TechNexion
INNOVATORS OF TECHNOLOGY

VLS-FPD3-AR0521-SL

- onsemi AR0521 5MP Rolling Shutter Sensor
- Designed for Low Light Applications
- S-Mount for Interchangeable Lenses
- FAKRA Z-Code Automotive Connector
- Plug & Play with Linux OS & Yocto
- VizionViewer™ configuration utility
- VizionSDK for custom development

VizionSDK   VizionViewer™

Camera Information

CMOS Sensor	onsemi AR0521
Active Pixels	2592 (H) x 1944 (V) = 5 MP
Pixel Size	2.2 μm x 2.2 μm
Illuminated Type	Back Side Illuminated (BSI)
Maximum S/N Ratio	40 dB
Optical Format	1/2.5" (Diagonal 7.13 mm)
Shutter Type	Rolling Shutter
Chromaticity	Color
Maximum Frame Rate (YUV422-UYVY)	2592 x 1944 @ 24 fps 2560 x 1440 @ 32 fps 1920 x 1080 @ 60 fps 1280 x 960 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 120 fps
Output Format	YUV422-UYVY RGB888 / RGB565 RAW8 / RAW10 / RAW12

Camera Interface

Serial Link	FPD-Link III
Serializer	TI DS90UB953
Connector	FAKRA SMB Jack Z-Code

Power

Power over Coax	10.8V - 26.4V
Power Consumption	2592 x 1944 @ 24 fps ≤ 1.2W
Standby Power	≤ 0.1W Standby

Software Support

Platform Support	NVIDIA Jetson AGX Orin NVIDIA Jetson Orin Nano / NX NVIDIA Jetson Xavier NX NVIDIA Jetson Nano NXP i.MX95 TI Sitara™ AM68 / AM69 TI Jacinto™ TDA4VM / TDA4VH
Operation System	Linux Yocto
Software	VizionViewer™
Development SDK	VizionSDK

Environmental and Mechanical

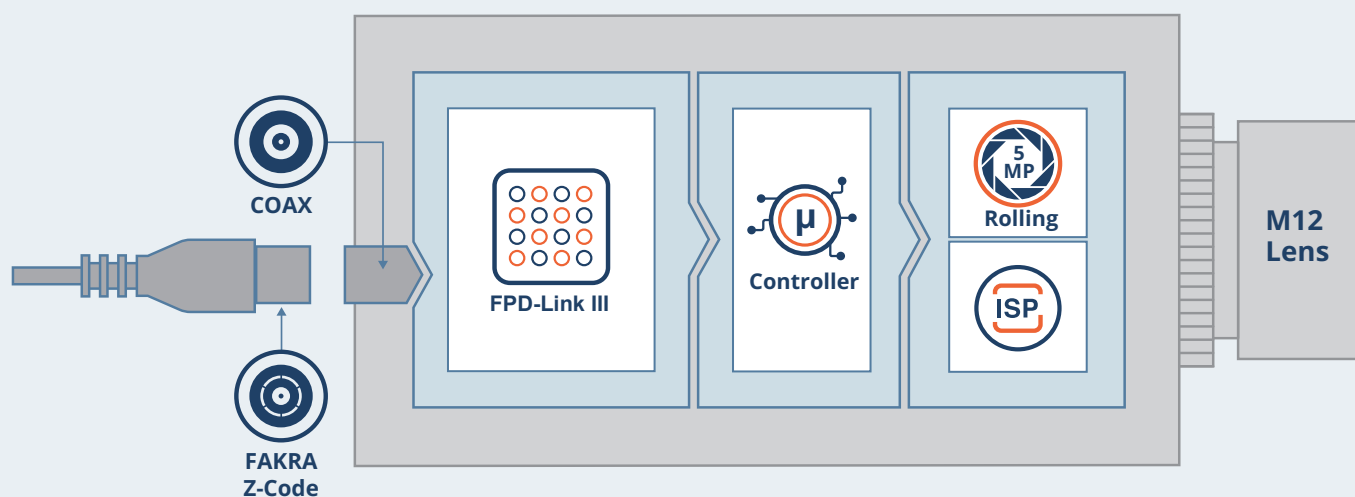| Dimensions	29.5(W) x 29.5(H) x 28(D) mm
Weight	≤ 45 grams
MTBF	50,000 Hours
Shock	15G half-sine 11 ms duration
Vibration	1 Grms random 5-500Hz hr/axis
Relative Humidity	10 to 90 %
Operating Temperature	-30°C to + 70°C

Certification and Compliance

Certification	Compliant with CE / FCC / RoHS / REACH directives

Spectral Characteristics

onsemi AR0521 absolute QE

Legend: Blue QE, Green QE, Red QE, Monochrome QE

Y-axis: Quantum Efficiency (%) — 0% to 100%
X-axis: Wavelength (nm) — 350 to 1100

Block Diagram

COAX

FAKRA Z-Code

FPD-Link III

μ Controller

5 MP Rolling

ISP

M12 Lens

Dimensions (units in mm)

