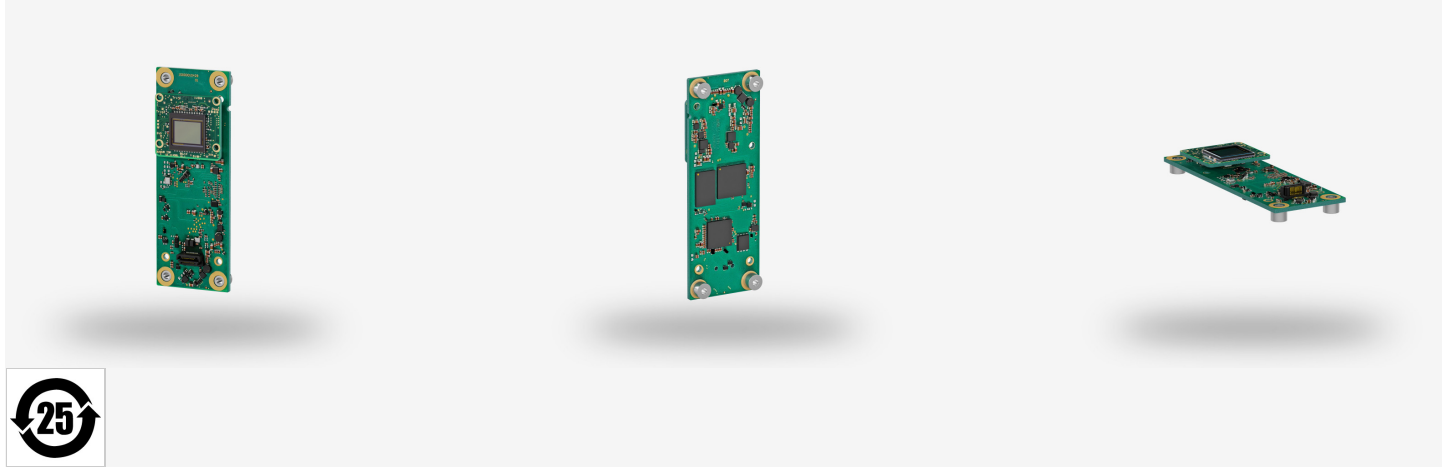


In series

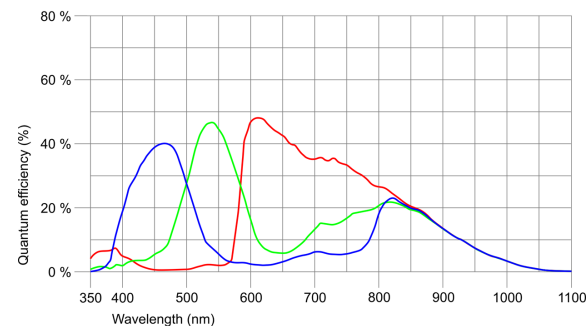
The model is in series and available for the long term.



Specification

Sensor

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Sensor type                             | CMOS Color                                |
| Shutter                                 | Global Shutter                            |
| Sensor characteristic                   | Linear                                    |
| Pixel Class                             | 0.5 MP                                    |
| Resolution                              | 0.53 Mpix                                 |
| Resolution (h x v)                      | 832 x 632 Pixel                           |
| Aspect ratio                            | 4:3                                       |
| ADC                                     | 10 bit                                    |
| Color depth (camera)                    | 10 bit                                    |
| Optical sensor class                    | 1/3.6"                                    |
| Optical Size                            | 3.840 mm x 2.880 mm                       |
| Optical sensor diagonal                 | 4.8 mm 1/3.6"                             |
| Pixel size                              | 4.8 μm                                    |
| CRA (Chief Ray Angle)                   | 1.7 °                                     |
| Manufacturer                            | Onsemi                                    |
| Sensor Model                            | NOIP1SE0500A-QDI                          |
| Gain (master/RGB)                       | 16x/16x                                   |
| AOI horizontal                          | same frame rate                           |
| AOI vertical                            | increased frame rate                      |
| AOI image width / step width            | 256 / 2                                   |
| AOI image height / step width           | 2 / 2                                     |
| AOI position grid (horizontal/vertical) | 2 / 2                                     |
| Binning horizontal                      | -                                         |
| Binning vertical                        | -                                         |
| Binning method                          | Horizontal: addition / Vertical: addition |
| Binning factor                          | -                                         |
| Decimation (subsampling) horizontal     | -                                         |
| Decimation (subsampling) vertical       | -                                         |
| Decimation (subsampling) method         | M/C automatic                             |



