



**LEOPARD**  
IMAGING

# LI-OV9281-MIPI-RS-85H



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## INTRODUCTION

The LI-OV9281-MIPI-RS-85H is equipped with OmniVision 1MP CMOS digital image mono sensor OV09281 which could programmable controls for frame rate, mirror and flip, cropping and windowing. This camera outputs RAW data.

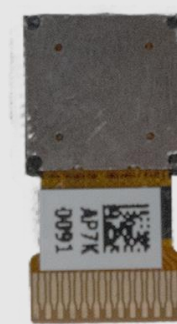
## SPECIFICATIONS

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| Sensor             | OmniVision 1MP CMOS digital image mono sensor OV09281 |
| Optical Format     | 1/4"                                                  |
| Pixel Size         | 3.0 $\mu\text{m}$ x 3.0 $\mu\text{m}$                 |
| Color / Mono       | Mono sensor                                           |
| Shutter Type       | Global shutter                                        |
| Output Format      | 8-bit / 10-bit RAW data                               |
| Resolution         | 1296 (H) x 816 (V) (active pixels)                    |
| Maximum Frame Rate | 120 fps @ 1280 x 800                                  |
| Glued              | Yes                                                   |
| Focusing Range     | 22cm~Infinity                                         |
| Interface          | 2-lane MIPI CSI-2                                     |
| Power Consumption  | TBD                                                   |
| Operating Temp     | TBD                                                   |
| Storage Temp       | TBD                                                   |
| Weight             | ~ 0.3 g                                               |

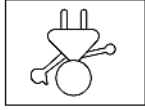
- Industrial bar code scanning

## LENS SPECIFICATIONS

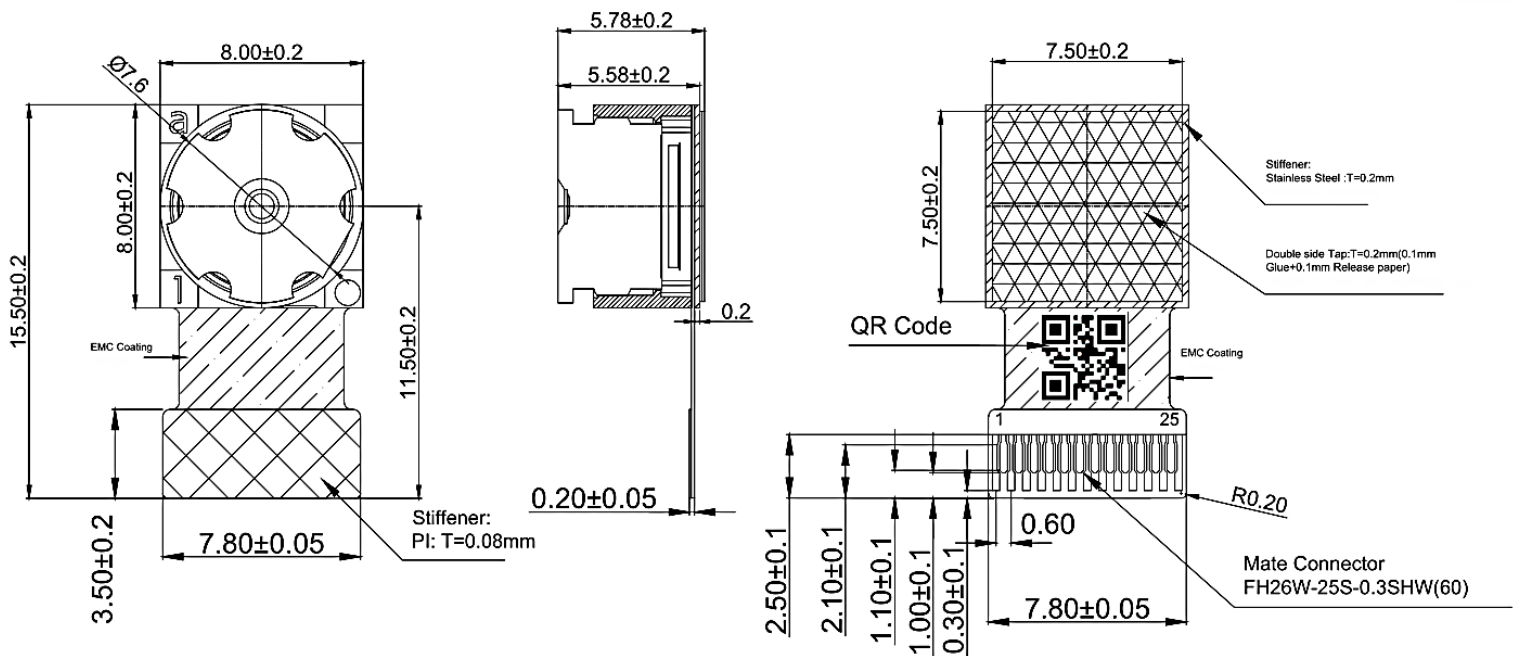
|               |                  |
|---------------|------------------|
| Focal Length  | 2.3 mm           |
| Aperture, F/# | 2.2              |
| FOV           | 100° diagonal    |
|               | 86.6° horizontal |
|               | 50.8° vertical   |
| TV Distortion | <-20%            |



