



LEOPARD
IMAGING

LI-ST-VB56G4A-DMS-FPD



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INTRODUCTION

The LI-ST-VB56G4A-DMS-FPD 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 |
| ISP | Not included |
| VCSEL | Included |
| FAKRA Connector | FAKRA Z TYPE |
| Power Consumption | Approx. 122 mA @ 12 VDC (1120 x 1360 @ 20.1 fps) |
| Operating Temp | -40°C ~ +70°C |
| Storage Temp | -40°C ~ +80°C |
| Weight | ~ 81 g |
| Part# | LI-ST-VB56G4A-DMS-FPD |

APPLICATIONS

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

LENS SPECIFICATIONS

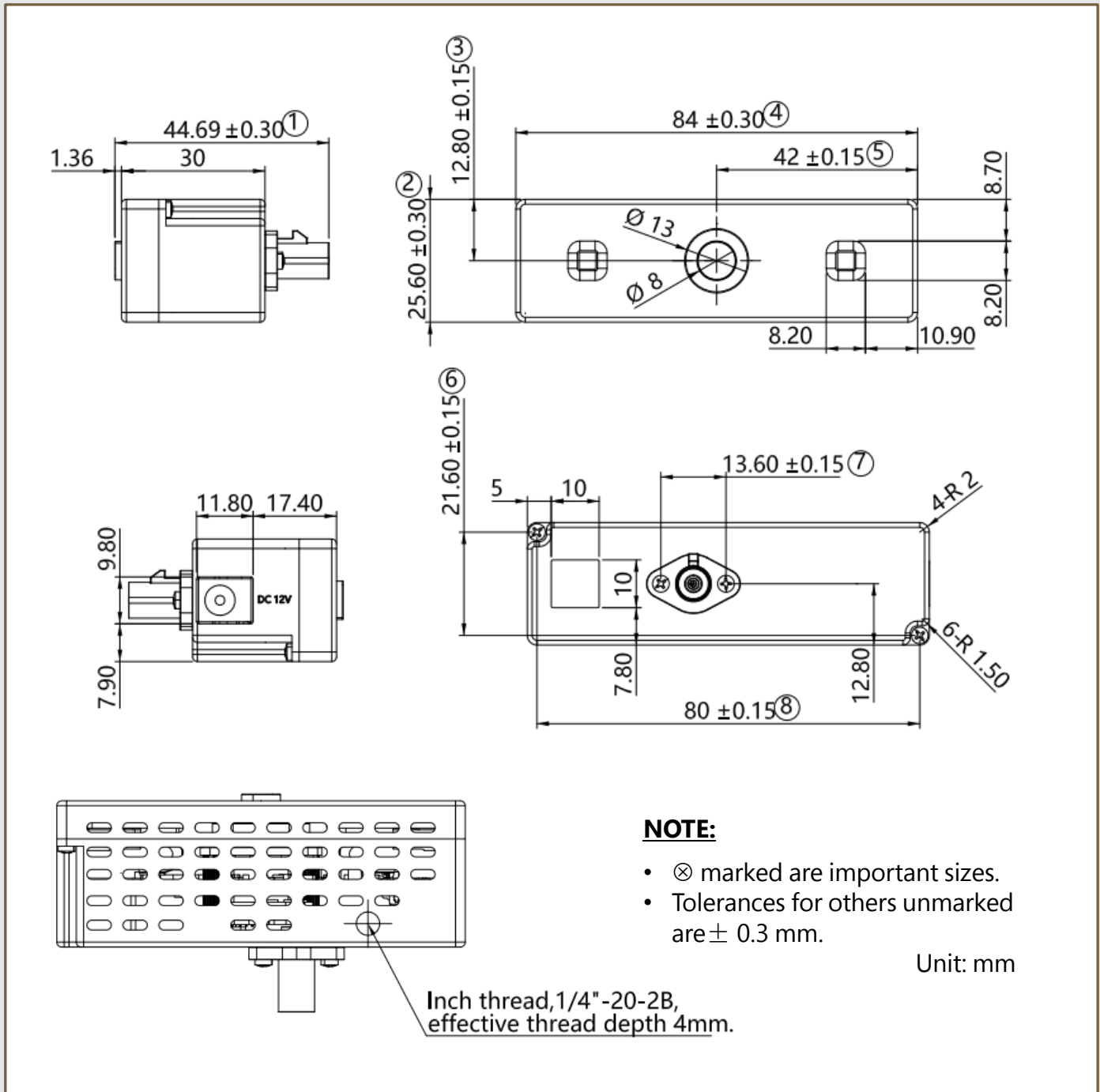
| | |
|------------------------|------------------------------------|
| Model | HJ6103K |
| Effective Focal Length | 4.579 mm \pm 5% |
| Aperture, F/# | 2.0 \pm 5% |
| Field of View (FOV) | 54.88° \pm 3° diagonal |
| | 43.32° \pm 2° horizontal |
| | 36.06° \pm 2° vertical |
| Optical Distortion | -2.86% \pm 5% F-Tan (θ) |
| Relative Illumination | \geq 50.0% |
| IR Filter | 940 nm IR filter |
| Lens Mount | M8 x P0.35 |

