



LEOPARD
IMAGING

LI-AR0823RYYCY-GM2B-120H



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INTRODUCTION

The LI-AR0823RYYCY-GM2B-120H is equipped with ON Semiconductor 8.3MP CMOS RYYCY image sensor AR0823 and Maxim GMSL2 serializer MAX96717. This camera outputs 3840 x 2160 RAW data.

SPECIFICATIONS

Sensor	ON Semiconductor AR0823 8.3MP CMOS RYYCY Sensor
Optical Format	1/2"
Resolution	3840 (H) x 2160 (V) (active pixels)
Pixel Size	2.1 x 2.1 μm
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
Serializer	Maxim GMSL2 MAX96717
Power Supply Range	9 ~ 19 VDC
Connector	FAKRA Z TYPE
IP Rating	IP69K
Power Consumption	131 mA @ 12 VDC (3840 x 2160 @ 11 fps)
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 46 g
Part#	LI-AR0823RYYCY-GM2B-120H

APPLICATIONS

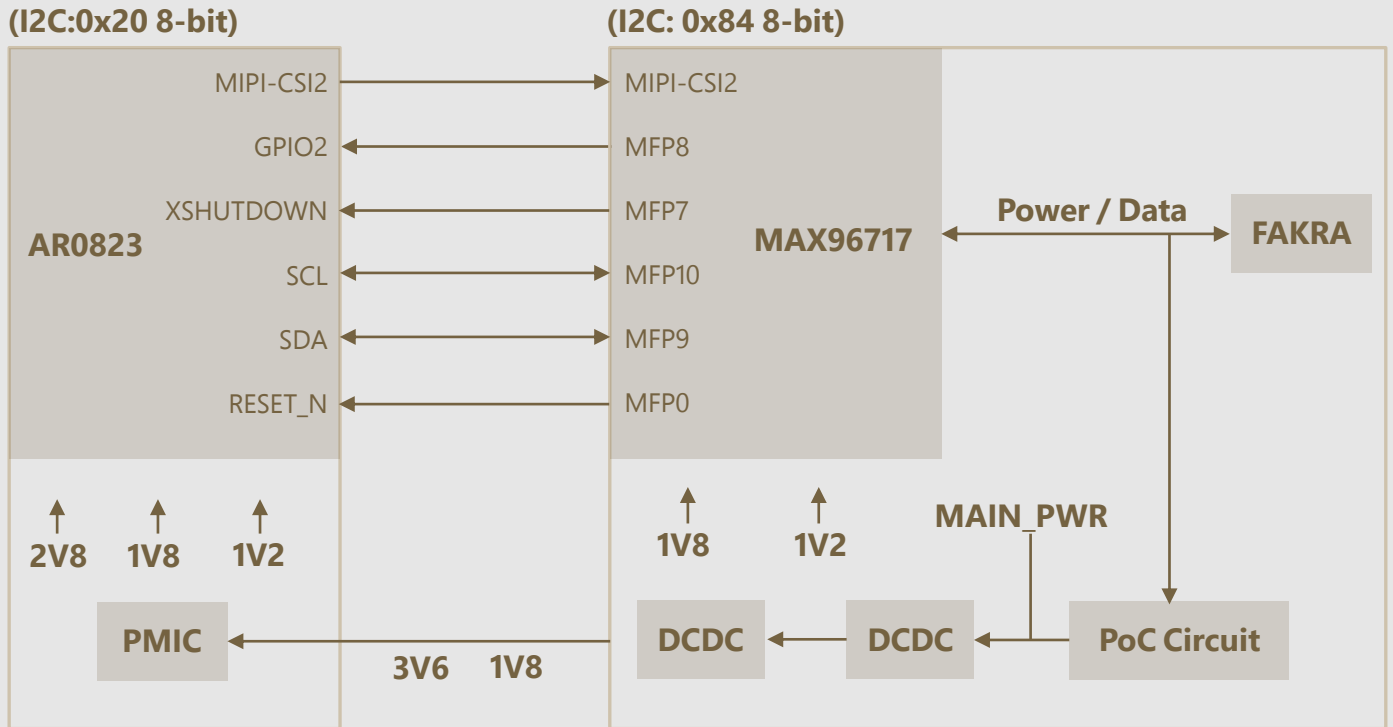
- Automotive Front Camera (ADAS)
- Mirror Replacement (CMS)
- ADAS + Viewing Fusion
- High Dynamic Range Imaging
- Surround View + Sensing
- In-Cabin Occupancy Monitor

