



LEOPARD
IMAGING

LI-AR0830M-MIPI-084H



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INTRODUCTION

The LI-AR0830M-MIPI-084H is a MIPI D-PHY camera equipped with ON Semiconductor 1/2.9 inch 8 MP CMOS digital image sensor AR0830 which features onsemi's breakthrough low-noise CMOS imaging technology, super low power mode and on-chip Temperature Sensor & Lens Shading Correction. This camera outputs RAW data.

SPECIFICATIONS

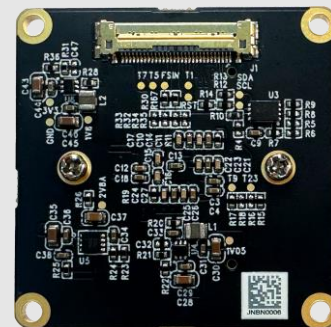
Sensor	ON Semiconductor 1/2.9-inch 8 MP (16:9) CMOS Image Sensor AR0830
Optical Format	1/2.9"
Resolution	3840 (H) x 2160 (V) (active pixels)
Pixel Size	1.4 μm Back Side Illuminated (BSI)
Color / Mono	Mono sensor
Output Format	8-bit / 10-bit / 12-bit RAW data
Maximum Frame Rate	60 fps @ 3840 x 2160 (Linear mode) 30 fps @ 3840 x 2160 (LI-HDR mode) 30 fps @ 3840 x 2160 (DR mode)
ISP	Not included
Interface	4-lane MIPI D-PHY
Power Consumption	150 mA @ 5 VDC 3840 x 2160 @ 10 fps
Operating Temp	-30°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 18 g
Part#	LI-AR0830M-MIPI-084H

APPLICATIONS

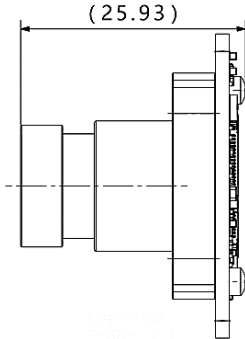
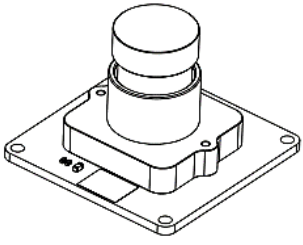
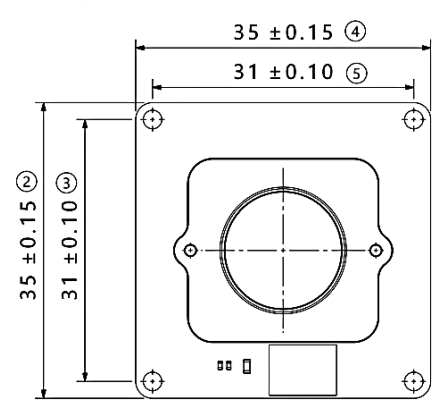
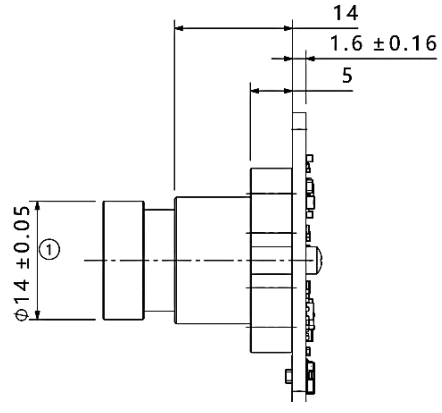
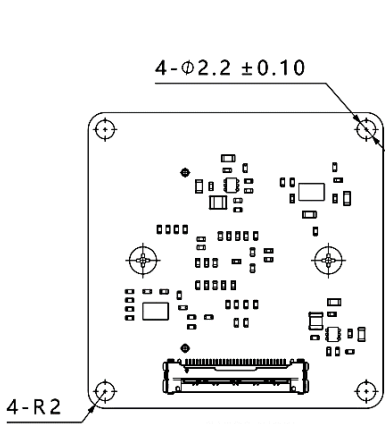
- IoT
- Drone
- Robots
- Video Doorbell
- Machine Vision
- Retail In-Store Cameras

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
Relative Illumination	> 45 % @ 6.61 mm
Lens Mount	M12 x P0.5



