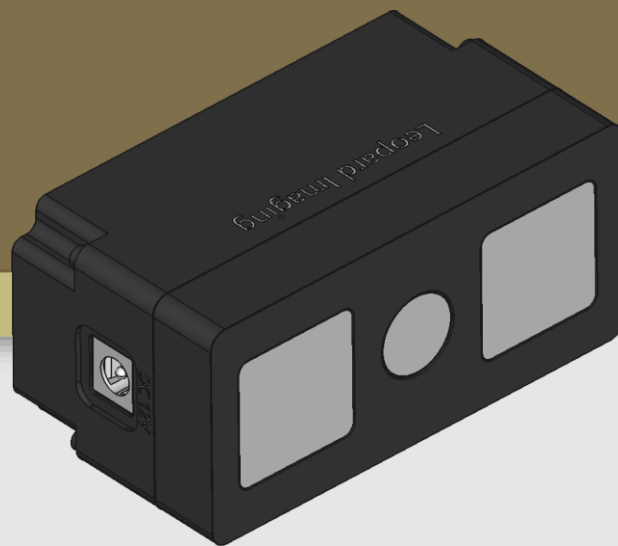




LEOPARD
IMAGING

LI-AF0130-VCL-GM2B-085H



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INTRODUCTION

The LI-AF0130-VCL-GM2B-085H is an advanced Time-of-Flight (ToF) MIPI camera module designed for precise 3D depth measurement. This ToF camera is equipped with ONSEMI 1.2 MP smart iToF sensor AF0130, ADI GMSL2 serializer MAX96717G and four flood illuminators. It features on-camera depth computation, enabling precise 3D depth measurements without requiring external processing. It ensures reliable performance across various scenarios, featuring a depth range of 0.2m to 4m and an impressive $\pm 1.5\%$ accuracy. The camera excels in challenging lighting conditions, thanks to its superior low-light and ambient light performance. Additionally, its four-laser operation extends the depth range at VGA resolution, offering enhanced flexibility for diverse applications.

SPECIFICATIONS

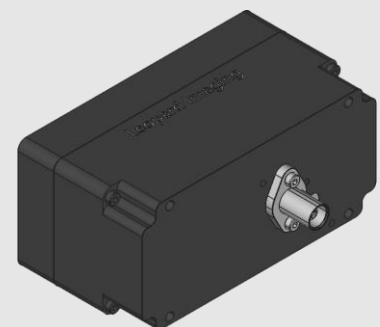
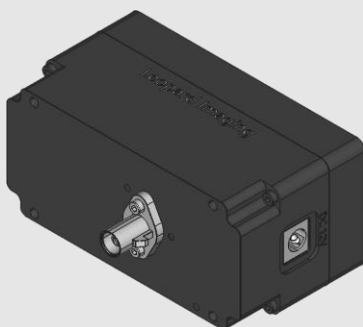
Maximum Frame Rate	60 fps @ 1.2 MP 100 fps @ VGA
Output Format	RAW, Data Reduction (DR), Integrated Depth Processing (DP)
Depth Range	0.2 m ~ 6.5 m
Depth Accuracy	1.5 %
Sensor	1.2 MP Smart iToF BSI CMOS Global Shutter depth Sensor AF0130
Optical Format	1/3.2"
Pixel Size	3.5 μm
Resolution	1280 (H) x 960 (V) (active pixels)
Shutter	BSI Global shutter
Serializer	ADI MAX96717G
FAKRA Connector	FAKRA Z TYPE
FAKRA Power Supply Range	12 V ~ 19 V
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	TBD

Applications

- Robot Navigation
- 3D Reconstruction
- Human-Machine Interaction
- Gesture Recognition
- Facial Recognition

LENS SPECIFICATIONS

Focal Length	2.47 mm
Aperture, F/#	1.2
Field of View (FOV)	85.1° horizontal
	65.3° vertical
	108.9° diagonal
IR Filter	940 nm BPF



● VCSEL SPECIFICATIONS

Wavelength	940 nm
Field of Illumination (FOI)	103° (Horizontal)
	84° (Vertical)
QTY on Camera	4

NOTE:

- Avoid hitting VCSEL when camera assembly and operating.
- Keep wide clear upon VCSEL when camera operating.

