



**LEOPARD**  
IMAGING

# LI-AR0823-GM2B-xxxH



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## INTRODUCTION

The LI-AR0823-GM2B-xxxH is equipped with ON Semiconductor 8.3MP CMOS RGGB image sensor AR0823 which supports Hyperlux technology and Maxim GMSL2 serializer MAX96717. This camera outputs 3840 x 2160 RAW data.

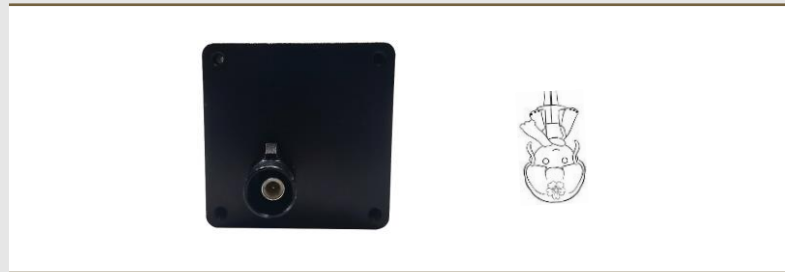
## SPECIFICATIONS

Sensor	ON Semiconductor AR0823 8.3MP CMOS RGGB Sensor
Optical Format	1/2"
Resolution	3840 (H) x 2160 (V) (active pixels)
Pixel Size	2.1 x 2.1 $\mu$ m
Sensor	Color sensor
Output Format	8-bit / 10-bit / 12-bit / 14-bit / 16-bit / 20-bit RAW data
Maximum Frame Rate	60 fps @ 3840 x 2160
HDR (High Dynamic Range)	Supported
LFM (LED Flicker Mitigation)	Supported
Lens	FOV H 30° / 60° / 120°
Serializer	Maxim GMSL2 MAX96717
Power Supply Range	9 ~ 19 VDC
Connector	FAKRA Z TYPE
IP Rating	120H: IP69K 030H / 060H: TBD
Power Consumption	131 mA @ 12 VDC (3840 x 2160 @ 11 fps)
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	TBD
Part#	LI-AR0823-GM2B-xxxH

## APPLICATIONS

- Automotive Front Camera (ADAS)
- Mirror Replacement (CMS)
- ADAS + Viewing Fusion
- High Dynamic Range Imaging
- Surround View + Sensing
- In-Cabin Occupancy Monitor

## IMAGE ORIENTATION

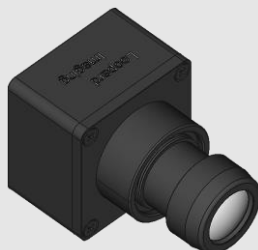


## CABLE CONNECTOR

- Housing Connector: FAKRA Z Type
- Cable Length: 3 meters
- Cable Part#: FAK-SMZSMZ-3M



