LEOPARD IMAGING

LI-AR0235-IPEX-113H

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INTRODUCTION

The LI-AR0235-IPEX-113H is a MIPI D-PHY global shutter color camera built around the ON Semiconductor AR0235 sensor. Its innovative global shutter pixel design ensures accurate, blur-free capture of fast-moving scenes. The camera delivers exceptionally clear and sharp digital pictures, outputting versatile RAW data for both video and still imaging.

SPECIFICATIONS

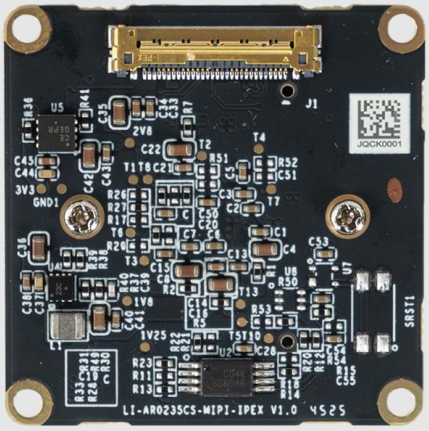
Frame Rate	120 fps (10-bit)
Output Format	10-bit RAW data
Sensor	ON Semiconductor CMOS Image Sensor AR0235
Color / Mono	Color sensor
Shutter Type	Global Shutter
Optical Format	1/2.8"
Pixel Size	2.8 µm
Resolution (active pixels)	1920 (H) x 1200 (V) not including 8 border pixels on each side
ISP	Not included
Interface	4-lane MIPI D-PHY
Power Consumption	Approx. 0.6W (60 fps @ 1920 ×1200)
Operating Temp	-30°C ~ +85°C
Storage Temp	-30°C ~ +85°C
Weight	~ 15 g

APPLICATIONS

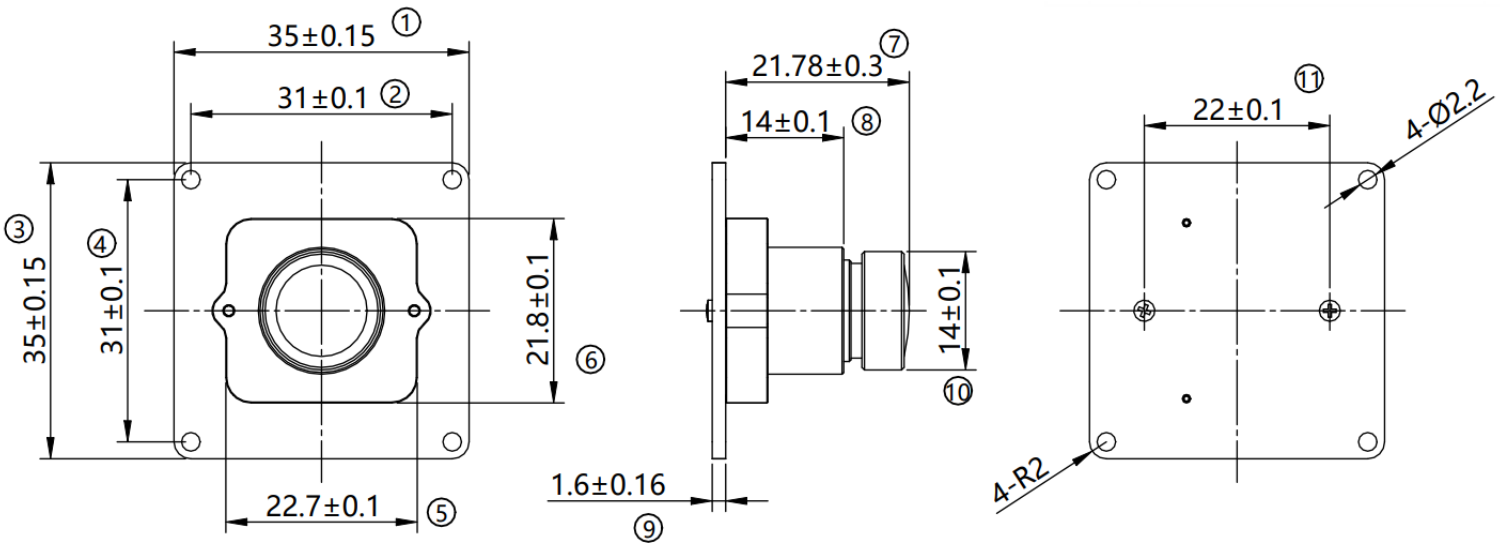
- Bar Code Scanner
- Factory Automation
- Autonomous Mobile Robot (AMR)
- Machine Vision
- 3D Scanning
- Biometrics