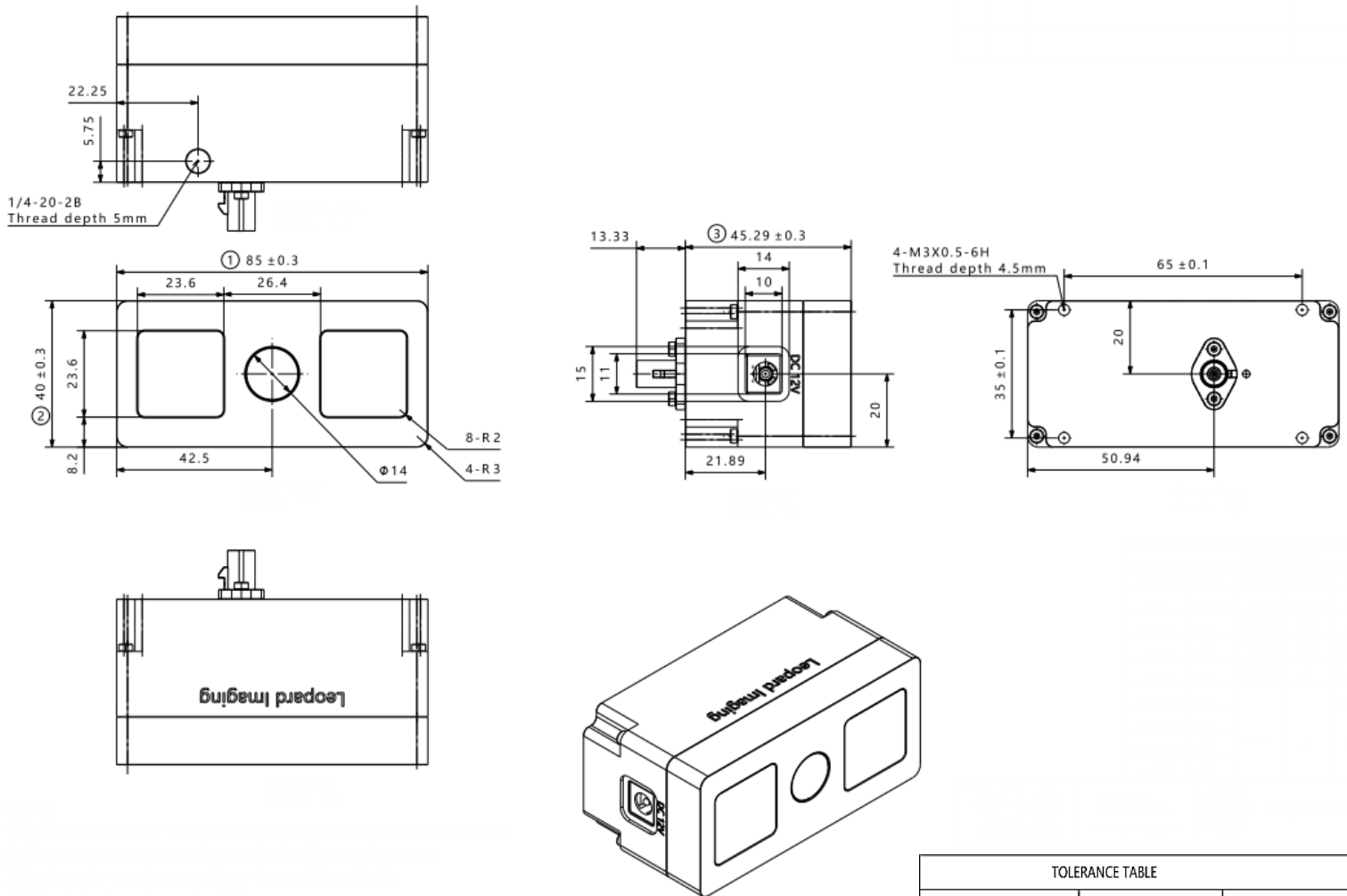
● Laser Projector Safety and Certificates

Safety	TBD
Certificates	TBD

● Laser Projector Maintenance

- Make maintenance after a period of use, such as cleaning dust.
- Return to factory for repair when meeting VCSEL work unnormal.

