



# LI-OV2312-VCSEL-OMS-GMSL2-177H



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## INTRODUCTION

The LI-OV2312-VCSEL-OMS-GMSL2-177H is equipped with OmniVision 1/2.9" RGB-IR CMOS 2MP (1600 x 1300) image sensor OV2312 with OmniPixel® 3-GS technology, Maxim GMSL2 serializer MAX96717F and VCSELS. This camera outputs 10-bit RGB-IR RAW data.

## SPECIFICATIONS

Sensor	OmniVision RGB-IR CMOS 2MP Image Sensor OV2312
Optical Format	1/2.9"
Resolution	1600 (H) x 1300 (V) (active pixels)
Pixel Size	3.0 x 3.0 $\mu\text{m}$
Output Format	10-bit RGB-IR RAW
Color / Mono	RGB-IR
Maximum Frame Rate	60 fps @ 1600 x 1300
Shutter	Global shutter
Serializer	Maxim MAX96717F
Power Supply Range	10 ~ 19 VDC
ISP	Not included
VCSEL	Included
FAKRA Connector	FAKRA Z TYPE
IP Rating	IP52
Power Consumption (VCSELS on)	367 mA @ 12 VDC (1600 x 1300 @ 30 fps)
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 183 g
Part#	LI-OV2312-VCSEL-OMS-GMSL2-177H

## APPLICATIONS

- In Cabin Automotive
  - ◆ Gesture Recognition
  - ◆ Iris Scanning
  - ◆ Head Roll
  - ◆ Eye Tracking
  - ◆ Augmented Reality
  - ◆ Machine Vision

## LENS SPECIFICATIONS

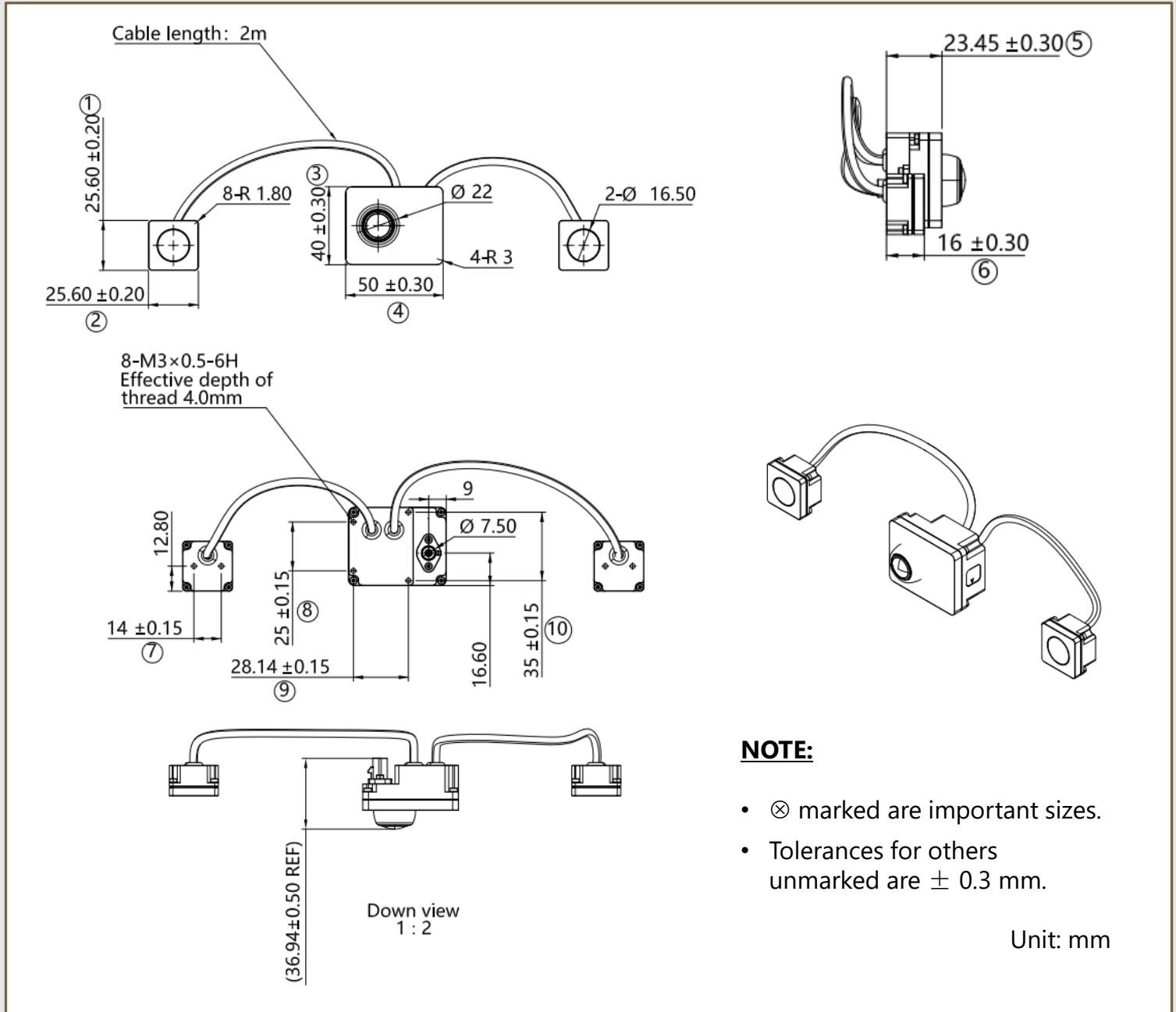
Focal Length	1.42 mm $\pm$ 5%
Aperture, F/#	2.0 $\pm$ 5%
Field of View (FOV)	177° $\pm$ 3° horizontal
	143.8° $\pm$ 2° vertical
	$\geq$ 190° ( $\varnothing$ 5.11 mm) diagonal
Optical Distortion	-95.6% $\pm$ 5% @ H FOV
Relative Illumination	(55 $\pm$ 7)% @ H FOV
IR Filter	Visible + 940 nm
Lens Mount	M12 x P0.5

