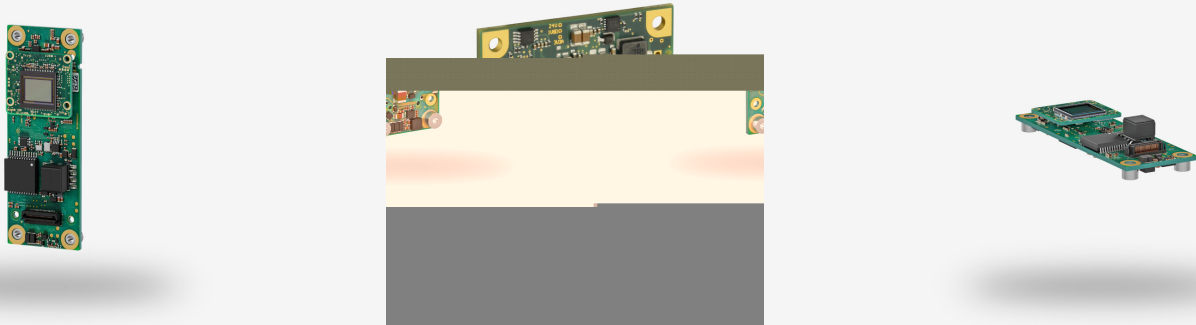


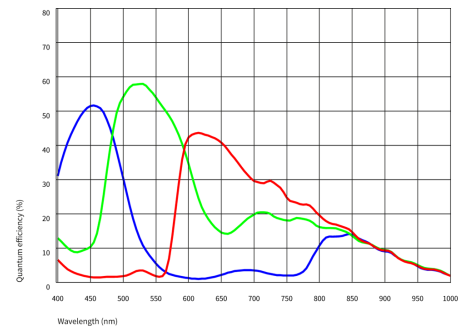
**In series**  
The model is in series and available for the long term.



Specification

Sensor

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Sensor type                             | CMOS Color                                |
| Shutter                                 | Global Shutter                            |
| Sensor characteristic                   | Linear                                    |
| Pixel Class                             | 8 MP                                      |
| Resolution                              | 8.13 Mpix                                 |
| Resolution (h x v)                      | 2856 x 2848 Pixel                         |
| Aspect ratio                            | 1:1                                       |
| ADC                                     | 12 bit                                    |
| Color depth (camera)                    | 12 bit                                    |
| Optical sensor class                    | 2/3"                                      |
| Optical Size                            | 7.825 mm x 7.804 mm                       |
| Optical sensor diagonal                 | 11.05 mm 2/3"                             |
| Pixel size                              | 2.74 μm                                   |
| CRA (Chief Ray Angle)                   | 0 °                                       |
| Manufacturer                            | Sony                                      |
| Sensor Model                            | IMX546-AAQJ-C                             |
| 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     | increased frame rate                      |
| Decimation (subsampling) vertical       | increased frame rate                      |
| Decimation (subsampling) method         | M/C automatic                             |
| Decimation (subsampling) factor         | 2x2                                       |



## Model

|                                    |                    |
|------------------------------------|--------------------|
| Frame rate freerun mode            | 15 fps             |
| Frame rate trigger (continuous)    | 15 fps             |
| Frame rate trigger (maximum)       | 16 fps             |
| Exposure time (minimum - maximum)  | 0.023 ms - 2000 ms |
| Long exposure (maximum)            | 120000 ms          |
| Line rate freerun mode (line scan) | 547 1/s            |
| Line rate trigger mode (line scan) | 551 1/s            |
| Lines per frame (line scan)        | 8000               |
| Power consumption                  | 1.6 W - 4.2 W      |
| Image memory                       | 128 MB             |

## Ambient conditions

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

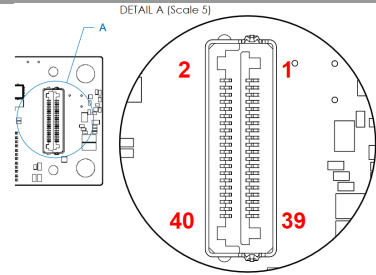
|                                             |                                 |
|---------------------------------------------|---------------------------------|
| Allowed device temperature during operation | 0 °C - 55 °C / 32 °F - 131 °F   |
| Allowed device temperature during storage   | -20 °C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

