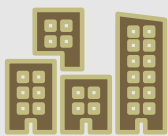




LI-GMSL2-TOF



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INTRODUCTION

The LI-GMSL2-TOF is equipped with Panasonic TOF (Time of Flight) VGA-pixel image sensor MN34906B1S and Maxim GMSL2 serializer MAX9295A/B. This TOF camera simultaneously outputs both 3D and 2D image data.

Key Features

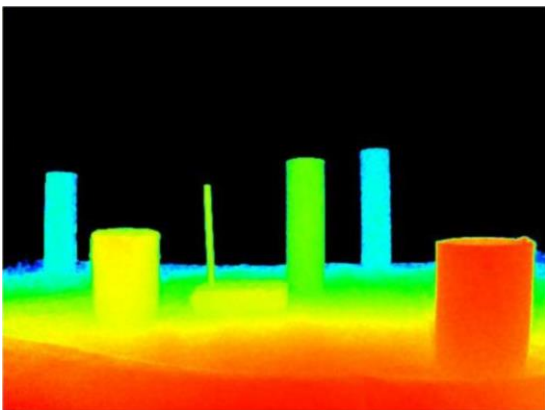
- High accuracy < 1%
- Wide range: 20 ~ 120 cm
- Light tolerance: 100k lx
- High speed shutter
- Simultaneously outputs both 3D & 2D
- GMSL2 serializer
- Analog front end ADDI9033, 2-lane MIPI output
- Includes 940 nm Multimode VCSEL
- Connector: FAKRA Z TYPE
- Size: 80 (L) x 35 (W) x 27 (H) mm
- Weight: TBD
- Part#: LI-TOF-GMSL2

Applications

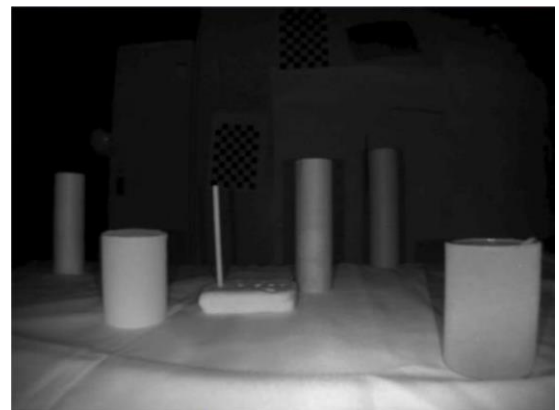
- Gesture Recognition
- Facial Recognition

LENS SPECIFICATIONS

Focal Length	2.16 mm
Aperture, F/#	1.2
Field of View (FOV)	87.2° horizontal
	67.7° vertical
	104° diagonal
TV Distortion	-6.1%
Relative Illumination	> 77%
DOF	0.2 m ~ infinity



