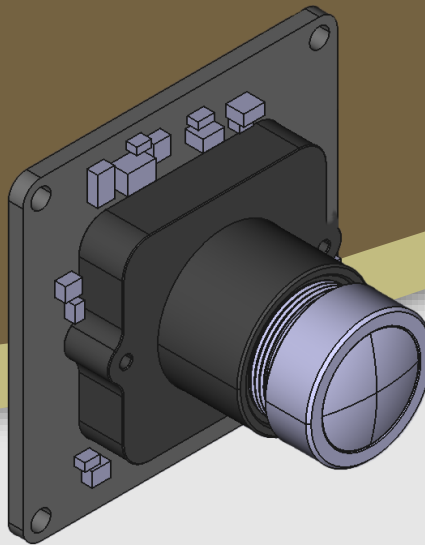




LEOPARD
IMAGING

LI-AR0234-YUV-MIPI-120H



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INTRODUCTION

The LI-AR0234-YUV-120H is a Full HD color global shutter MIPI camera. It is equipped with ON Semiconductor 2.3MP CMOS global shutter digital image color sensor AR0234CS and ISP. This global shutter camera captures images at a high frame rate, which helps to minimize frame-to-frame distortion and reduce motion blur while capturing fast-moving objects to produce smoother images with greater scene details.

SPECIFICATIONS

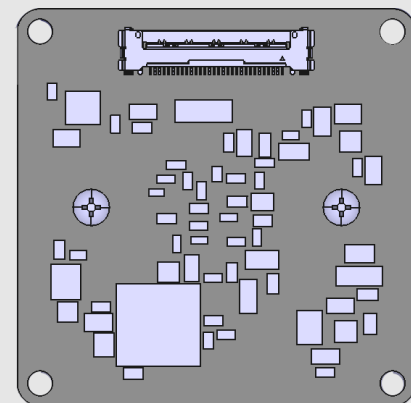
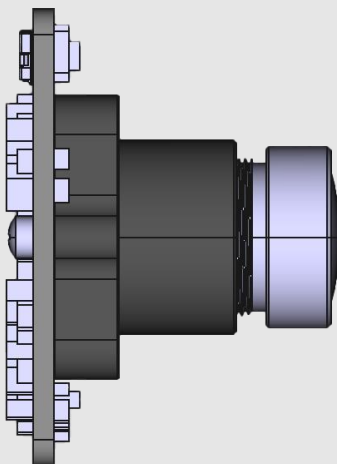
Frame Rate	30 fps @ 1920 x 1200
Output Format	YUV422
Sensor	ON Semiconductor 2.3MP CMOS Image Sensor AR0234CS
Optical Format	1/2.6"
Pixel Size	3.0 x 3.0 μm
Color / Mono	Color sensor
Shutter	Global shutter
Resolution	1920 (H) x 1200 (V) (based on ISP binary)
ISP	Included
Interface	4-lane MIPI D-PHY
Power Consumption	~ 0.7 W (30 fps @ 1920 x 1200)
Operating Temp	TBD
Storage Temp	TBD
Weight	TBD

Applications

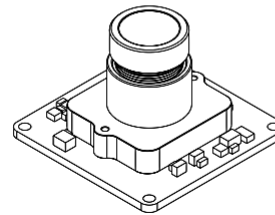
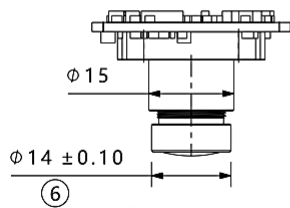
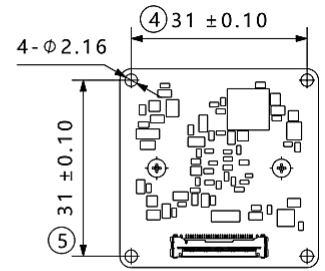
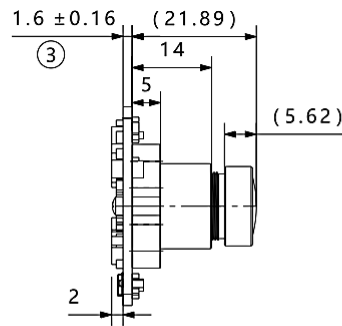
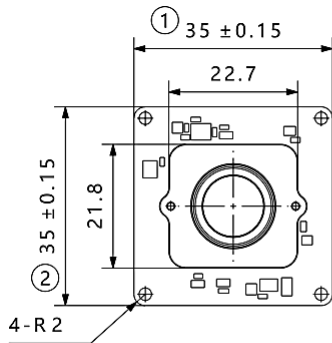
- Bar Code Scanner
- 3D Scanning
- Positional Tracking
- Iris Scanning
- Machine Vision
- Augmented Reality
- Virtual Reality
- Biometrics
- Gesture Recognition

