

LI-ST-VB56G4A-MONO-DMS-ADJ



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INTRODUCTION

The LI-ST-VB56G4A-MONO-DMS-ADJ is equipped with STMicroelectronics 1.5MP global shutter image sensor VB56G4A which leverages outstanding 3D stacking and BSI (backside illumination) processes to optimize performance for near infrared scenes. This camera outputs 10-bit RAW data.

SPECIFICATIONS

Sensor	STMicroelectronics 1.5MP Global Shutter Image Sensor VB56G4A
Optical Format	1/4"
Resolution	1124 (H) x 1364 (V)
Pixel Size	2.61 x 2.61 μm (BSI)
Output Format	10-bit RAW data
Color / Mono	Monochrome
Shutter	Global shutter
Maximum Frame Rate	90 fps @ full resolution
Dynamic Range (Linear Mode)	60 dB
Serializer	DS90UB953-Q1 (TI953 FPD-Link III)
Power Supply Range	9 ~ 19 VDC
VCSEL	Not included
FAKRA Connector	FAKRA Z TYPE
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 27 g
Part#	LI-ST-VB56G4A-MONO-DMS-ADJ

APPLICATIONS

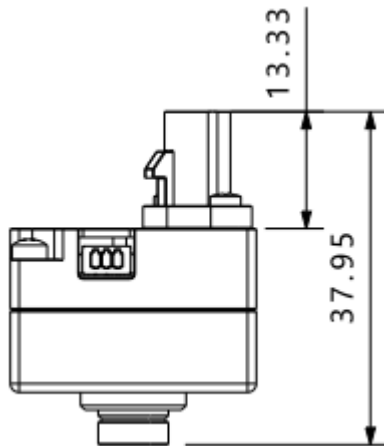
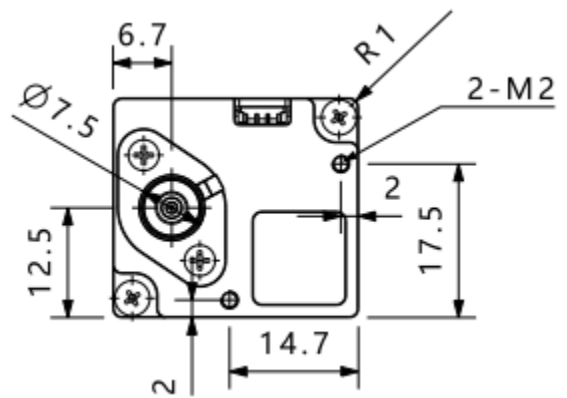
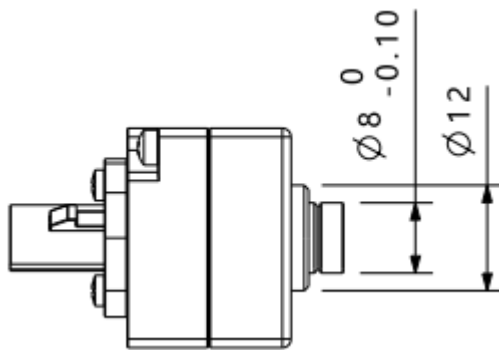
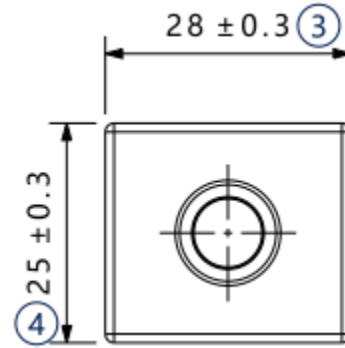
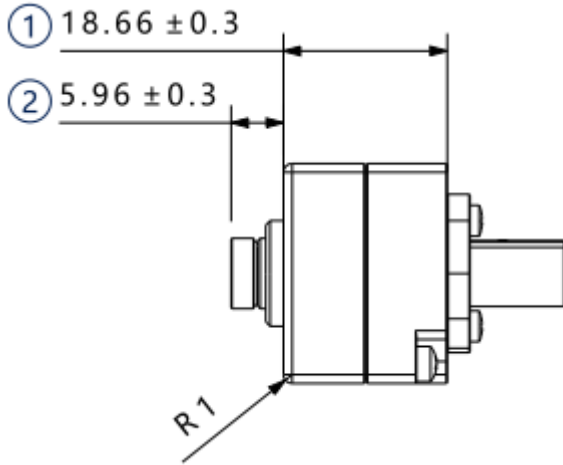
- Face Recognition
- Driver Monitoring
- Autonomous Driving
- NIR Application

LENS SPECIFICATIONS

Effective Focal Length	4.579 mm \pm 5%
Focusing Range	50 ~ 100 cm
Aperture, F/#	2.0 \pm 5%
Field of View (FOV)	54.88° \pm 3° diagonal
	43.32° \pm 2° horizontal
	36.06° \pm 2° vertical
Optical Distortion	-2.86% \pm 5% F-Tan (θ)
Relative Illumination	\geq 50.0%
IR Filter	940 nm IR filter
Lens Mount	M8 x P0.35