Depth Image



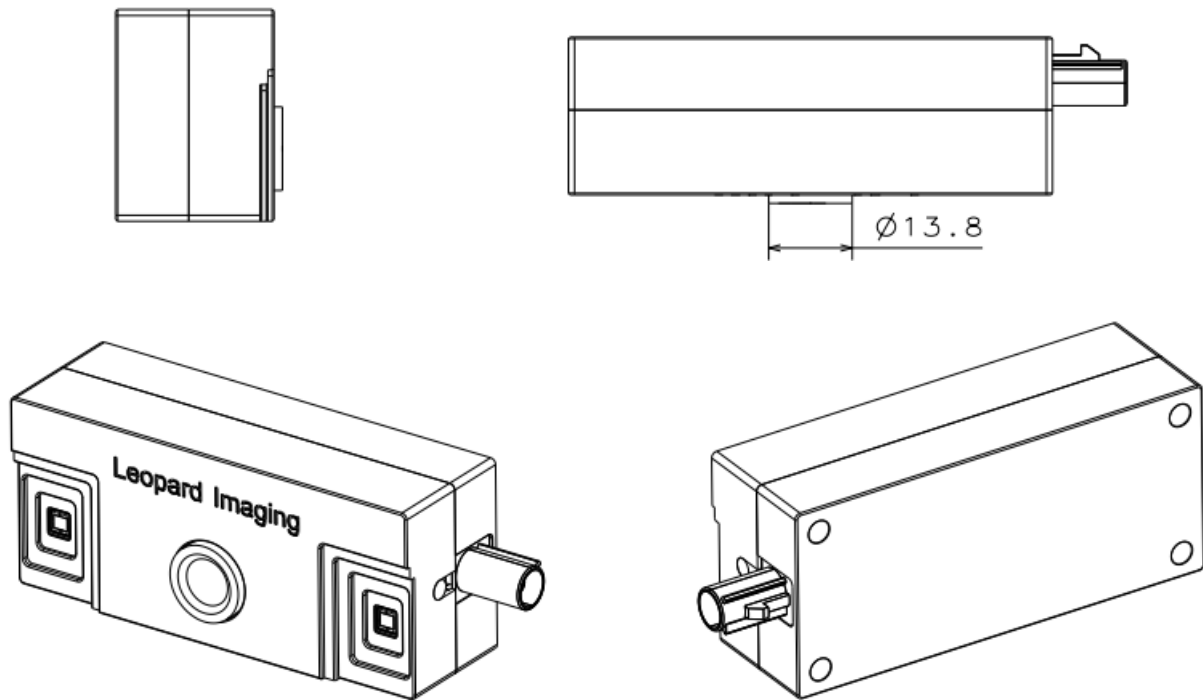
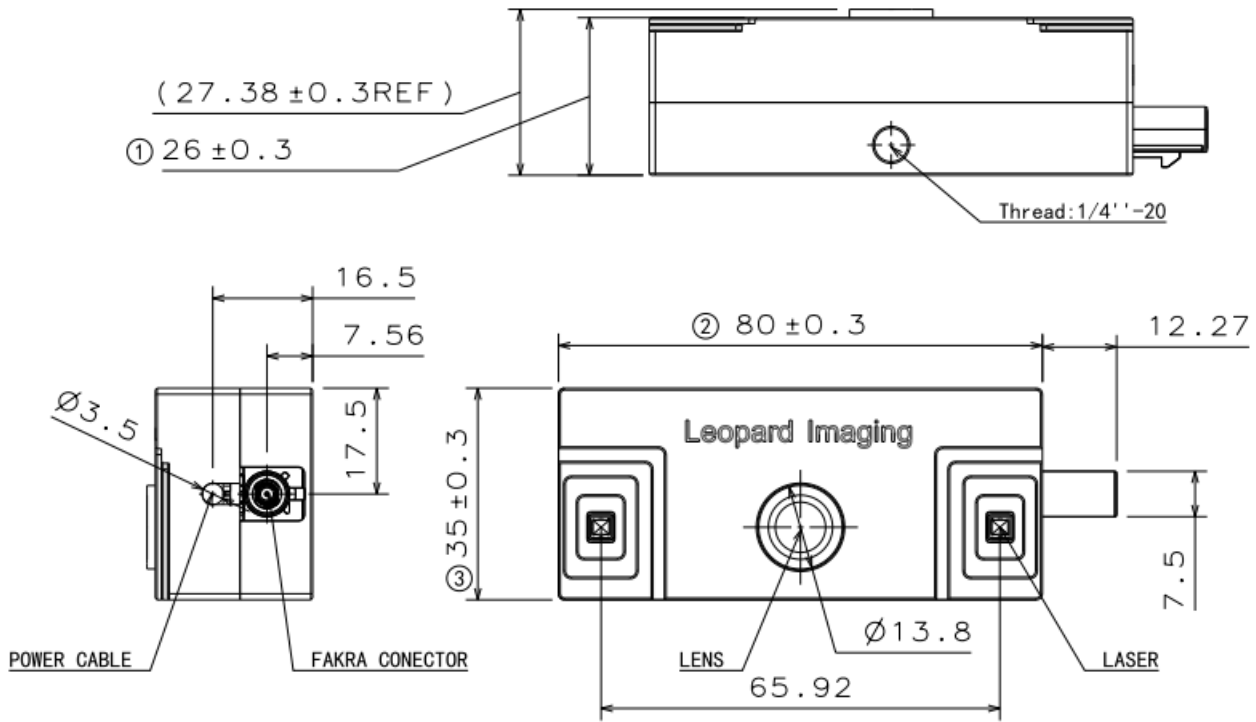
IR Image