VCSEL SPECIFICATIONS

| | |
|---------------|----------------|
| Wavelength | 940 nm |
| FOI of VCSEL | 60° horizontal |
| | 45° vertical |
| QTY on Camera | 2 |



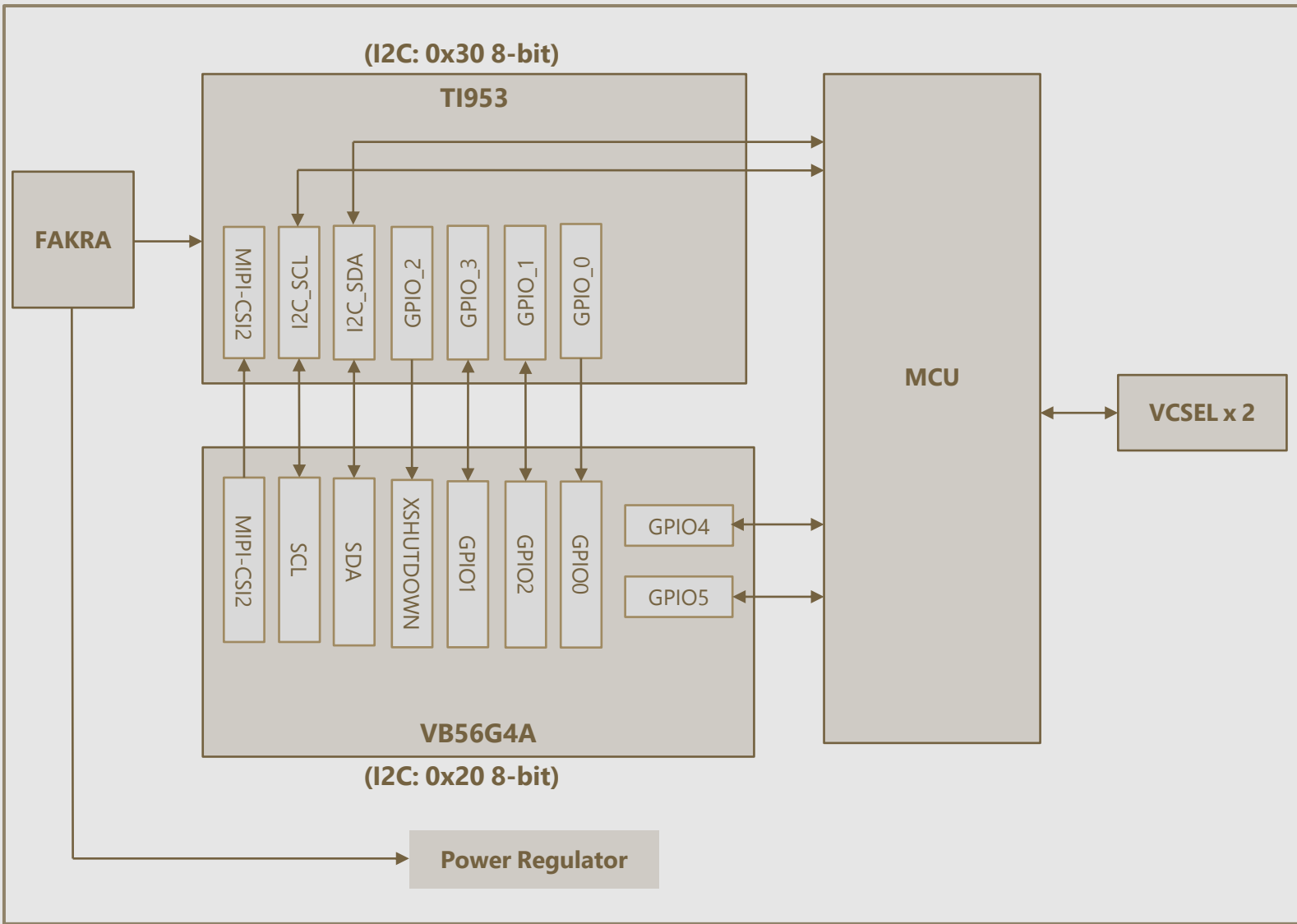
DIMENSIONS



EYE-SAFETY NOTICE

- When in use, do not stare at the device or view directly without eye protection.

PINOUT CONNECTIONS



USB3.0 CAMERA KIT

LI-FPDLINKIII-USB



Top View



Bottom View

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

Part#: **LI-USB30-ST-VB56G4A-DMS-FPD**

SPECIFICATIONS

- USB 3.0 Super Speed support
- RAW output
- Global shutter
- UVC compliant
- Allows customization
- 12 VDC power supply for camera
- Weight: ~ 148 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-DMS-FPD | 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 |
|----------|--|--------------|
| 1.0 | First release | 14 Jun 2023 |
| 1.1 | 1. Updated power consumption and operate temp. 2. Replaced block diagram with pinout connections. | 14 Nov 2023 |

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