## DIMENSIONS



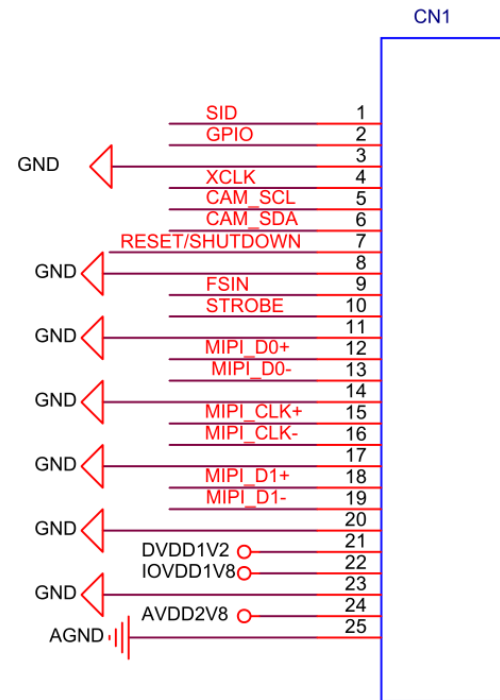
Capture Direction



Unit: mm

## GOLDEN FINGER INTERFACE

- Mating connector P/N: FH26W-25S-0.3SHW(60)
- Number of Positions: 25
- Pitch: 0.3 mm



## Golden Finger Pinout Details

| Pin No | Signal Name    | Pin Type | Description                                               | Voltage Level |
|--------|----------------|----------|-----------------------------------------------------------|---------------|
| 1      | SID            | INPUT    | SCCB ID SELECT INPUT                                      | 1.8V          |
| 2      | GPIO           | I/O      | General purpose I/O                                       | 1.8V          |
| 3      | GND            | -        | -                                                         | -             |
| 4      | XCLK           | INPUT    | System input clock                                        | 1.8V          |
| 5      | CAM_SCL        | INPUT    | 1.8V IO Camera I2C SCL signal                             | 1.8V          |
| 6      | CAM_SDA        | I/O      | 1.8V IO Camera I2C SDA signal                             | 1.8V          |
| 7      | RESET/SHUTDOWN | INPUT    | Reset and power down (active low with pull down resistor) | 1.8V          |
| 8      | GND            | POWER    | Ground signal for digital                                 | -             |
| 9      | FSIN           | I/O      | Frame sync input                                          | 1.8V          |
| 10     | STROBE         | I/O      | Frame exposure output indicator                           | 1.8V          |
| 11     | GND            | POWER    | Ground signal for digital                                 | -             |
| 12     | MIPI_D0+       | OUTPUT   | MIPI Clock Data0 Differential Pair +                      | MIPI DPHY     |
| 13     | MIPI_D0-       | OUTPUT   | MIPI Clock Data0 Differential Pair -                      | MIPI DPHY     |

|    |           |        |                                      |           |
|----|-----------|--------|--------------------------------------|-----------|
| 14 | GND       | -      | -                                    |           |
| 15 | MIPI_CLK+ | OUTPUT | MIPI Clock Lane Differential Pair +  | MIPI DPHY |
| 16 | MIPI_CLK- | OUTPUT | MIPI Clock Lane Differential Pair -  | MIPI DPHY |
| 17 | GND       | -      | -                                    | -         |
| 18 | MIPI_D1+  | OUTPUT | MIPI Clock Data1 Differential Pair + | MIPI DPHY |
| 19 | MIPI_D1-  | OUTPUT | MIPI Clock Data1 Differential Pair - | MIPI DPHY |
| 20 | GND       | -      | -                                    | -         |
| 21 | DVDD1V2   | POWER  | 1.2V power supply                    | 1.2V      |
| 22 | IOVDD1V8  | POWER  | 1.8V power supply                    | 1.8V      |
| 23 | GND       | -      | -                                    | -         |
| 24 | AVDD2V8   | POWER  | 2.8V power supply                    | 2.8V      |
| 25 | AGND      | -      | -                                    | -         |

## • REVISION HISTORY

| Revision | Description    | Release Date |
|----------|----------------|--------------|
| 0.1      | Initial draft. | 15 Oct 2025  |

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