KEY SPECIFICATIONS



Camera	Output Format	Depth Image	640 (H) x 480 (V), 12-bit
		IR (Luminance) Image	640 (H) x 480 (V), 12-bit
	Measurable Range		20 ~ 120 cm
	Accuracy		< 1%
	Sunlight Tolerance		100k lx
	Frame Rate		30 fps
	Power Supply Voltage		12 VDC
	Interface		GMSL2
	Number of Light Source		2 VCSELs (940 nm)
	Size		80 (L) x 35 (W) x 27 (H) mm
Key Parts	Sensor	Maker	Panasonic
		Part Number	MN34096B1S
		Optical Size	1/4"
		Number of Pixels	VGA
	Light Source	Maker	Finisar
		Part Number	I940-A2332-NBC-D1-90B70R
		Wave Length	940 nm
		Optical Power	4.5 W
		FOI	90 deg (H) x 70 deg (V)
	Lens	Maker	JCD
		F Number	1.2
		FOV	87.2 deg (H) x 67.7 deg (V)
Image Circle		Φ4.837 mm	

DIMENSIONS



NOTE:

- \otimes marked are important sizes.
- Tolerance for others unmarked is ± 0.3 mm.

Unit: mm

940 NM VCSEL

940 nm High Power VCSEL Die in Ceramic Package with Diffuser

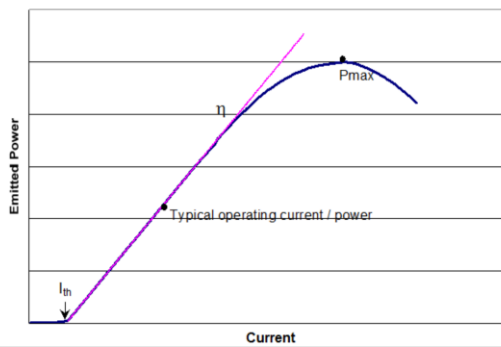
Part#	HVS7000-004
Features	<ul style="list-style-type: none"> ■ 940 nm Multimode VCSEL ■ Oxide Isolation Technology ■ High Efficiency ■ 10 μm aperture, 30 micron pitch, 537 emitters in a 3.5 x 3.5 x 1.6 mm package with a 110 x 85 Deg Diffuser

Typical Performance Curves

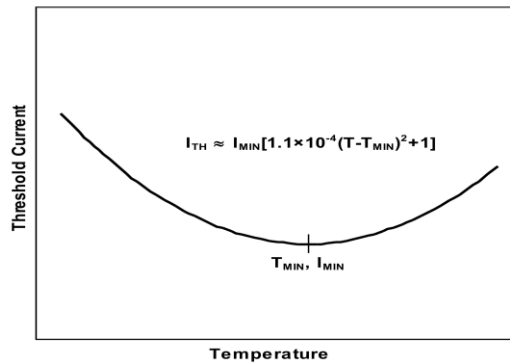
NOTE:

Do not place this demo module within 0.2 meter from human eye to avoid the hazard by VCSEL.

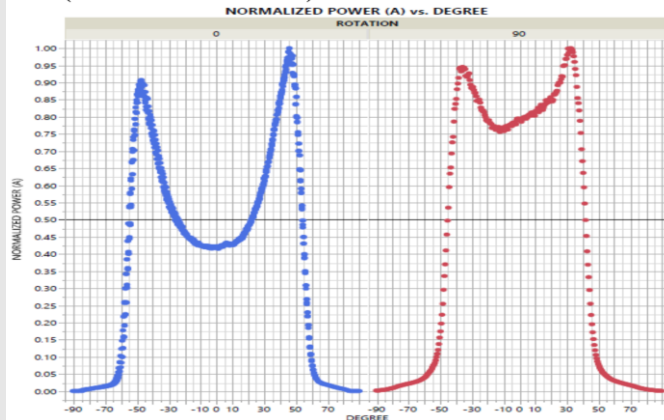
Emitted Power vs. Current: Power varies approximately linearly with current above threshold.



Threshold Current vs. Temperature: Threshold current varies parabolically with temperature; thus it can be nearly constant for a limited temperature range.



FOV (Taken with Goniometer)



USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-GMSL2-TOF can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-GMSL2-TOF**

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: TBD
- Power consumption: TBD
- Compatible with Windows, Linux, and other operating systems that have UVC drivers



BOM

#	Items	QTY
1	LI-GMSL2-TOF	1
2	LI-GMSL2-USB	1
3	3-Meter Fakra Cable	1
4	12 VDC Power Supply for DESER	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.	08 Jul 2018
1.1	Added more spec information.	13 Sep 2018
1.2	Removed the GMSL2 interface info.	07 Oct 2018
1.3	Changed to new format and added USB30 page.	13 May 2022

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