



LEOPARD
IMAGING

LI-AR0830-RGBIR-MIPI-084H



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INTRODUCTION

The LI-AR0830-RGBIR-MIPI-084H is a 4K MIPI D-PHY RGB-IR camera equipped with ON Semiconductor 1/2.9 inch 8 MP CMOS digital image RGB-IR sensor AR0830. It features high frame rates without motion blur and excellent near-infrared sensitivity, making it ideal for scenarios requiring simultaneous visible light and infrared data capture. This camera outputs RGB-IR RAW data.

SPECIFICATIONS

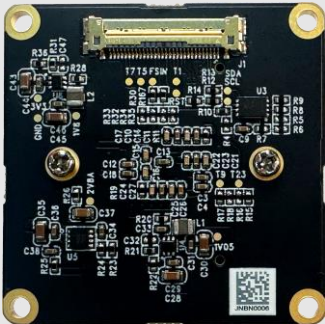
Maximum Frame Rate	60 fps @ Full size, linear mode
Output Format	10-bit and 12-bit RGB-IR RAW data
Sensor	ON Semiconductor 1/2.9-inch 8 MP (16:9) CMOS Image Sensor AR0830
Optical Format	1/2.9"
Resolution	3840 (H) x 2160 (V) (active pixels)
Pixel Size	1.4 μ m Back Side Illuminated (BSI)
Color / Mono	RGB-IR
ISP	Not included
Dynamic Range	73 dB
Interface	4-lane MIPI D-PHY
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	~19 g