Lens Specifications

Effective Focal Length	2.8 mm
Aperture, F/#	2.1
Field of View (FOV)	120° horizontal
OP Distortion	< -63%
Relative Illumination	> 40%
Lens Mount	M12 x P0.5



DIMENSIONS



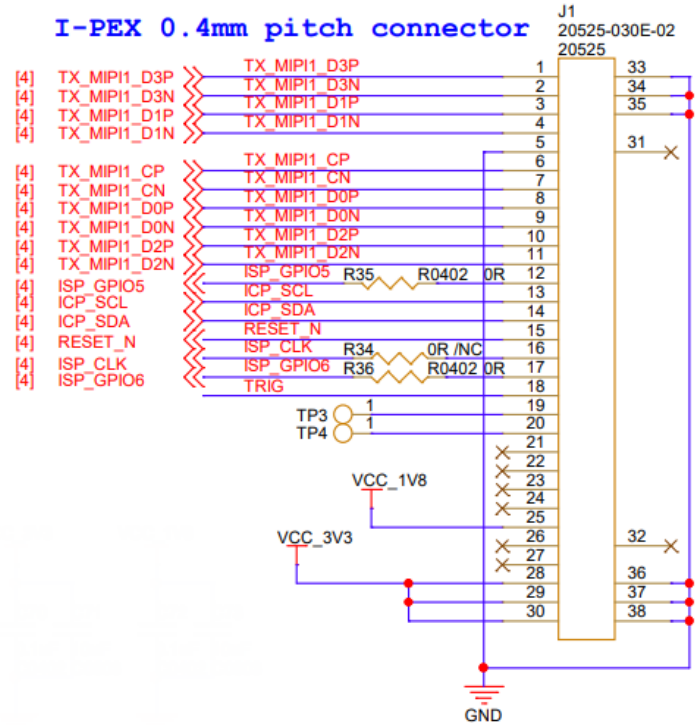
NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the tolerance table.
- 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
- Pitch: 0.4 mm
- ISP I2C address: 0x78 (8-bit)
- External power supply: 3.3V



PINOUT DETAILS

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIP11_D3P	OUTPUT	MIPI Clock Data3 Differential Pair +	MIPI DPHY
2	MIP11_D3N	OUTPUT	MIPI Clock Data3 Differential Pair -	MIPI DPHY
3	MIP11_D1P	OUTPUT	MIPI Clock Data1 Differential Pair +	MIPI DPHY
4	MIP11_D1N	OUTPUT	MIPI Clock Data1 Differential Pair -	MIPI DPHY
5	GND	POWER	Ground signal for digital and analog	-
6	MIP11_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIP11_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIP11_D0P	OUTPUT	MIPI Clock Data0 Differential Pair +	MIPI DPHY
9	MIP11_D0N	OUTPUT	MIPI Clock Data0 Differential Pair -	MIPI DPHY
10	MIP11_D2P	OUTPUT	MIPI Clock Data2 Differential Pair +	MIPI DPHY
11	MIP11_D2N	OUTPUT	MIPI Clock Data2 Differential Pair -	MIPI DPHY
12	ISP_GIOP5	I/O	General-Purpose Input/Output 5 (ISP)	1.8V
13	ICP_SCL	INPUT	1.8V IO ISP I2C SCL signal (Pulled up to 1.8V with 1.5k)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	ICP_SDA	I/O	1.8V IO ISP I2C SDA signal (Pulled up to 1.8V with 1.5k)	1.8V
15	RESET_N	INPUT	1.8V IO ISP reset signal (Active Low) (Pulled up to 1.8V with 10k)	1.8V
16	ISP_CLR	INPUT	Reserved CLK for ISP	1.8V
17	ISP_GPIO6	I/O	General-Purpose Input/Output 6 (ISP)	1.8V
18	TRIG	INPUT	1.8V IO ISP Trigger input	1.8V
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	VCC_1V8	POWER	1.8V power supply	1.8V
26	-	-	-	-
27	-	-	-	-
28	VCC_3V3	POWER	3.3V digital power supply	3.3V
29	VCC_3V3	POWER	3.3V digital power supply	3.3V
30	VCC_3V3	POWER	3.3V digital power supply	3.3V

- REVISION HISTORY

Revision	Description	Release date
0.1	Initial draft.	11 Nov 2025

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