DIMENSIONS

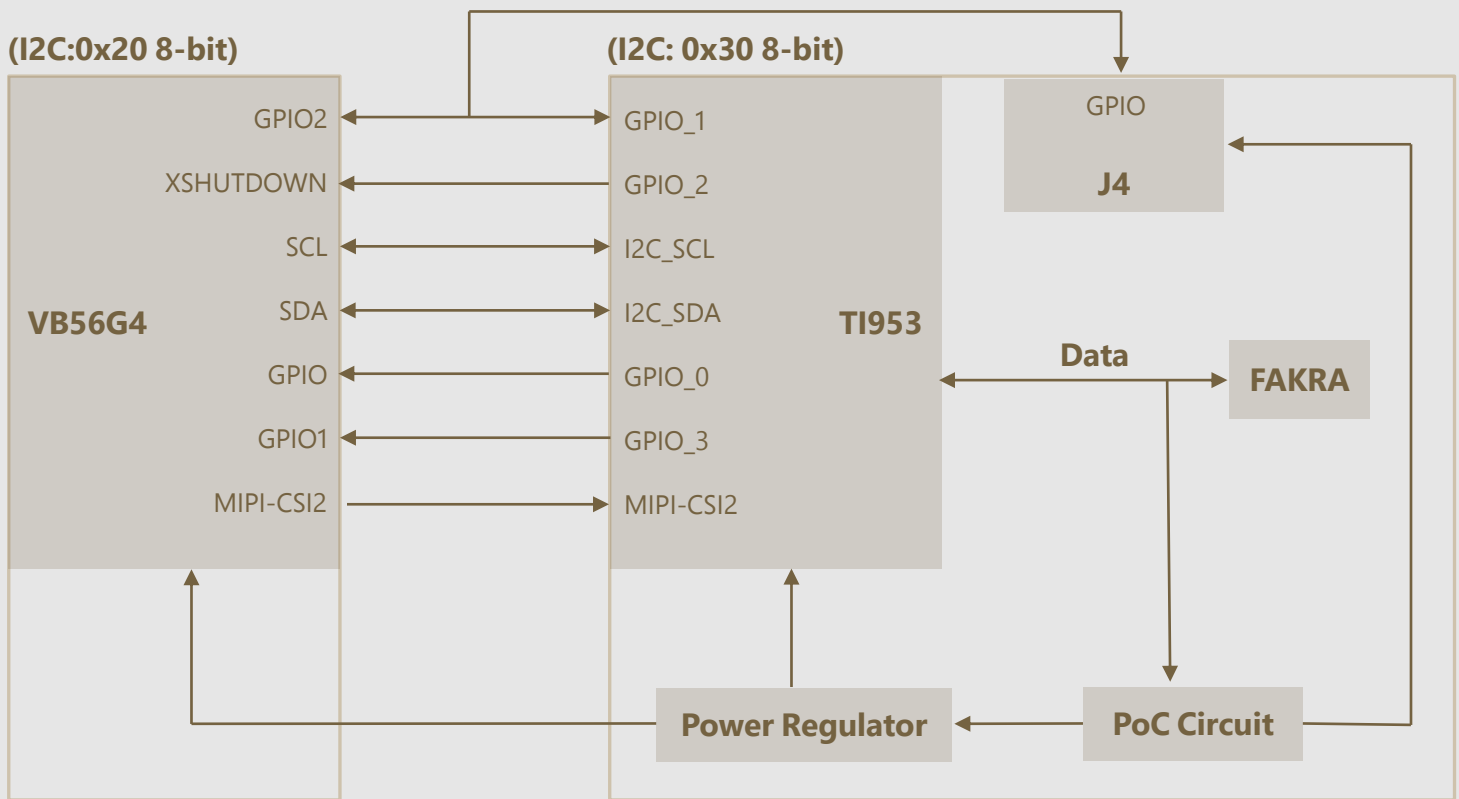


NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked are ± 0.3 mm.

Unit: mm

SYSTEM BLOCK DIAGRAM



INTERFACE J4

- Part#: 0532610371
- Number of Positions: 3
- Number of Rows: 1
- Pitch: 1.25 mm



PINOUT DETAILS OF J4

PIN#	Signal Name	Pin Type	Description	Voltage Level
1	VCC_POC	POWER	Power supply	9 ~ 19V
2	GPIO	I/O	General purpose(Controlled by TI953)	1.8V
3	GND	GND	Ground	—

USB3.0 CAMERA KIT

LI-FPDLINKIII-USB



Top View



Bottom View

LI-ST-VB56G4A-MONO-DMS-ADJ can connect to LI-FPDLINKIII-USB as a USB 3.0 camera.

Part#: **LI-USB30-ST-VB56G4A-MONO-DMS-ADJ**

SPECIFICATIONS

- USB 3.0 Super Speed support
- RAW output
- Global shutter
- UVC compliant
- Allows customization
- 12 VDC power supply for camera
- Weight: ~ 174 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 1120 x 1360 @ 30 fps
- Compatible with Windows, Linux OS and other OS which have UVC drivers

BOM

#	Items	QTY
1	LI-ST-VB56G4A-MONO-DMS-ADJ	1
2	LI-FPDLINKIII-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.	08 Dec 2021
0.2	Updated operating temp, applications and lens model.	12 Apr 2022
0.3	Added focusing range in "LENS SPECIFICATIONS" part and removed "Rev C" from "SPECIFICATIONS" part.	10 Nov 2022
0.4	1. Updated SYSYTEM BLOCK DIAGRAM. 2. Added "INTERFACE J4" and "PINOUT DETAILS OF J4".	15 Mar 2024

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