



- AR0521 CMOS sensor
- GigE Vision
- High bandwidths
- 3 lens mount options

Hardware option: Closed Housing CS-Mount

### **Alvium G1 – Reliability designed for the future**

## Compact GigE camera for constant image quality

Alvium G1-500 with ON Semi AR0521SR runs 23.0 frames per second at 5.0 MP resolution.

Alvium G1 is the first GigE Vision camera powered by ALVIUM® Technology, Allied Vision's ASIC chip. It combines the advantages of the established GigE Vision standard with the flexibility of the Alvium platform. In addition to a comprehensive feature set and a broad sensor selection, it offers great versatility. With its very compact housing and industrial standard hardware, it can easily be integrated into any vision system while ensuring long-term availability and reliability.

Easy software integration with **Vimba X** and compatibility to the most popular third party image-processing libraries.

## Specifications

Product code	17757
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	2592 (H) × 1944 (V)
Spectral range	300 to 1100 nm
Sensor	ON Semi AR0521SR
Sensor type	CMOS
Shutter mode	RS (Rolling shutter)
Sensor size	Type 1/2.5
Pixel size	2.2 μm × 2.2 μm
Lens mount	CS-Mount
Optical Filter	Type Hoya C5000 IR cut filter
Max. frame rate at full resolution	23 fps at 122 MByte/s, Mono8
ADC	10 Bit
Image buffer (RAM)	32 MByte
Non-volatile memory (Flash)	1024 KByte

### Imaging performance

Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured without optical filter.

Quantum efficiency at 529 nm	79 %
Temporal dark noise	5.9 e <sup>-</sup>
Saturation capacity	9890 e <sup>-</sup>
Dynamic range	63 dB
Absolute sensitivity threshold	7.1 e <sup>-</sup>

### Output

Bit depth	10-bit
Monochrome pixel formats	Mono8, Mono10, Mono10p, Mono12, Mono12p, Mono12Packed

YUV color pixel formats	YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr
RGB color pixel formats	RGB8 (default), BGR8
Raw color pixel formats (Bayer)	BayerGR8, BayerGR10, BayerGR10p, BayerGR12, BayerGR12p, BayerGR12Packed

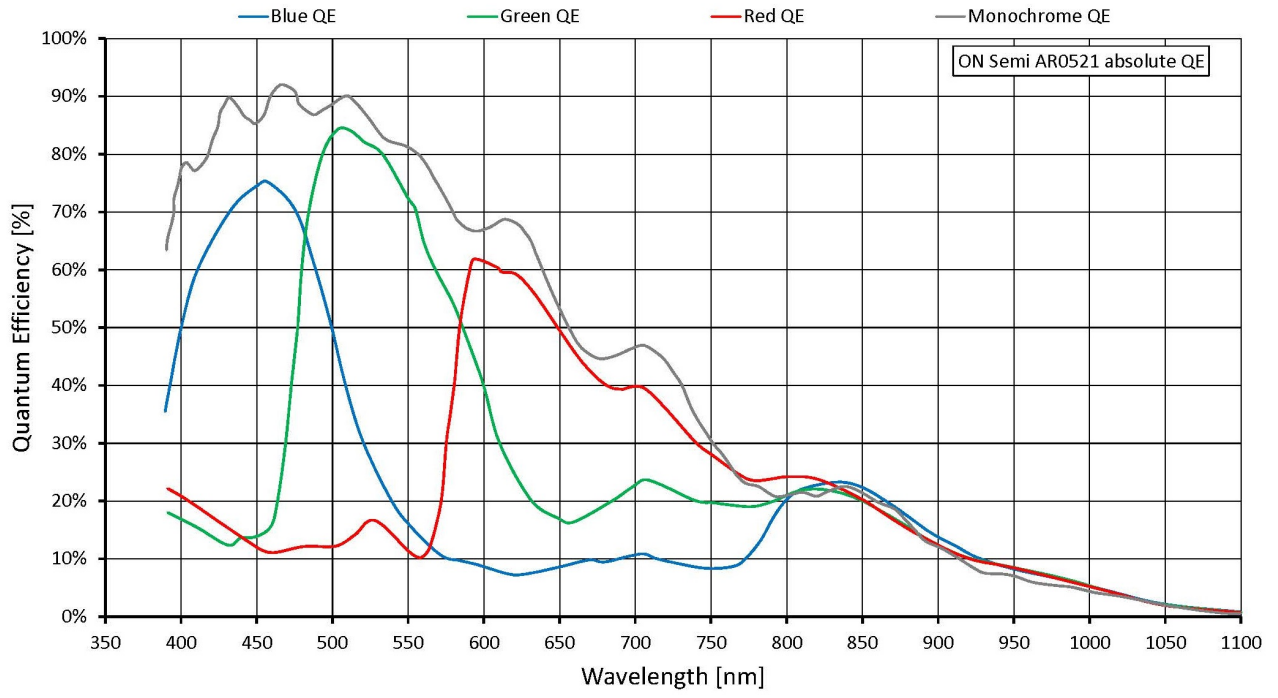
#### General purpose inputs/outputs (GPIOs)

TTL I/Os	2 GPIOs (LVTTTL)
Opto-isolated I/Os	1 input, 1 output

#### Operating conditions/dimensions

Operating temperature	-20 °C to +65 °C (housing)
Power requirements (DC)	10.8 to 26.4 VDC AUX   IEEE 802.3af, Power Class 0 PoE
Power consumption	External power: 2.9 W at 12 VDC (typical)   Power over Ethernet: 3.2 W (typical)
Mass	70 g
Body dimensions (L × W × H in mm)	36 × 29 × 29

## Quantum efficiency



## Features

### Image control: Auto

- Auto exposure
- Auto gain
- Auto white balance (color models)

### Image control: Other

- Adaptive noise correction
- Binning (digital)
- Binning (digital, sensor)
- Black level
- Color transformation (incl. hue, saturation; color models)
- Contrast
- Custom convolution
- De-Bayering up to 5×5 (color models)
- DPC (defect pixel correction)
- FPNC (fixed pattern noise correction)
- Gamma
- Lens shading correction
- LUT (look-up table)
- Reverse X/Y
- ROI (region of interest)
- Sharpness/Blur

### Camera control

- Acquisition frame rate
- Action commands, incl. ToE (trigger over Ethernet)
- Bandwidth control
- Burst mode
- Counters and timers
- Event channel
- Firmware update in the field
- I/O and trigger control
- Image chunk data
- Power Saving Mode
- PTP (IEEE 1588 Precision Time Protocol)
- Serial I/Os
- Temperature monitoring
- User sets

# Technical drawing