## VCSEL SPECIFICATIONS

Wavelength	940 nm
Field of Illumination (FOI)	125.5° horizontal
	111.5° vertical
QTY on Camera	2



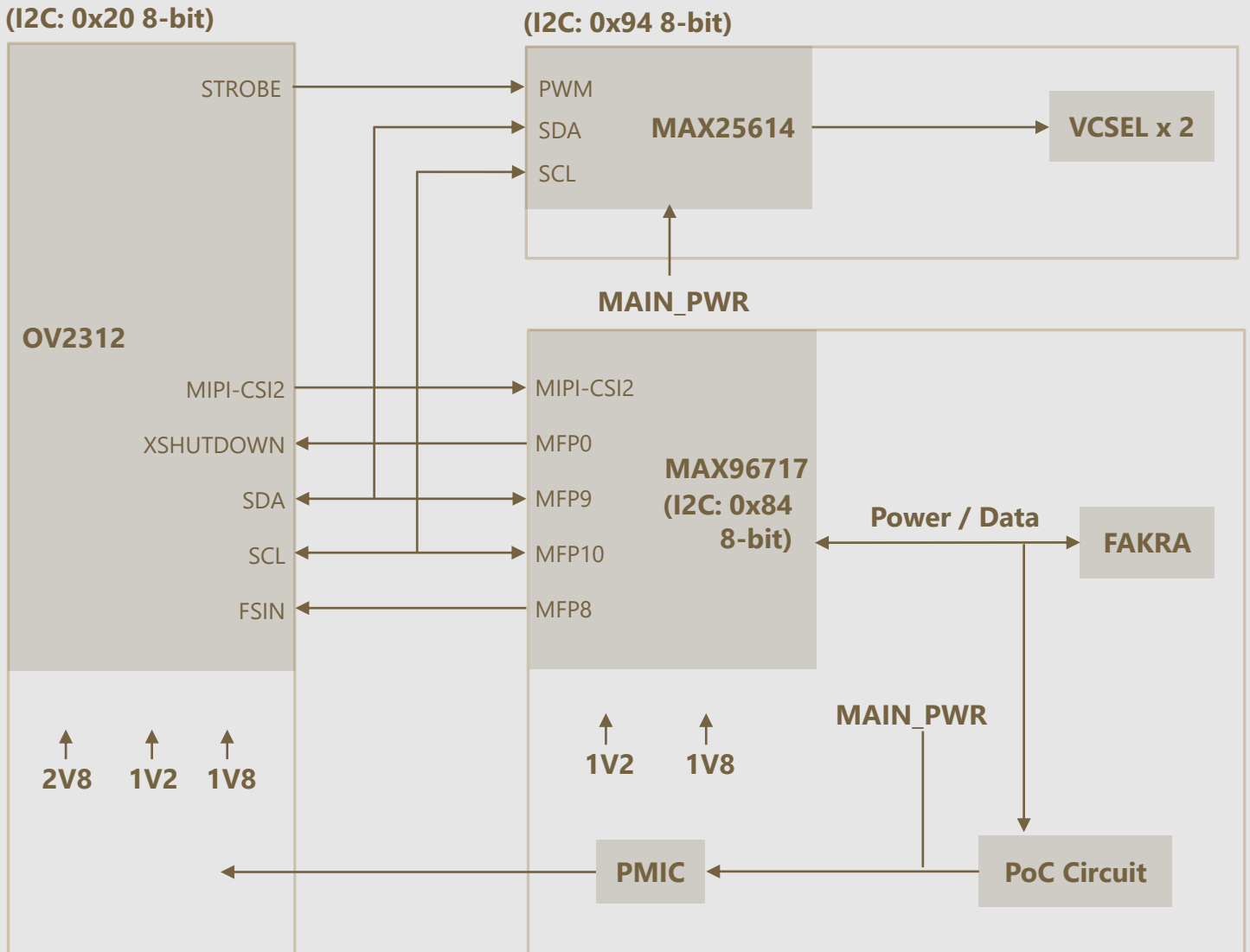
# DIMENSIONS



# EYE SATETY

- Comply with IEC 60825 - 1:2014 standard

## PINOUT CONNECTIONS



## DEFAULT IMAGING DIRECTION

- The logo "Leopard Imaging" is on the TOP.

The image shows the camera module from a top-down perspective. An arrow points to the top surface where the "Leopard Imaging" logo is located, indicating the default imaging direction. Below the camera, there is an icon of two people, one in a suit and one in a uniform, representing the intended users of the device.

# USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-OV2312-VCSEL-OMS-GMSL2-177H can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-OV2312-VCSEL-OMS-GMSL2-177H**

## SPECIFICATIONS

- USB 3.0 Super Speed support
- UVC compliant
- Global shutter
- Allows customization
- 12 VDC power supply for camera
- Weight: ~ 475 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 1600 x 1300 @ 30 fps
- Compatible with Windows, Linux OS and other OS which have UVC drivers



## BOM

#	Items	QTY
1	LI-OV2312-VCSEL-OMS-GMSL2-177H	1
2	LI-GMSL2-USB	1
3	3-Meter Fakra Cable	1
4	12 VDC Power Supply for Camera	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.	18 Jan 2023
1.1	Updated power consumption.	01 Mar 2023
1.2	1. Updated power consumption. 2. Deleted power and system block diagram and added pinout connections. 3. Added "Eye-Safety" section.	29 Aug 2023

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