DIMENSIONS



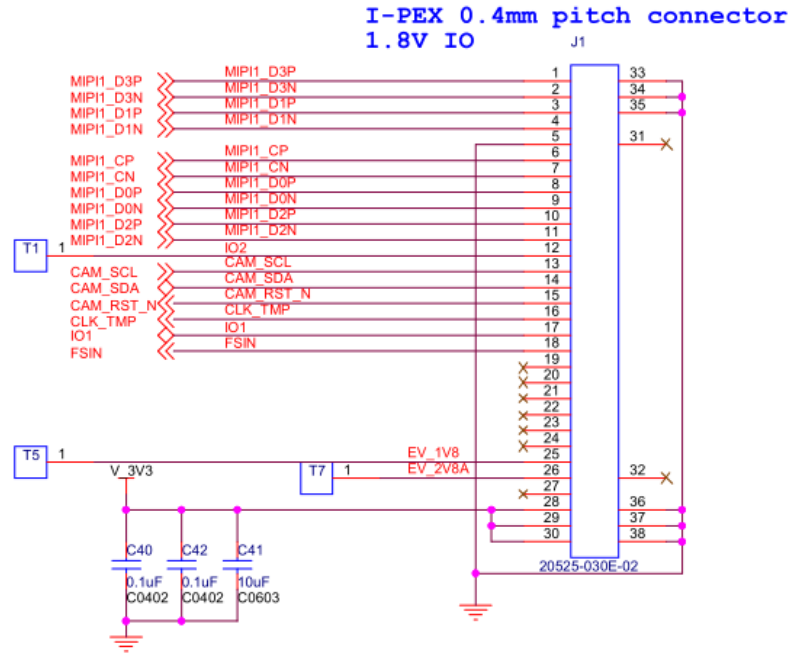
TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
$0.5 < X \leq 3$	± 0.1	$0.5 < X \leq 3$	± 0.2	$X \leq 10$	$\pm 1^\circ$
$3 < X \leq 6$	± 0.1	$3 < X \leq 6$	± 0.5	$10 < X \leq 50$	$\pm 30'$
$6 < X \leq 30$	± 0.2	$6 < X \leq 30$	± 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				

NOTE:

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

INTERFACE J1

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Mating I-PEX Cable: FAW-1233
- Sensor I2C Address: 0x36 (7-bit)
- External Power Supply: 1.8V, 2.8V, 3.3V



PINOUT DETAILS OF IPEX CONNECTOR (J1)

Pin No	Signal Name	Pin Type	Description
1	MIPI1_D3P	OUTPUT	MIPI Data Lane 3 Differential Pair +
2	MIPI1_D3N	OUTPUT	MIPI Data Lane 3 Differential Pair -
3	MIPI1_D1P	OUTPUT	MIPI Data Lane 1 Differential Pair +
4	MIPI1_D1N	OUTPUT	MIPI Data Lane 1 Differential Pair -
5	GND	POWER	Ground signal for digital and analog
6	MIPI1_CP	OUTPUT	MIPI Clock Lane Differential Pair +
7	MIPI1_CN	OUTPUT	MIPI Clock Lane Differential Pair -
8	MIPI1_D0P	OUTPUT	MIPI Data Lane 0 Differential Pair +
9	MIPI1_D0N	OUTPUT	MIPI Data Lane 0 Differential Pair -
10	MIPI1_D2P	OUTPUT	MIPI Data Lane 2 Differential Pair +
11	MIPI1_D2N	OUTPUT	MIPI Data Lane 2 Differential Pair -
12	N/A	-	No Connection
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Internally pulled-up to 1.8V using 1.5K Ω)
14	CAM_SDA	I/O	1.8V IO Camera I2C SDA signal (Internally pulled-up to 1.8V using 1.5K Ω)
15	CAM_RST_N	OUTPUT	1.8V IO camera reset signal (Active low signal)
16	CLK_TMP	-	Reserved(Not used)
17	IO1	I/O	1.8V IO signal for camera
18	FSIN	INPUT	Camera Trigger signal
19	N/A	-	No Connection
20	N/A	-	No Connection
21	N/A	-	No Connection
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	N/A	-	No Connection
28	VCC_3V3	POWER	3.3V Power supply for camera board
29	VCC_3V3	POWER	3.3V Power supply for camera board
30	VCC_3V3	POWER	3.3V Power supply for camera board

● REVISION HISTORY

Revision	Description	Release Date
1.0	First Release.	11 Mar 2024

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