Allied Vision

mipi

Alvium
GM2-501 NIR STP

- AR0522 CMOS sensor
- 5.0 MP resolution
- ALVIUM image processing
- GMSL2 interface
- Mono and color models

Model without hardware options

Robust CSI-2 based Alvium cameras with GMSL2 interface
Benefit from greater flexibility in cable lengths

Alvium GM2 STP cameras with GMSL2 (Gigabit Multimedia Serial 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 8 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 GM2 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	GMSL2, 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

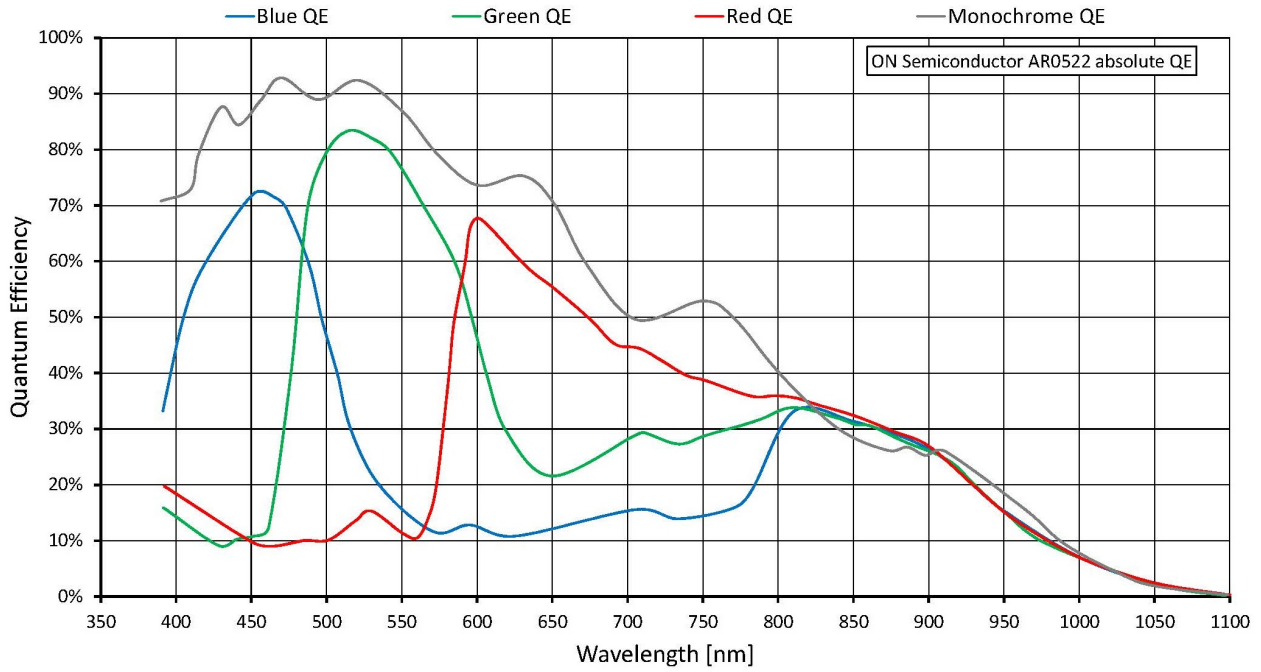|	
Bit depth	10-bit
YUV color pixel formats	YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)]
RGB color pixel formats	RBG888 (RGB3) [MIPI CSI-2 (FOURCC)]
Raw pixel formats	RAW8 (GREY), RAW10 (Y10) [MIPI CSI-2 (FOURCC)]

General purpose inputs/outputs (GPIOs)

TTL I/Os	2 programmable GPIOs

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

43.6
41.3
13 ±0.1
20 ±0.1
M3 - 2.2 ⊽ (2x)

□29.35 +0.20 -0.05
□24 ±0.1
M2 - 1.7 ⊽ (4x)
C-Mount (1x32 TPI-UNS-2B)

7.9
Ø 27.8 +0.3 -0.1

4.2 8.2
M2 (2x)
16.8
2.3

13 ±0.1
20 ±0.1
M3 - 2.2 ⊽ (2x)