LENS SPECIFICATIONS

Effective Focal Length	2.8 mm
Aperture, F/#	2.1
Field of View (FOV)	113˚ horizontal
IR Filter	650nm IR cut filter
Lens Mount	M12 x P0.5



DIMENSIONS



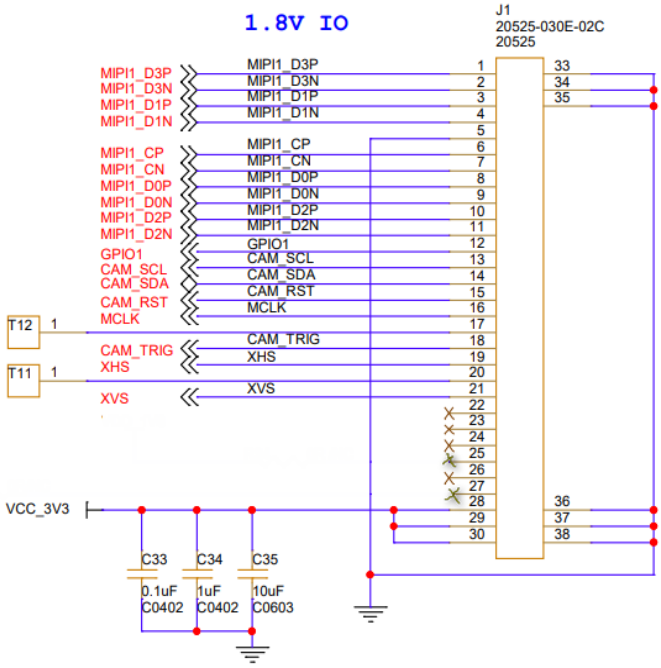
NOTE:

- ⊗ 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				

MODULE INTERFACE

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- 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 signal (D-PHY)	MIPI DPHY
2	MIPI1_D3N	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
3	MIPI1_D1P	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
4	MIPI1_D1N	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
5	GND	-	GND	-
6	MIPI1_CP	OUTPUT	MIPI signal(D-PHY_CLOCK)	MIPI DPHY
7	MIPI1_CN	OUTPUT	MIPI signal(D-PHY_CLOCK)	MIPI DPHY
8	MIPI1_D0P	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
9	MIPI1_D0N	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
10	MIPI1_D2P	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
11	MIPI1_D2N	OUTPUT	MIPI signal (D-PHY)	MIPI DPHY
12	GPIO1	I/O	General purpose I/O	1.8V
13	CAM_SCL	INPUT	The SCL signal of camera I2C (Pulled up to 1.8V with 1.5k on the board)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	CAM_SDA	I/O	The SDA signal of camera I2C (Pulled up to 1.8V with 1.5k on the board)	1.8V
15	CAM_RST	INPUT	Reset (Pulled up to 1.8V with 10k on the board)	1.8V
16	MCLK	INPUT	External input clock (Must be provided from host side)	1.8V
17	T12	-	Pre-reserved test point	-
18	CAM_TRIG	I/O	General purpose I/O	1.8V
19	XHS	INPUT	General purpose I	1.8V
20	T11	-	Pre-reserved test point	-
21	XVS	INPUT	General purpose I	1.8V
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	3V3	INPUT	3.3V Power Supply (Must be provided from host side)	3.3V
29	3V3	INPUT	3.3V Power Supply (Must be provided from host side)	3.3V
30	3V3	INPUT	3.3V Power Supply (Must be provided from host side)	3.3V

REVISION HISTORY

Revision	Description	Release Date
1.0	First release.	28 Feb 2026

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