LI-AR0823-GM2B-030H



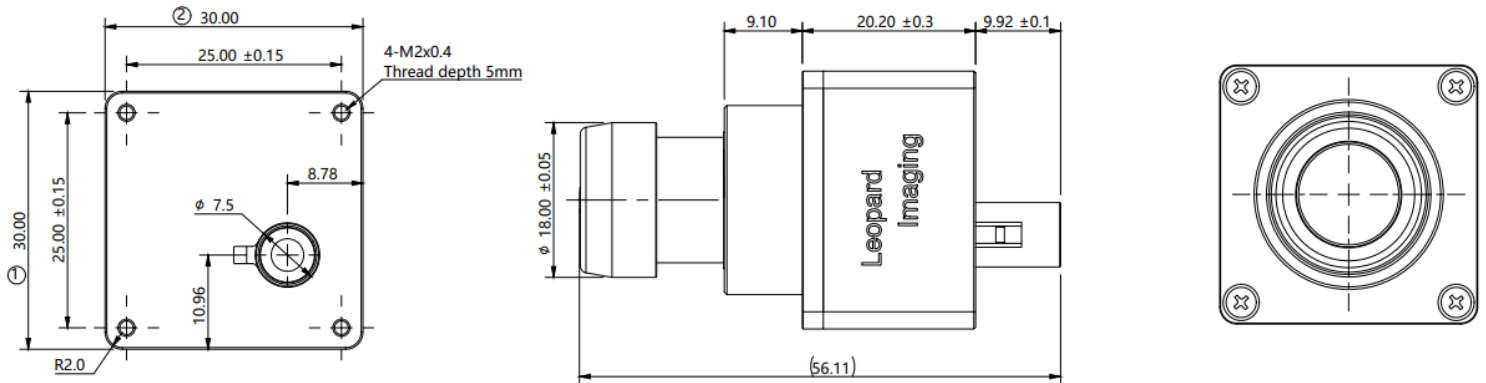
LI-AR0823-GM2B-060H



LI-AR0823-GM2B-120H



## DIMENSIONS: LI-AR0823-GM2B-030H



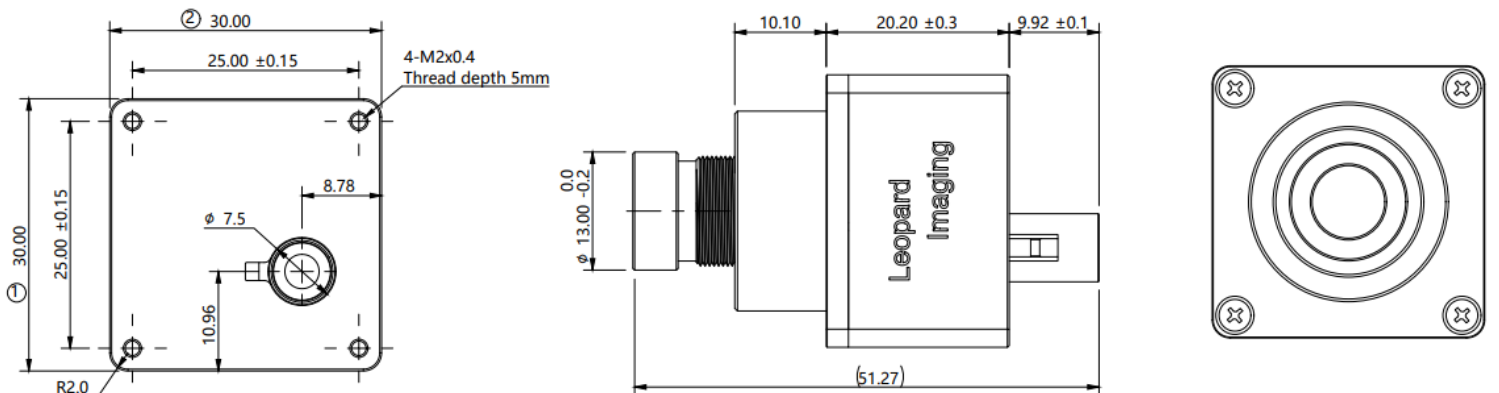
TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X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

### NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the Tolerance table.
- All materials are compliant with RoHS & REACH requirements.

Unit: mm

## DIMENSIONS: LI-AR0823-GM2B-060H



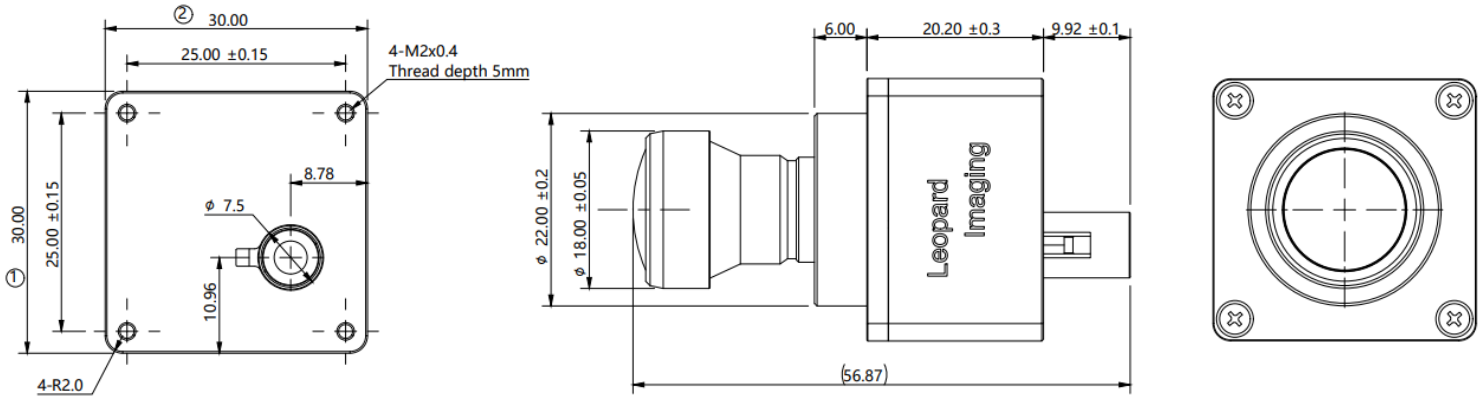
TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X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

### NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the Tolerance table.
- All materials are compliant with RoHS & REACH requirements.

Unit: mm

# DIMENSIONS: LI-AR0823-GM2B-120H



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				

## NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the Tolerance table.
- All materials are compliant with RoHS & REACH requirements.