LENS SPECIFICATIONS

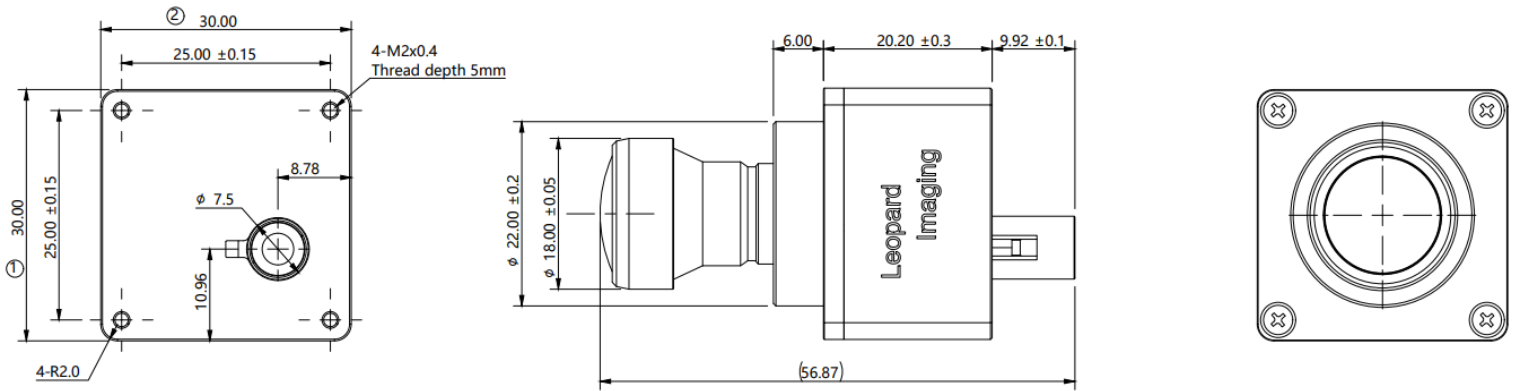
Focal Length	3.9 mm \pm 2%
Aperture, F/#	1.6 \pm 5%
Field of View (FOV)	140.1° diagonal (2Y' = 9.252 mm)
	121.2° horizontal (2Y' = 8.064 mm)
	67.2° vertical (2Y' = 4.536 mm)
Optical Distortion	< -56.88% (2Y' = 9.252 mm)
F-Theta Distortion	< -2.88% (2Y' = 9.252 mm)
Relative Illumination	69.1% (2Y' = 9.252 mm)
IR Cut Filter	650 nm IR cut filter
Lens Mount	M12 x P0.5



PINOUT CONNECTIONS



DIMENSIONS



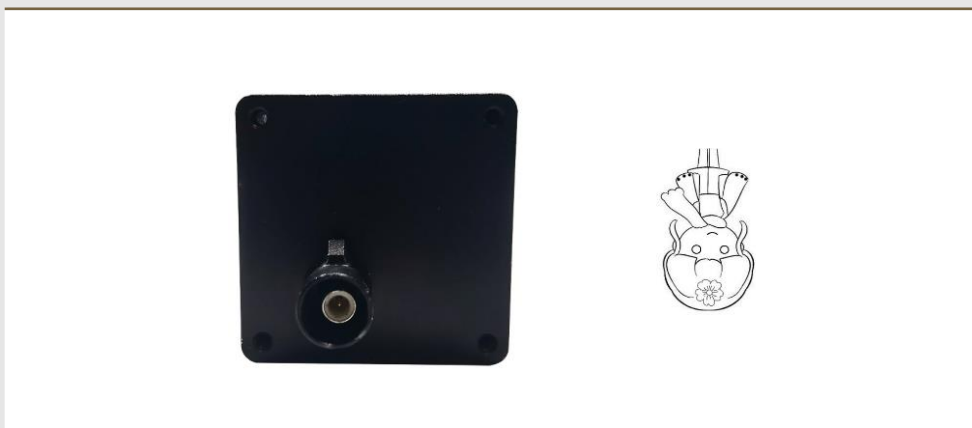
TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X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

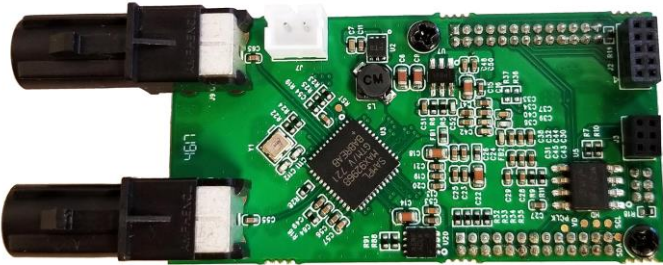
Unit: mm

IMAGE ORIENTATION

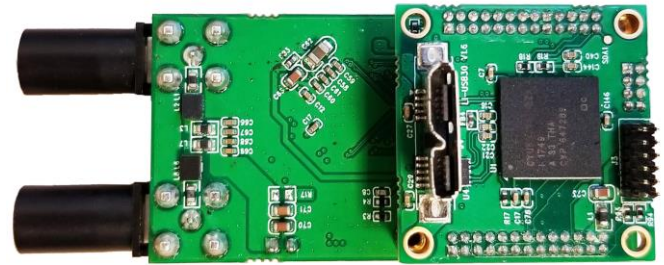


USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-AR0823RYYCY-GM2B-120H can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-AR0823RYYCY-GM2B-120H**

SPECIFICATIONS

- USB 3.0 Super Speed support
- UVC compliant
- Allows customization
- 12 VDC Power Supply for camera
- Weight: ~ 176 g
- 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-AR0823RYYCY-GM2B-120H	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
1.0	First release.	04 Sep 2023
1.1	Updated image direction.	27 Dec 2023

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