



Alvium

FP3-501 NIR STP

- AR0522 CMOS sensor
- 5.0 MP resolution
- ALVIUM image processing
- FPD-Link III interface
- Mono and color models

Model without hardware options

Robust CSI-2 based Alvium cameras with FPD-Link III interface

Benefit from greater flexibility in cable lengths

Alvium FP3 STP cameras with FPD-Link III (Flat Panel Display Link) interface have been designed to overcome the limitations of standard CSI-2 cameras. The closed housing CSI-2 based cameras come with integrated serializer and a rugged HSD STP connector for cable lengths up to 10 meters. This connection can also be used to power cameras (Power over STP), enabling single cable solutions.

The standardized CSI-2 driver ensures quick integration with the flexibility to change camera models easily.

To operate Alvium FP3 cameras on your vision system, Allied Vision provides different access modes: - [Direct Register Access \(DRA\)](#) to control the cameras via registers for advanced users. - Video4Linux2 Access allows to control the cameras via established V4L2 API and applications like GStreamer and OpenCV. Open-source CSI-2 drivers are available on [GitHub](#) for different boards and systems on chip (SoCs).

In addition to lens mount and housing options, see [Customization and OEM Solutions webpage](#) for additional options.

Specifications

Interface	FPD-Link III, based on MIPI CSI-2, up to 4 lanes
Resolution	2592 (H) × 1944 (V)
Spectral range	300 to 1100 nm
Sensor	ON Semi AR0522
Sensor type	CMOS
Shutter mode	RS (Rolling shutter)
Sensor size	Type 1/2.5
Pixel size	2.2 μm × 2.2 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount 68
Max. frame rate at full resolution	Mainly depends on hardware and register settings.
ADC	10 Bit
Image buffer (RAM)	256 KByte
Non-volatile memory (Flash)	1024 KByte

Output

Bit depth	10-bit
YUV color pixel formats	YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)]
RGB color pixel formats	RBG888 (RGB3) [MIPI CSI-2 (FOURCC)]
Raw pixel formats	RAW8 (GREY), RAW10 (Y10) [MIPI CSI-2 (FOURCC)]

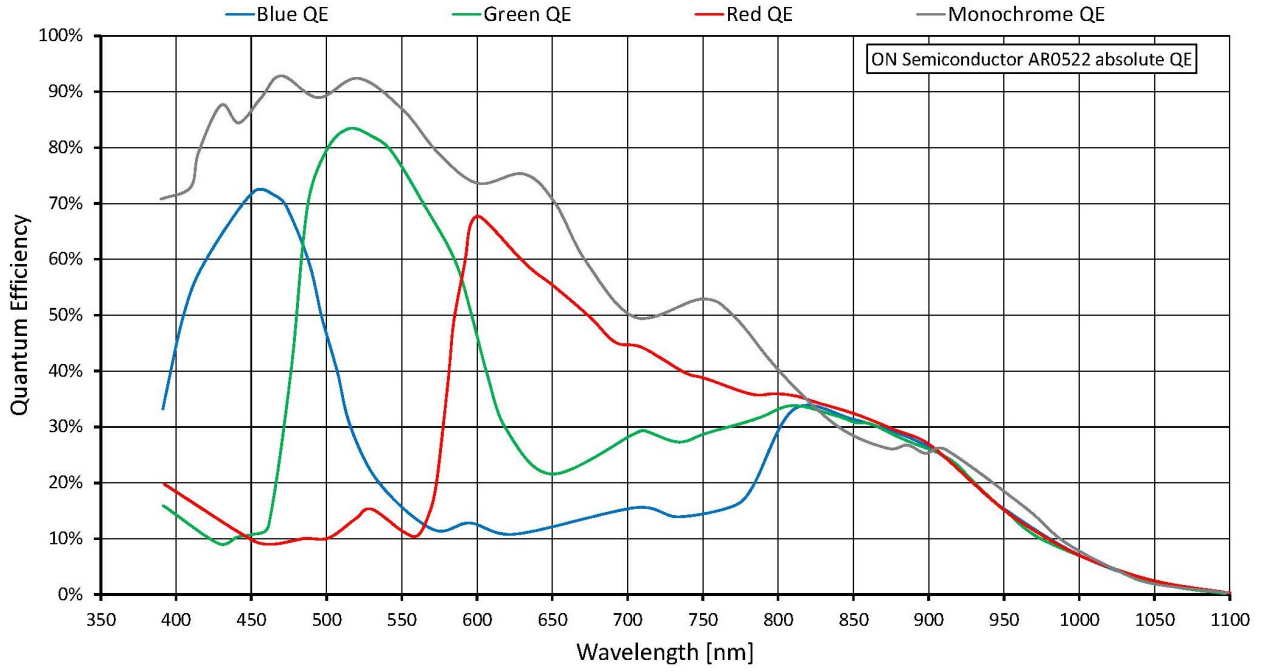
General purpose inputs/outputs (GPIOs)

TTL I/Os	2 programmable GPIOs
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Operating conditions/dimensions

Operating temperature	-20 °C to +65 °C (housing)
Power requirements (DC)	5 VDC over MIPI CSI-2
Power consumption	Value for the integrated serializer adds to CSI-2 model value.
Mass	70 g
Body dimensions (L × W × H in mm)	41 x 29 x 29

Quantum efficiency



Features

Image control: Auto

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

Image control: Other

- Black level
- Color transformation (incl. hue, saturation; color models)
- De-Bayering up to 5×5 (color models)
- DPC (defect pixel correction)
- FPNC (fixed pattern noise correction)
- Gamma
- Reverse X/Y
- ROI (region of interest)

Camera control

- Acquisition frame rate
- Firmware update in the field
- I/O and trigger control
- Temperature monitoring

Technical drawing