## Model

|                                    |                    |
|------------------------------------|--------------------|
| Frame rate freerun mode            | 408 fps            |
| Frame rate trigger (continuous)    | 408 fps            |
| Frame rate trigger (maximum)       | 408 fps            |
| Exposure time (minimum - maximum)  | 0.045 ms - 2000 ms |
| Line rate freerun mode (line scan) | 8035 1/s           |
| Line rate trigger mode (line scan) | 8035 1/s           |
| Lines per frame (line scan)        | 8000               |
| Power consumption                  | 0 W - 0 W          |
| Image memory                       | 128 MB             |

## Ambient conditions

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

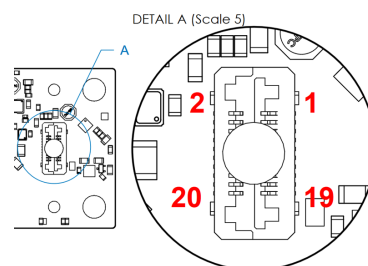
|                                             |                                 |
|---------------------------------------------|---------------------------------|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F   |
| Allowed device temperature during storage   | -20 °C - 60 °C / -4 °F - 140 °F |
| Humidity (relative, non-condensing)         | 20 % - 80 %                     |

## Connectors

|                     |                                                     |
|---------------------|-----------------------------------------------------|
| Interface connector | Samtec LSHM 20-pin                                  |
| I/O connector       | 20-pin header (Samtec LSHM-110-L02.5-L-DV-A-N-K-TR) |
| Power supply        | USB cable                                           |

## Pin assignment I/O connector

|    |                                                                         |
|----|-------------------------------------------------------------------------|
| 1  | Input power supply (VCC), 5 V DC USB                                    |
| 2  | Do not connect (for future use)                                         |
| 3  | Input power supply (VCC), 5 V DC USB                                    |
| 4  | Do not connect (for future use)                                         |
| 5  | USB 2 data (-)                                                          |
| 6  | I2C SDA (signal data) 3.3 V                                             |
| 7  | USB 2 data (+)                                                          |
| 8  | I2C SCL (signal clock) 3.3 V                                            |
| 9  | Ground (GND)                                                            |
| 10 | Trigger input without optocoupler 3.3 V                                 |
| 11 | USB 3 TX (-)                                                            |
| 12 | Flash output without optocoupler 3.3 V 8 mA                             |
| 13 | USB 3 TX (+)                                                            |
| 14 | General Purpose I/O (GPIO) 1, 3.3 V                                     |
| 15 | Ground (GND)                                                            |
| 16 | General Purpose I/O (GPIO) 2, 3.3 V                                     |
| 17 | USB 3 RX (-)                                                            |
| 18 | Do not connect (for future use)                                         |
| 19 | USB 3 RX (+)                                                            |
| 20 | Output power voltage, 5 V (900 mA – camera current depending on sensor) |



## Design

|                  |                            |
|------------------|----------------------------|
| Lens Mount       | No mount                   |
| IP code          | -                          |
| Dimensions H/W/L | 84.0 mm x 30.0 mm x 9.8 mm |
| Mass             | 20 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                      | ✓                                   |
| Flashing                  | Flashing                       | ✓                                   |
|                           | PWM flashing                   | ✓                                   |
| Image Adjustments         | Auto exposure                  | ✓                                   |
|                           | Auto gain                      | ✓                                   |
|                           | Auto whitebalance              | ✓                                   |
|                           | Color correction               | -                                   |
|                           | Gamma                          | ✓                                   |
|                           | LUT                            | ✓                                   |
|                           | Mirror/flip                    | Y                                   |
| On-board Image Processing | Pixel formats                  | BayerRG8<br>BayerRG10<br>BayerRG10p |
|                           | Region of interest             | ✓                                   |
|                           | Decimation (FPGA)              | ✓                                   |
|                           | Decimation (Sensor)            |                                     |
|                           | Binning (FPGA)                 | ✓                                   |
|                           | Binning (Sensor)               |                                     |
| Others                    | Chunks                         | -                                   |
|                           | Sequencer                      | -                                   |
|                           | Events                         | ✓                                   |
|                           | Firmware update                | ✓                                   |
|                           | 1st supported firmware version | 2.20.                               |