

# VCS-AR0821-SL

**TechNexion**  
INNOVATORS OF TECHNOLOGY

- onsemi AR0821 8MP Rolling Shutter Sensor
- 4K HDR Imaging Capabilities
- Designed for Low Light Applications
- S-Mount for Interchangeable Lenses
- UVC USB Type-C 5 Gbps Connector
- Plug & Play with Windows & Linux OS
- VizionViewer™ configuration utility
- VizionSDK for custom development



VizionSDK VizionViewer™

## Camera Information

CMOS Sensor	onsemi AR0821
Active Pixels	3848 (H) x 2168 (V) = 8MP
Pixel Size	2.1 $\mu\text{m}$ x 2.1 $\mu\text{m}$
Illuminated Type	Back Side Illuminated (BSI)
Maximum S/N Ratio	41.8 dB
Optical Format	1/1.7" (Diagonal 9.25 mm)
Shutter Type	Rolling Shutter
Chromaticity	Color
HDR Support	Yes
Maximum Frame Rate (YUV422-UYYV)	3840 x 2160 @ 15 fps 2560 x 1440 @ 30 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps
Maximum Frame Rate (MJPEG)	3840 x 2160 @ 30 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps
Output Format	YUV422-UYYV MJPEG (JPG)

## Camera Interface

Connector	USB Type-C 5 Gbps
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## Power

Supply Voltage	5V $\pm$ 5%
Power Consumption	3840 x 2160 @ 15 fps $\leq$ 1.6W
Standby Power	$\leq$ 0.1W Standby

## Software Support

Operation System	UVC Plug-and-play Windows 10/11 Linux Yocto
Software	VizionViewer™
Development SDK	VizionSDK

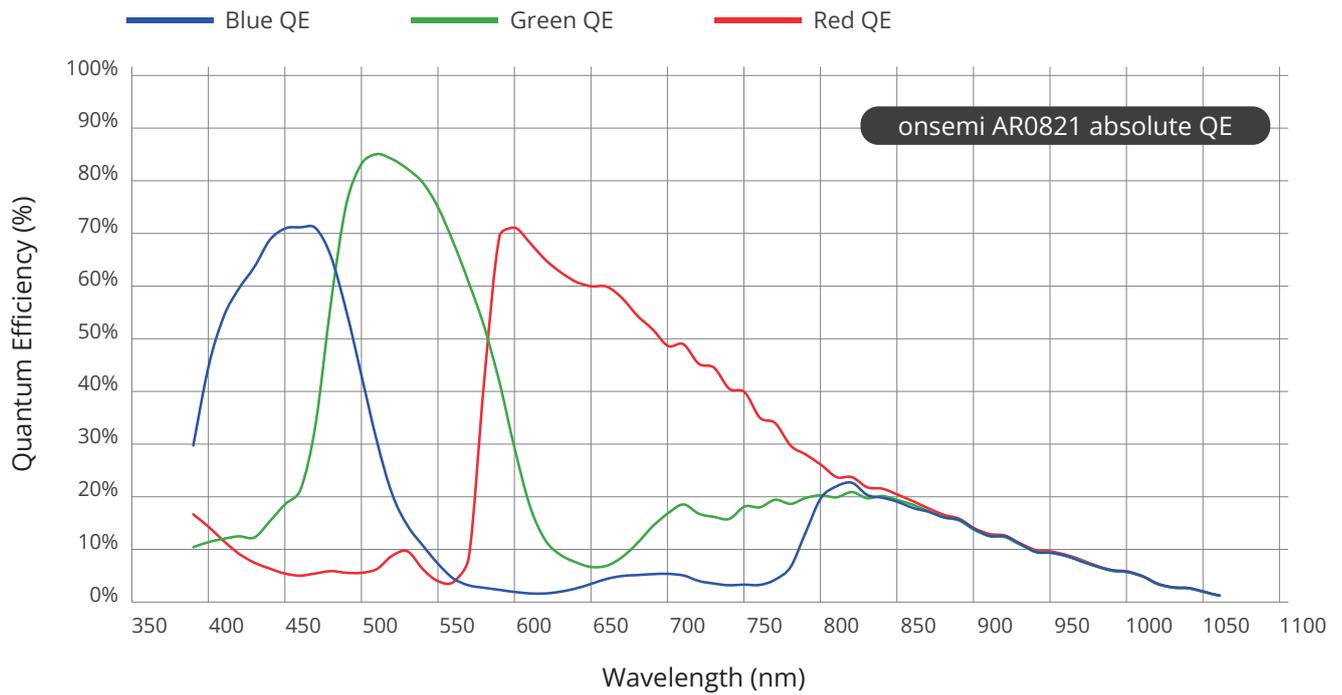
## Environmental and Mechanical

Dimensions	29.5(W) x 29.5(H) x 28.5(D) mm
Weight	$\leq$ 44 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