## Connectors

|                     |                                                    |
|---------------------|----------------------------------------------------|
| Interface connector | Samtec LSHM 40pol                                  |
| I/O connector       | 40-pin header (Samtec LSHM-120-L2.5-L-DV-A-S-K-TR) |
| Power supply        | 12 V - 24 V                                        |

Pin assignment I/O connector

|    |                                              |
|----|----------------------------------------------|
| 1  | Input power supply (VCC) 12-24 V DC ± 10 %   |
| 2  | Do not connect (for future use)              |
| 3  | Input power supply (VCC) 12-24 V DC ± 10 %   |
| 4  | Do not connect (for future use)              |
| 5  | Ground (GND)                                 |
| 6  | Do not connect (for future use)              |
| 7  | Flash output without optocoupler 3.15 V 8 mA |
| 8  | Do not connect (for future use)              |
| 9  | Trigger input without optocoupler 3.15 V     |
| 10 | Ground (GND)                                 |
| 11 | Do not connect (for future use)              |
| 12 | Ground (GND)                                 |
| 13 | Do not connect (for future use)              |
| 14 | Do not connect (for future use)              |
| 15 | I2C SDA (signal data) 3.15 V                 |
| 16 | Do not connect (for future use)              |
| 17 | I2C SCL (signal clock) 3.15 V                |
| 18 | Do not connect (for future use)              |
| 19 | Do not connect (for future use)              |
| 20 | RJ45 MX0 (-)                                 |
| 21 | Do not connect (for future use)              |
| 22 | RJ45 MX0 (+)                                 |
| 23 | General Purpose I/O (GPIO) 2, 3.15 V 8 mA    |
| 24 | Do not connect (for future use)              |
| 25 | General Purpose I/O (GPIO) 1, 3.15 V 8 mA    |
| 26 | RJ45 MX1 (-)                                 |
| 27 | Ethernet, LED green, output 3.15 V           |
| 28 | RJ45 MX1 (+)                                 |
| 29 | Power, LED green, output 3.15 V              |
| 30 | Do not connect (for future use)              |
| 31 | Power, LED red, output 3.15 V                |
| 32 | RJ45 MX2 (+)                                 |
| 33 | Ethernet, LED red, output 3.15 V             |
| 34 | RJ45 MX2 (-)                                 |
| 35 | Do not connect (for future use)              |
| 36 | Do not connect (for future use)              |
| 37 | Do not connect (for future use)              |
| 38 | RJ45 MX3 (+)                                 |
| 39 | Ground (GND)                                 |
| 40 | RJ45 MX3 (-)                                 |



Design

|                  |                             |
|------------------|-----------------------------|
| Lens Mount       | No mount                    |
| IP code          | -                           |
| Dimensions H/W/L | 84.0 mm x 30.0 mm x 14.3 mm |
| Mass             | 11 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).

## GV-51J2ACP-C Rev.1.2 (1009821)

|                           |                                |            |
|---------------------------|--------------------------------|------------|
| 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                    | X/Y        |
| On-board Image Processing | Pixel formats                  | Mono8      |
|                           |                                | BayerRG8   |
|                           |                                | BayerRG10  |
|                           |                                | BayerRG10p |
|                           |                                | BayerRG12  |
|                           |                                | BayerRG12p |
|                           |                                | BGR8       |
|                           |                                | RGB8       |
|                           |                                | BGR10p32   |
|                           |                                | RGB10p32   |
|                           |                                |            |
|                           |                                |            |
|                           |                                |            |
|                           |                                |            |
|                           | Region of interest             | ✓          |
|                           | Decimation (FPGA)              | ✓          |
|                           | Decimation (Sensor)            | 2x2        |
|                           | Binning (FPGA)                 | ✓          |
|                           | Binning (Sensor)               |            |
|                           |                                |            |
|                           |                                |            |
| Others                    | IP settings                    | ✓          |
|                           | Bandwidth management           | ✓          |
|                           | Chunks                         | ✓          |
|                           | Sequencer                      | ✓          |
|                           | PTP                            | ✓          |
|                           | Firmware update                | ✓          |
|                           | 1st supported firmware version | 3.31       |