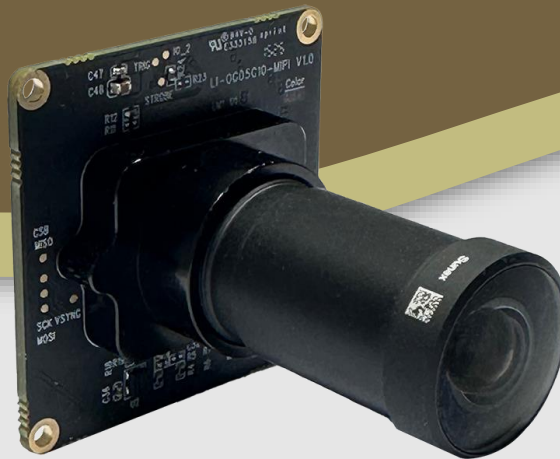




LEOPARD
IMAGING

LI-OG05C10-MIPI-102H



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INTRODUCTION

The LI-OG05C10-MIPI-102H is a MIPI CSI-2 camera with OmniVision 1/1.45" CMOS 5MP global shutter image color sensor OG05C10. This camera outputs 2464 x 2064 RAW data.

SPECIFICATIONS

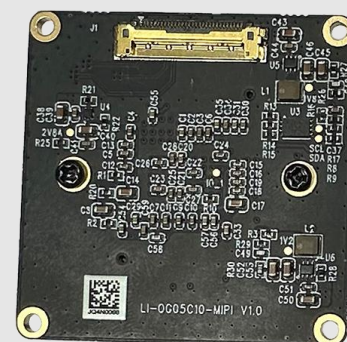
Sensor	OmniVision 1/1.45" CMOS 5MP Image Sensor OG05C10
Optical Format	1/1.45"
Resolution	2464 (H) x 2064 (V) (active pixels)
Pixel Size	3.45 x 3.45 μm
Shutter	Global shutter
Output Format	10-bit / 12-bit / 14-bit RAW
Maximum Frame Rate	Full size: 120 fps @ 10-bit / 60 fps @ 12-bit DCG HDR mode: 60 fps @ 12-bit / 14-bit
ISP	Not included
Color / Mono	Color
Interface	4-lane MIPI CSI-2
Power Consumption	172mA @ 3.3V (2448*2048 @ 60fps)
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 34 g
Part#	LI-OG05C10-MIPI-102H

APPLICATIONS

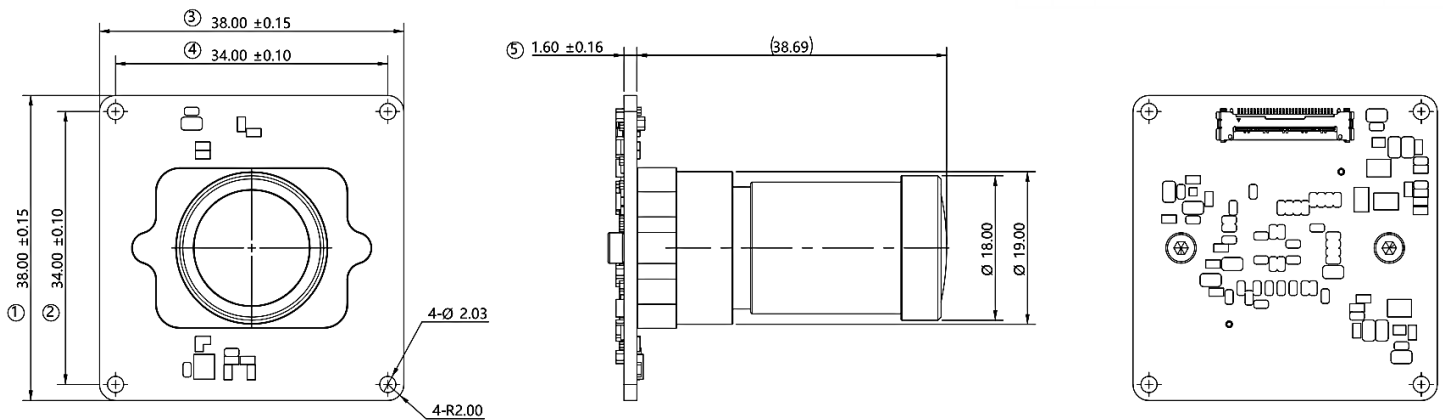
- Machine Vision Camera
- Logistics Application
- Industrial Bar Code Scanning
- Robotics
- Intelligent transportation system
- Factory automation

LENS SPECIFICATIONS

Focal Length	5.17 $\pm$ 5% mm
Aperture, F/#	1.6 $\pm$ 5%
Field of View (FOV)	102° horizontal
IR Filter	650nm IR CUT Filter
Lens Mount	M16 x P0.5



DIMENSIONS



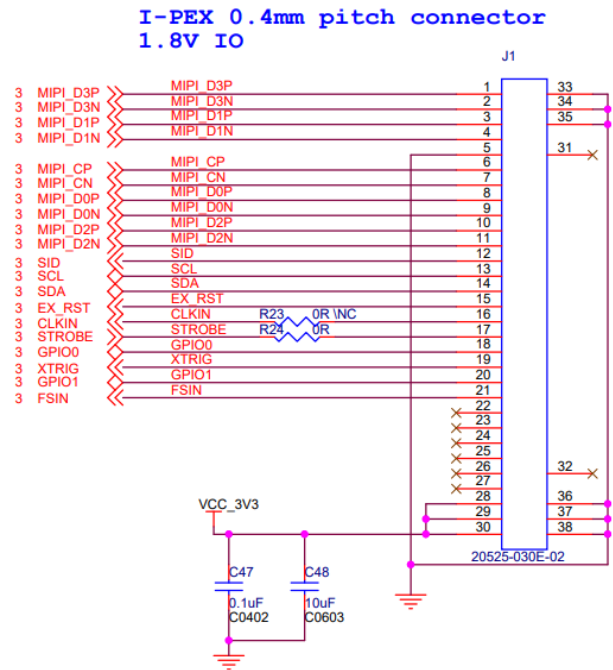
NOTE:

- ⊗ 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				

INTERFACE J1

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX cable: LI-FAW-1233
- Sensor I2C Address: 0x6C (8-bit)
- External Power Supply: 3.3V
- 2.8VA, 1.8V and 1.2V are generated from board



PINOUT DETAILS OF J1

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 Clock Data0 Differential Pair +	MIPI DPHY
9	MIPI_D0N	OUTPUT	MIPI Clock 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	SID	INPUT	Camera I2C Address Selection	1.8V
13	SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 1.5kΩ)	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 1.5k Ω)	1.8V
15	EX_RST	INPUT	1.8V IO camera reset signal (Active Low)	1.8V
16	CLKIN	INPUT	Reserved CLK for camera	1.8V
17	STROBE	OUTPUT	Frame exposure indicator	1.8V
18	GPIO0	I/O	General-Purpose Input/Output 0	1.8V
19	XTRIG	I/O	External trigger	1.8V
20	GPIO1	I/O	General-Purpose Input/Output 1	1.8V
21	FSIN	OUTPUT	External frame sync	1.8V
22	NC	-	-	-
23	NC	-	-	-
24	NC	-	-	-
25	NC	-	-	-
26	NC	-	-	-
27	NC	-	-	-
28	VCC_3V3	POWER	3.3V power supply	3.3V
29	VCC_3V3	POWER	3.3V power supply	3.3V
30	VCC_3V3	POWER	3.3V power supply	3.3V

- REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	19 Jun 2025

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