT	Pulse0 output pin	1.8V
18	XTRIG	INPUT	Trigger Signal	1.8V
19	XHS	I/O	Horizontal sync signal	1.8V
20	TOUT1	OUTPUT	Pulse1 output pin	1.8V
21	XVS	I/O	Vertical sync signal	1.8V
22	TOUT2	OUTPUT	Pulse2 output pin	1.8V
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	VCC_3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V
29	VCC_3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V
30	VCC_3V3	POWER	3.3V power supply (Must be provided from host side)	3.3V

- REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	26 Jun 2026

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