APPLICATIONS

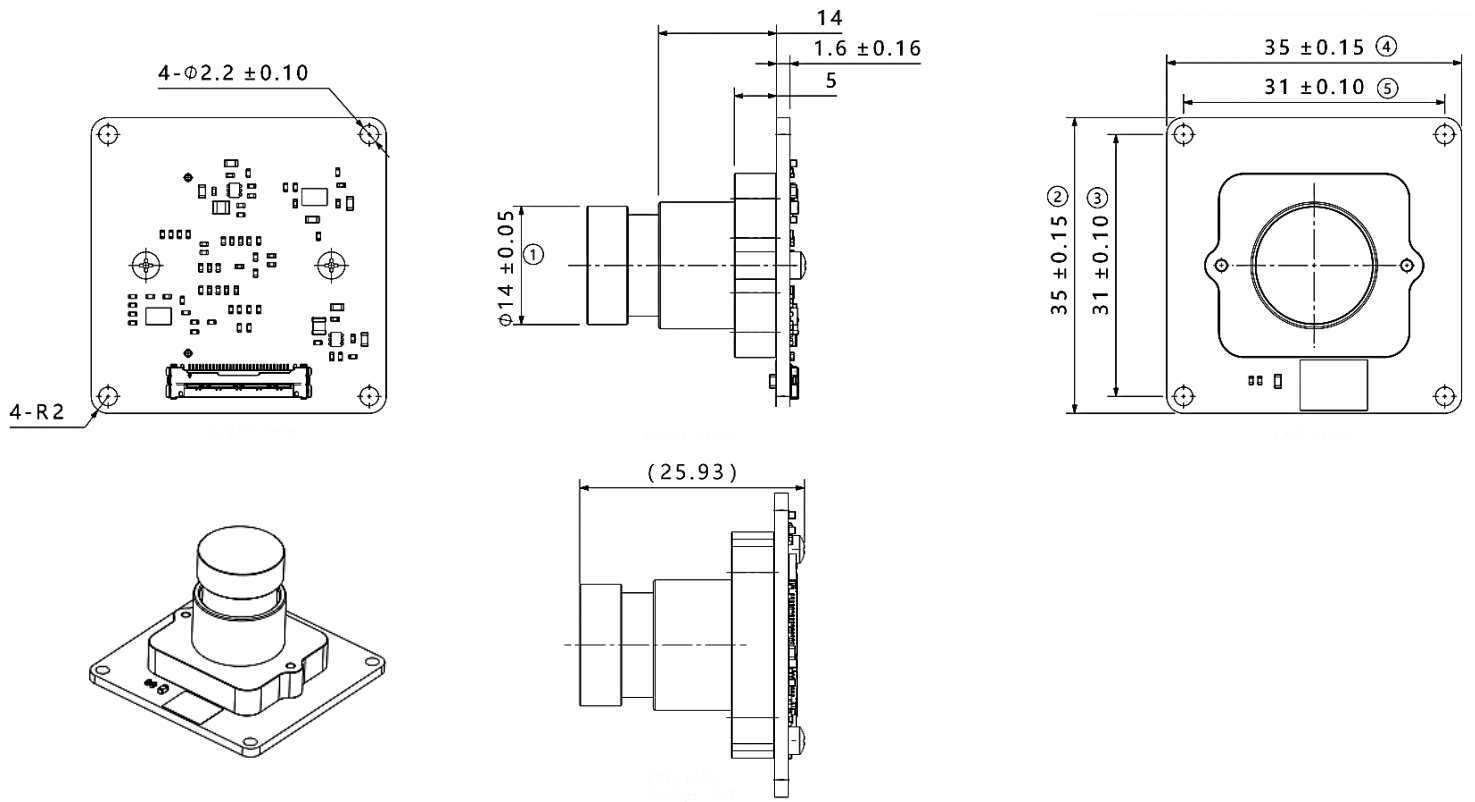
- IoT
- Drone
- Robots

LENS SPECIFICATIONS

Effective Focal Length	3.9 mm $\pm$ 5%
Aperture, F/#	1.6 $\pm$ 5%
Field of View (FOV)	84° horizontal
Optical Distortion	< -38.6 % @ 6.61 mm
IR Cut Filter	Visible + 850 nm dual band filter
Lens Mount	M12 x P0.5



DIMENSIONS



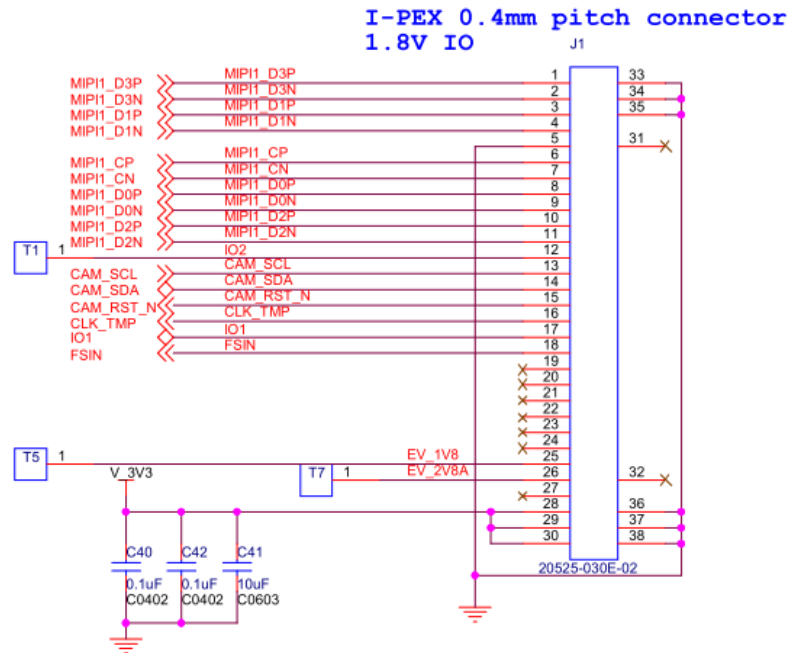
NOTE:

- $\otimes$ 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
$0.5 < X \leq 3$	± 0.1	$0.5 < X \leq 3$	± 0.2	$X \leq 10$	$\pm 1^\circ$
$3 < X \leq 6$	± 0.1	$3 < X \leq 6$	± 0.5	$10 < X \leq 50$	$\pm 30'$
$6 < X \leq 30$	± 0.2	$6 < X \leq 30$	± 1	$50 < X \leq 120$	$\pm 20'$
$30 < X \leq 120$	± 0.3	$X > 30$	± 2	$120 < X \leq 400$	$\pm 10'$
$120 < X \leq 400$	± 0.5			$X > 400$	$\pm 5'$
$400 < X \leq 1000$	± 0.8				
$X > 1000$	± 1.2				

INTERFACE

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Mating I-PEX Cable: FAW-1233
- Sensor I2C Address: 0x36 (7-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	MIPI1_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI1_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI1_D0P	OUTPUT	MIPI Data Lane 0 Differential Pair +	MIPI DPHY
9	MIPI1_D0N	OUTPUT	MIPI Data Lane 0 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	-	-	-	-
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled-up to 1.8V with 1.5K Ω)	1.8V
14	CAM_SDA	I/O	1.8V IO Camera I2C SDA signal (Pulled-up to 1.8V with 1.5K Ω)	1.8V
15	CAM_RST_N	OUTPUT	1.8V IO camera reset signal (Active low signal)	1.8V
16	CLK_TMP	INPUT	Reserved(Not used)	1.8V
17	IO1	I/O	1.8V IO signal for camera	1.8V
18	FSIN	INPUT	Camera Trigger signal	1.8V
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
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 for camera board (Must be provided from host side)	3.3V
30	VCC_3V3	POWER	3.3V Power supply for camera board (Must be provided from host side)	3.3V

● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	10 Aug 2026

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