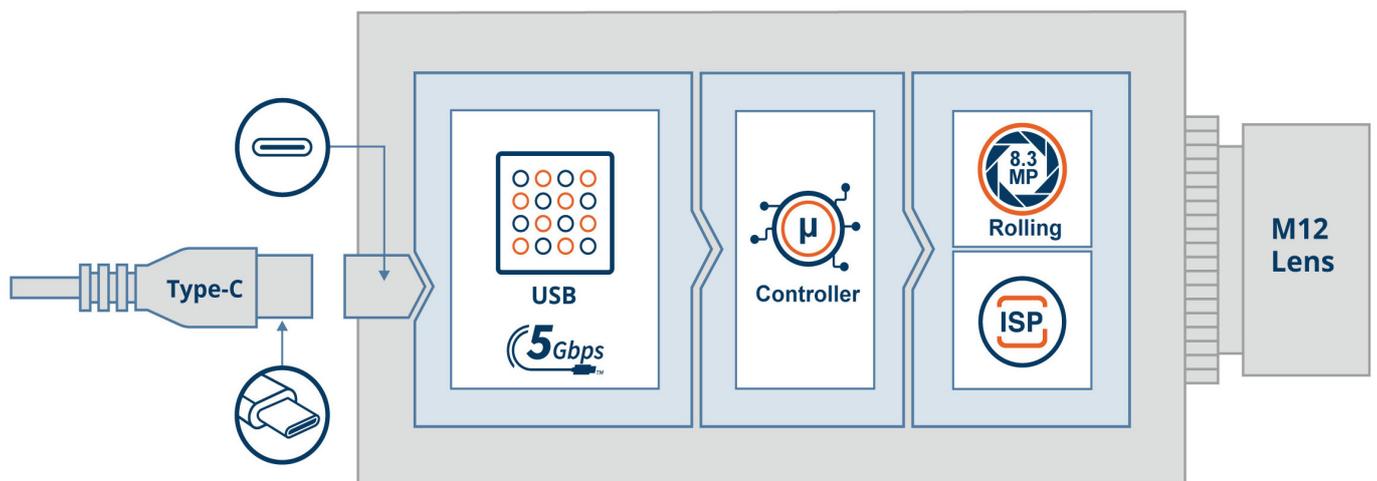
## Certification and Compliance

Certification	Compliant with CE / FCC / RoHS / REACH directives
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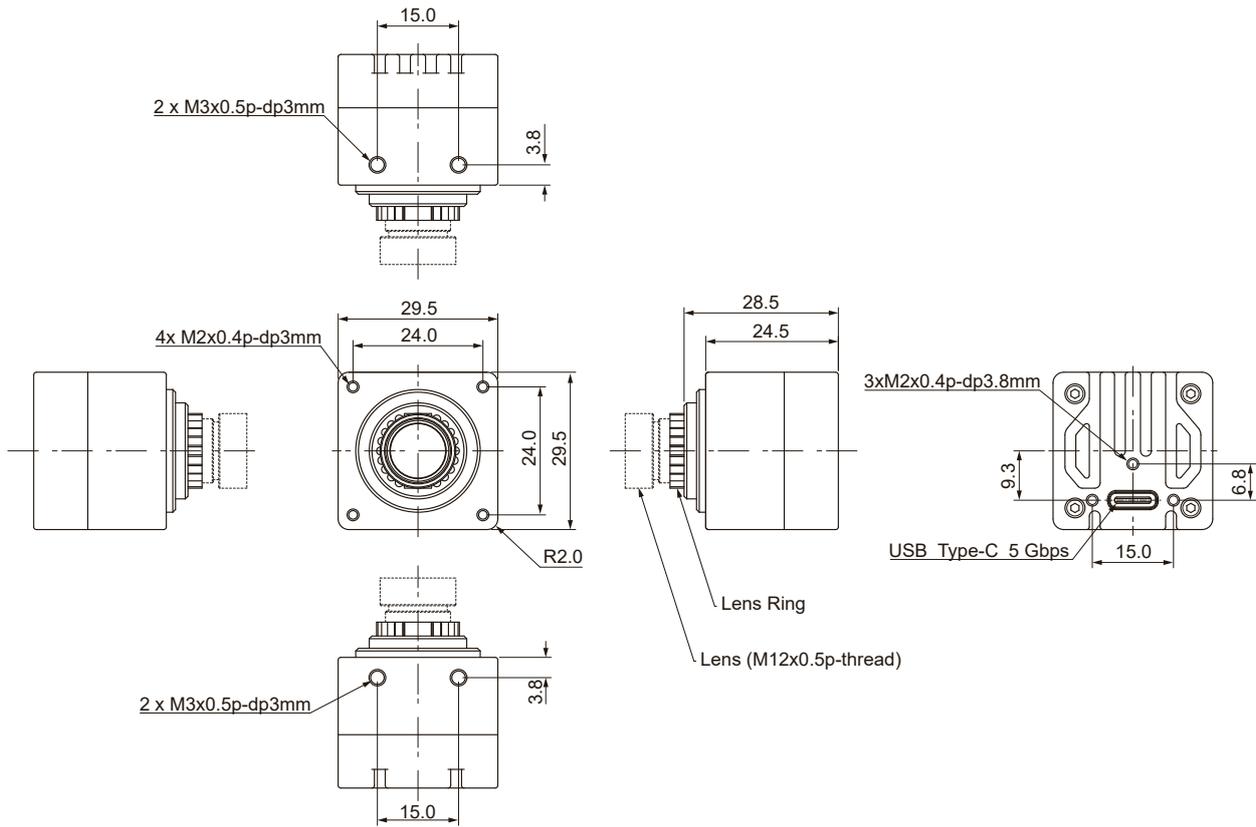
# Spectral Characteristics



# Block Diagram



## Dimensions (units in mm)



## Connector Pin Definition



No.	Pin Define	No.	Pin Define
A1	GND	B12	GND
A2	TXP1	B11	RXP1
A3	TXN1	B10	RXN1
A4	VBUS1	B9	VBUS3
A5	CC1	B8	SBU2
A6	DP1	B7	DN2
A7	DN1	B6	DP2
A8	SBU1	B5	CC2
A9	VBUS2	B4	VBUS4
A10	RXN2	B3	TXN2
A11	RXP2	B2	TXP2
A12	GND	B1	GND

## Lens Information

				
	VCS-AR0821-C-S44-IR	VCS-AR0821-C-S74-IR	VCS-AR0821-C-S119-IR	VCS-AR0821-C-S156-IR
Focus Type	Fixed Focus	Fixed Focus	Fixed Focus	Fixed Focus
Focal Length	12 mm	6 mm	3 mm	3.2 mm
Aperture	F2.0	F2.8	F2.0	F2.0