- 2 x M3x0.5p-dp3mm
- 15.0
- 3.8
- 29.5
- 24.0
- 24.0
- 29.5
- R2.0
- (32.2±0.5)
- 28.0
- 24.0
- Lens Ring
- Lens (M12x0.5p-thread)
- 6.0
- FAKRA Z-code
- 2 x M3x0.5p-dp3mm
- 3.8
- 15.0
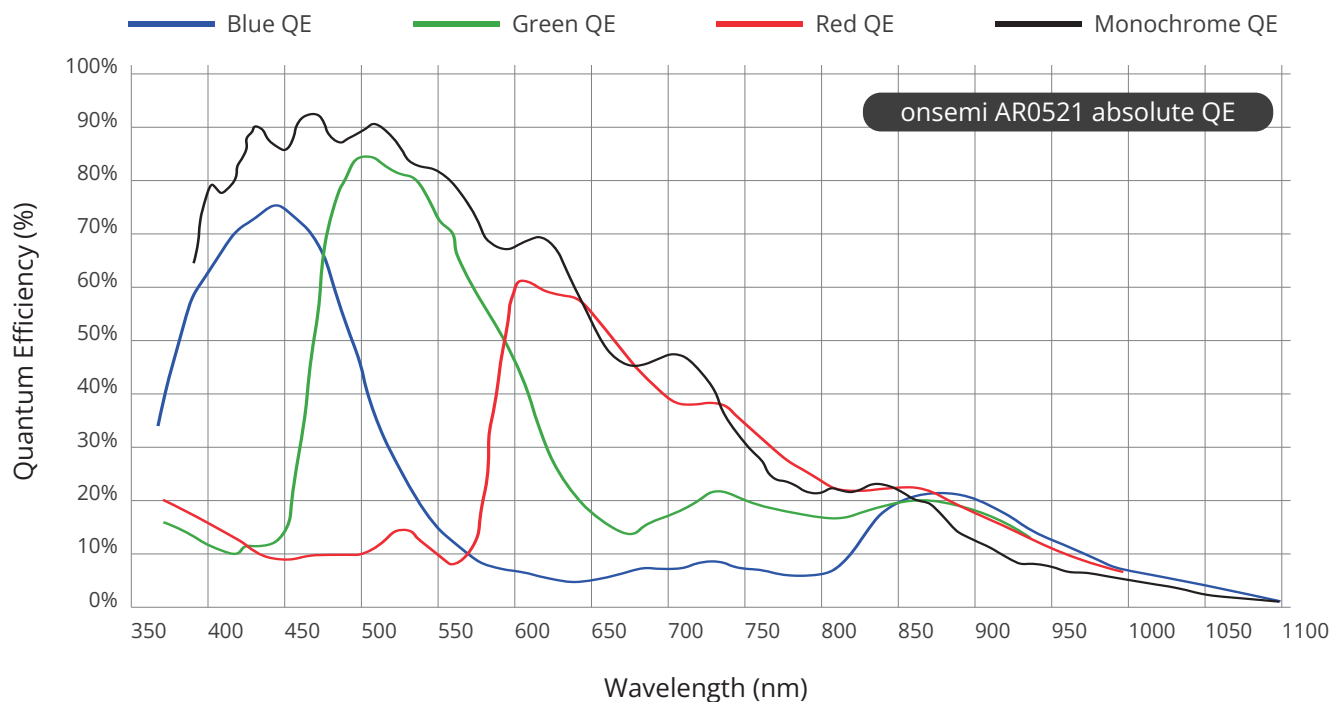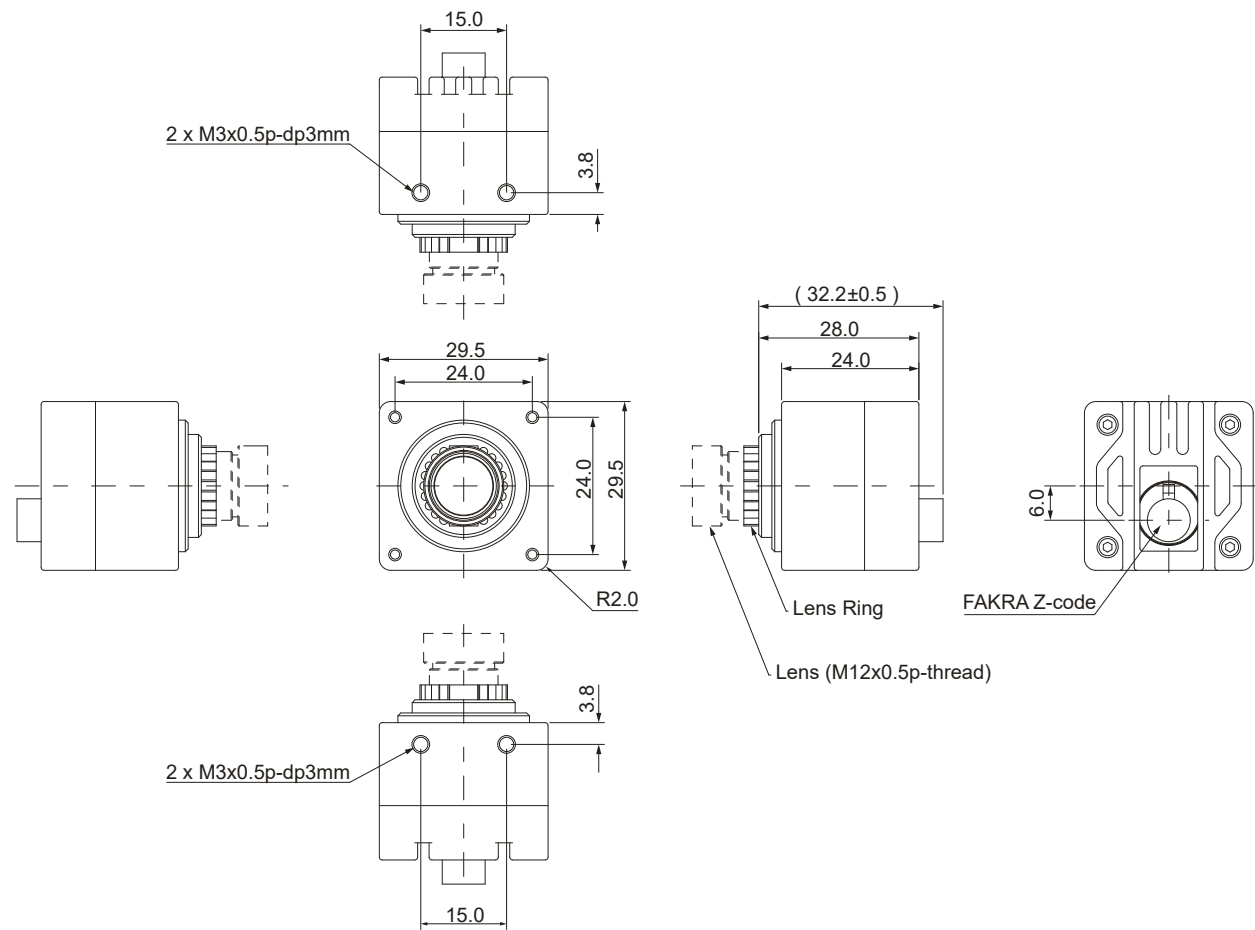
Order Information