DIMENSIONS

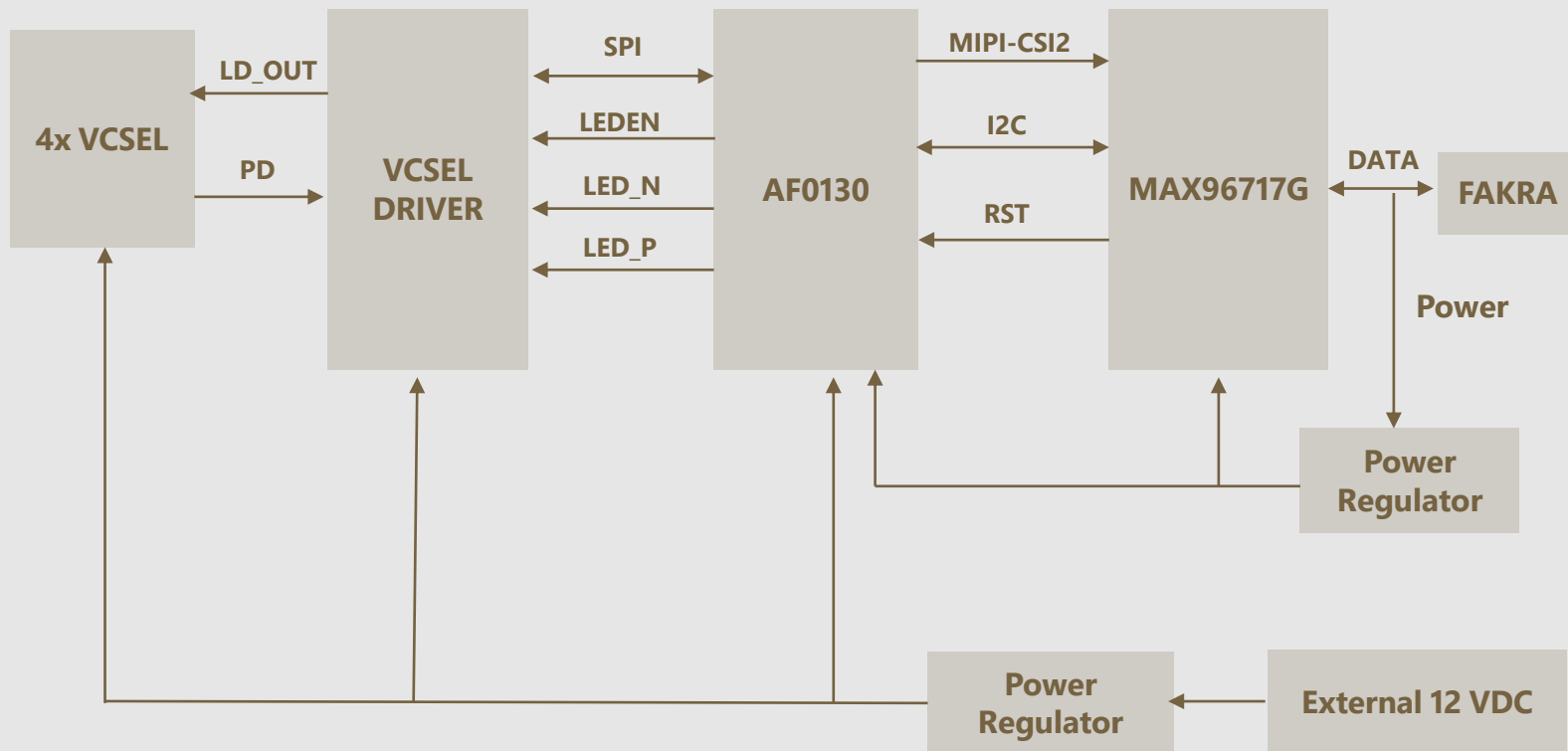


NOTE:

- Other unmarked tolerances refer to the Tolerance table.
- All materials are compliant with RoHS requirements.
- ⊗ marked are important sizes.
- Unit: mm

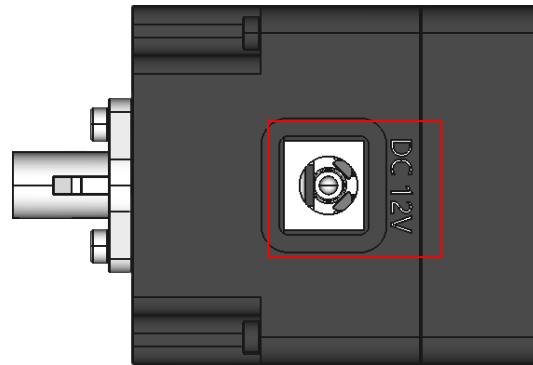
TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X ≤ 400	±10'
120 < X ≤ 400	±0.5			X > 400	±5'
400 < X ≤ 1000	±0.8				
X > 1000	±1.2				

SYSTEM BLOCK DIAGRAM



● External 12 VDC Power Supply

- Part#: PJ-002A
- Number of Positions: 3
- Connector Type: Jack
- Inner Diameter: 2 mm
- Outer Diameter: 6.5 mm
- The power supply adapter minimum consumption:
5A @ 12VDC



● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft	20 Jan 2026

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