Module D-FOV	44.0° ± 5%	74.4° ± 5%	118.8° ± 5%	156.0° ± 5%
Module H-FOV	38.3° ± 5%	67.1° ± 5%	110.7° ± 5%	137.2° ± 5%
Module V-FOV	21.6° ± 5%	40.8° ± 5%	75.4° ± 5%	79.4° ± 5%
TTL	23.09 mm	28.6 mm	29.56 mm	44.98 mm
BFL	5.06 mm	8.8 mm	4.85 mm	6.14 mm
MOD	0.15 m	0.1 m	0.3 m	0.3 m
Distortion	<2%	<0.5%	<-5%	<-32%
IR-Filter	650 nm	650 nm	650 nm	650 nm
Lens Structure	5G + IR	7G + IR	2G + 3P + IR	8G + IR
First layer material	Glass	-	Glass	Glass

## Order Information

### VCS-AR0821-x-Sxx-xx-xxxx

Option	Code	Description
<b>Chromaticity</b>	C	Color
<b>Lens</b>	S44	S-Mount Module D-FOV 44°
	S74	S-Mount Module D-FOV 74°
	S119	S-Mount Module D-FOV 119°
	S156	S-Mount Module D-FOV 156°
<b>Filter</b>	-	-
	IR	IR Cut Filter 650nm
<b>Custom ID</b>	xxxx	Custom Part number ID

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)