VLS-FPD3-AR0521-x-Sxx-xx-xxxx

Option	Code	Description
Chromaticity	C	Color
Lens	S34	S-Mount Module D-FOV 34°
	S85	S-Mount Module D-FOV 85°
	S140	S-Mount Module D-FOV 140°
Filter	-	-
	IR	IR Cut Filter 650nm
Custom ID	xxxx	Custom Part number ID for customized Software loader and special component (BOM)

For customization, please contact your TechNexion sales representative.

Optional Accessories

An easy to attach A-Mount bracket
for TechNexion 30mm enclosed cameras.

300-MOUNT-BRACKET

300-MOUNT-BRACKET on tripod
(tripod not included)

Custom Lens Solutions

	VLS-FPD3-AR0521-C-S34-IR	VLS-FPD3-AR0521-C-S85-IR	VLS-FPD3-AR0521-C-S140-IR
Focus Type	Fixed Focus	Fixed Focus	Fixed Focus
Focal Length	12 mm	3.9 mm	2.87 mm
Aperture	F2.0	F2.8	F2.8
Module D-FOV	33.6° ± 5%	85.2° ± 5%	140.0° ± 5%
Module H-FOV	26.8° ± 5%	73.0° ± 5%	110.5° ± 5%
Module V-FOV	20.1° ± 5%	58.1° ± 5%	81.4° ± 5%
TTL	23.2 mm	22 mm	21 mm
BFL	7.3 mm	4.54 mm	5.27 mm
MOD	0.3 m	0.3 m	0.3 m
Distortion	<-2.50%	<1.26%	<-20%
IR-Filter	650 nm	650 nm	650 nm

FPD-Link III Frame Grabbers

The ease of usage, benefits and integration of a FPD-Link III camera in embedded systems is often made complex by the lack of FPD-Link ports and connectors on the system. For those scenarios TechNexion developed a range of framegrabbers that easily plug into a USB port and extend the system with 1 to 4 FPD-Link interconnects.

1-4 Port
Connect up-to 4 FPD-Link cameras to a single USB port on your x86 or Arm based system.

Software
Linux and Yocto systems are supported.

UVC Compliant
Fully plug-n-play in Windows and Linux embedded systems.

VizionViewer™
Easy to use software utility providing you with granular camera settings control.

Autodetect
Zero configuration required to detect any specific TechNexion FPD-Link camera by the framegrabber.

VizionSDK
Hardcode and control your cameras with C# and Python code.

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