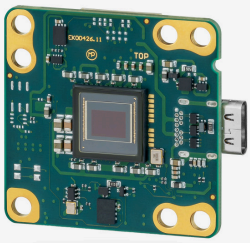
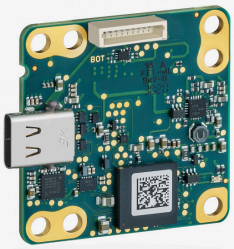
# U3-3682XLE-NIR Rev.1.2 (1008786)

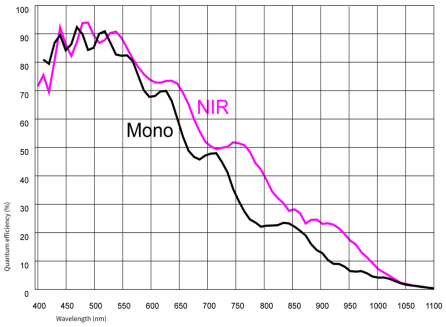
In series
The model is in series and available for the long term.


## Specification

### Sensor

| | |
|---|---|
| Sensor type | CMOS Mono |
| Shutter | Rolling shutter |
| Sensor characteristic | Linear |
| Pixel Class | 5 MP |
| Resolution | 5.04 Mpix |
| Resolution (h x v) | 2592 x 1944 Pixel |
| Aspect ratio | 4:3 |
| ADC | 12 bit |
| Color depth (camera) | 12 bit |
| Optical sensor class | 1/2.5" |
| Optical Size | 5.702 mm x 4.277 mm |
| Optical sensor diagonal | 7.13 mm 1/2.5" |
| Pixel size | 2.2 µm |
| CRA (Chief Ray Angle) | 9 ° |
| Manufacturer | Onsemi |
| Sensor Model | AR0522SRSM09SURA0 |
| Gain (master/RGB) | 15x/- |
| AOI horizontal | same frame rate |
| AOI vertical | increased frame rate |
| AOI image width / step width | 48 / 12 |
| AOI image height / step width | 4 / 2 |
| AOI position grid (horizontal/vertical) | 8 / 2 |
| Binning horizontal | same frame rate |
| Binning vertical | increased frame rate |
| Binning method | Horizontal: - / Vertical: - |
| Binning factor | 2x2 |
| Decimation (subsampling) horizontal | same frame rate |
| Decimation (subsampling) vertical | increased frame rate |
| Decimation (subsampling) method | Color |





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## Model

| | |
|---|---|
| Frame rate freerun mode | 48 fps |
| Frame rate trigger (continuous) | 44 fps |
| Frame rate trigger (maximum) | 44 fps |
| Exposure time (minimum - maximum) | 0.01 ms - 635 ms |
| Power consumption | 0.6 W - 1.2 W |
| Image memory | - |

## Ambient conditions

For PCB versions, refer to the separate hints in the respective documentation.

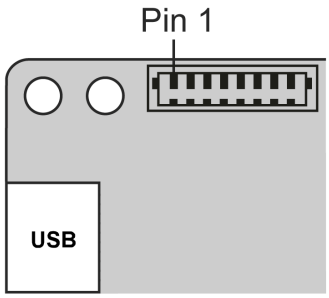
| | |
|---|---|
| Allowed device temperature during operation | 0 °C - 85 °C / 32 °F - 185 °F |
| Allowed device temperature during storage | -20 °C - 80 °C / -4 °F - 176 °F |
| Humidity (relative, non-condensing) | 20 % - 80 % |

## Connectors

| | |
|---|---|
| Interface connector | USB Type-C |
| I/O connector | 8-pin Wuerth connector |
| Power supply | USB cable |

## Pin assignment I/O connector

| | |
|---|---|
| 1 | Voltage output 3.3 V |
| 2 | Ground (GND) |
| 3 | Flash output without optocoupler - Line 1 |
| 4 | Trigger input without optocoupler - Line 0 |
| 5 | General Purpose I/O (GPIO) 1 - Line 2 |
| 6 | General Purpose I/O (GPIO) 2 - Line 3 |
| 7 | Ground (GND) |
| 8 | USB Power: 5 V, max. 400 mA |




## Design

| | |
|---|---|
| Lens Mount | No mount |
| IP code | - |
| Dimensions H/W/L | 36.0 mm x 36.0 mm x 8.0 mm |
| Mass | 7 g |
| Housing material | - |

## Features

List of on-camera image pre-processing features.
All features of the table are available via our IDS peak software for image pre-processing on the host computer (sensor model dependent).

| | | |
|---|---|---|
| Image Acquisition | Freerun | ✓ |
| | Software trigger | ✓ |
| | Hardware trigger | ✓ |
| | Trigger controlled exposure | - |
| | Denoiser | - |
| | Long exposure | - |
| | Line scan | - |
| | Global start | - |
| Flashing | Flashing | ✓ |
| | PWM flashing | - |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| | | |
|---|---|---|
| Image Adjustments | Auto exposure | - |
| | Auto gain | - |
| | Auto whitebalance | - |
| | Color correction | - |
| | Gamma | - |
| | LUT | - |
| | Mirror/flip | X/Y |

| | | |
|---|---|---|
| On-board Image Processing | Pixel formats | Mono8<br>Mono10g40IDS<br>Mono12g24IDS |
| | Region of interest | ✓ |
| | Decimation (FPGA) | - |
| | Decimation (Sensor) | 2x(2,4) |
| | Binning (FPGA) | - |
| | Binning (Sensor) | 2x2<br>Increases frame rate. |

| | | |
|---|---|---|
| Others | Chunks | - |
| | Sequencer | - |
| | Events | - |
| | Firmware update | ✓ |
| | 1st supported firmware version | 3.1 |



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