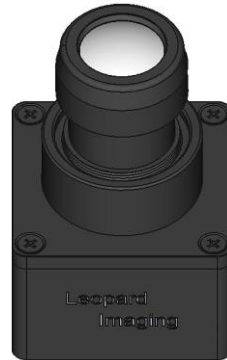
Unit: mm

## ORDERING INFORMATION

**NOTE:**

xxxH refers to 030H (FOV H 30°), 060H (FOV H 60°) and 120H (FOV H 120°)

**LI-AR0823-GM2B-030H**



Lens EFL: 15.3 mm  $\pm$  0.15

Aperture, F/#: 1.65  $\pm$  0.15

Field of View (FOV): 30° horizontal

IR Filter: 660 nm IR cut filter

Mount: M16

**LI-AR0823-GM2B-060H**



Lens EFL: 7.87 mm  $\pm$  0.2

Aperture, F/#: 1.8  $\pm$  0.1

Field of View (FOV): 60° horizontal

IR Filter: 650 nm IR cut filter

Mount: M12

**LI-AR0823-GM2B-120H**



Lens EFL: 3.9 mm  $\pm$  2%

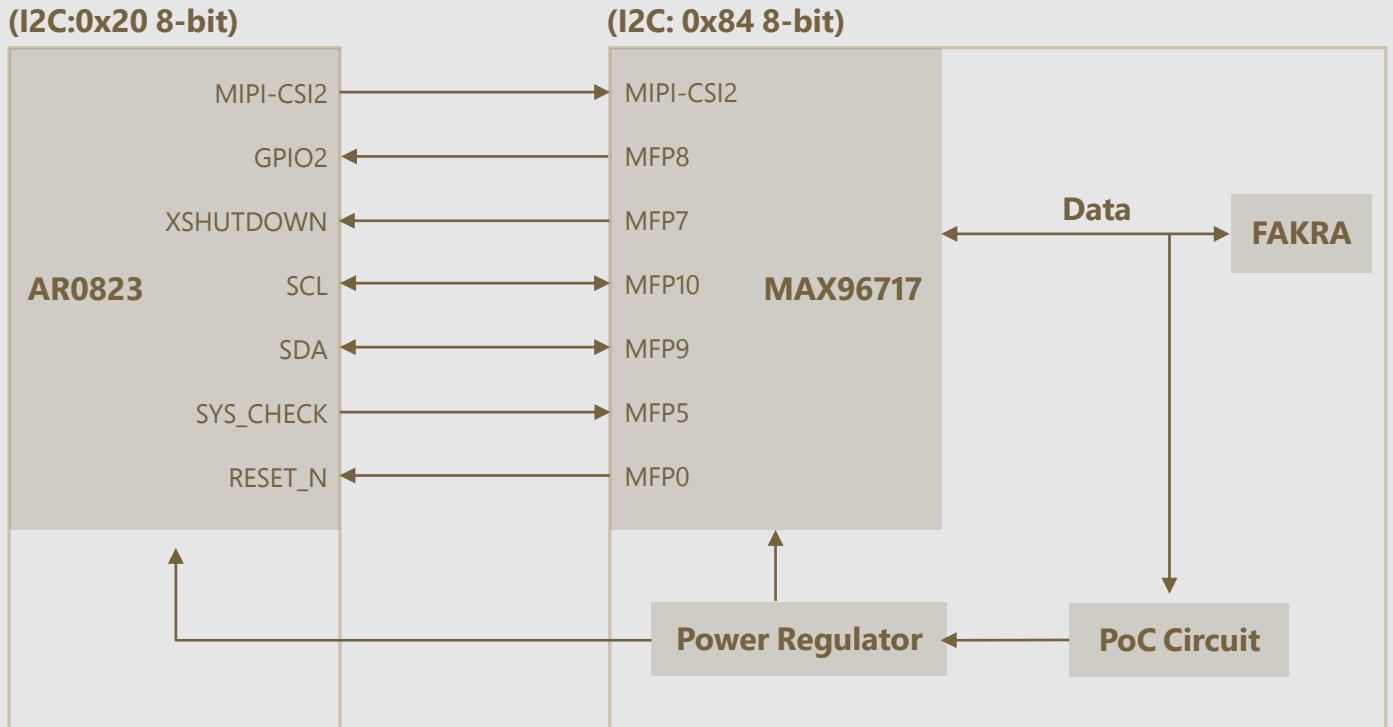
Aperture, F/#: 1.6  $\pm$  5%

Field of View (FOV): 121.2° horizontal

IR Filter: 650 nm IR cut filter

Mount: M12

# PINOUT CONNECTIONS



## USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-AR0823-GM2B-xxxH can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-AR0823-GM2B-xxxH**

### SPECIFICATIONS

- USB 3.0 Super Speed support
- UVC compliant
- Allows customization
- 12 VDC Power Supply for camera
- Weight: TBD
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 3840 x 2160 @ 11 fps
- Power consumption: 131 mA @ 12 VDC
- Compatible with Windows, Linux OS and other OS which have UVC drivers

### BOM

#	Items	QTY
1	LI-AR0823-GM2B-xxxH	1
2	LI-GMSL2-USB	1
3	3-Meter Fakra Cable	1
4	12 VDC Power Supply	1
5	USB3.0 Cable	1



### SDK SUPPORTED

- Camera Tool Source Code in C#
- Capture & Display
- Register Access Function

## REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	30 Oct 2023
0.2	Updated image direction.	27 Dec 2023

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