

# VCI-AR0521-CB

**TechNexion**  
INNOVATORS OF TECHNOLOGY

- onsemi AR0521 5MP Rolling Shutter Sensor
- Designed for Low Light Applications
- C-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 AR0521                                                                                                                             |
| Active Pixels                    | 2592 (H) x 1944 (V) = 5MP                                                                                                                 |
| Pixel Size                       | 2.2 $\mu\text{m}$ x 2.2 $\mu\text{m}$                                                                                                     |
| 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-UYYV) | 2592 x 1944 @ 24 fps<br>2560 x 1440 @ 32 fps<br>1920 x 1080 @ 60 fps<br>1280 x 960 @ 60 fps<br>1280 x 720 @ 60 fps<br>640 x 480 @ 120 fps |
| Maximum Frame Rate (MJPEG)       | 2592 x 1944 @ 60 fps<br>2560 x 1440 @ 60 fps<br>1920 x 1080 @ 60 fps<br>1280 x 960 @ 80 fps<br>1280 x 720 @ 80 fps<br>640 x 480 @ 120 fps |
| Output Format                    | YUV422-UYYV<br>MJPEG (JPG)                                                                                                                |

## Camera Interface

|           |                   |
|-----------|-------------------|
| Connector | USB Type-C 5 Gbps |
|-----------|-------------------|

## Power

|                   |                                  |
|-------------------|----------------------------------|
| Supply Voltage    | 5V $\pm$ 5%                      |
| Power Consumption | 2592 x 1944 @ 24 fps $\leq$ 1.2W |
| Standby Power     | $\leq$ 0.1W Standby              |

## Software Support

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

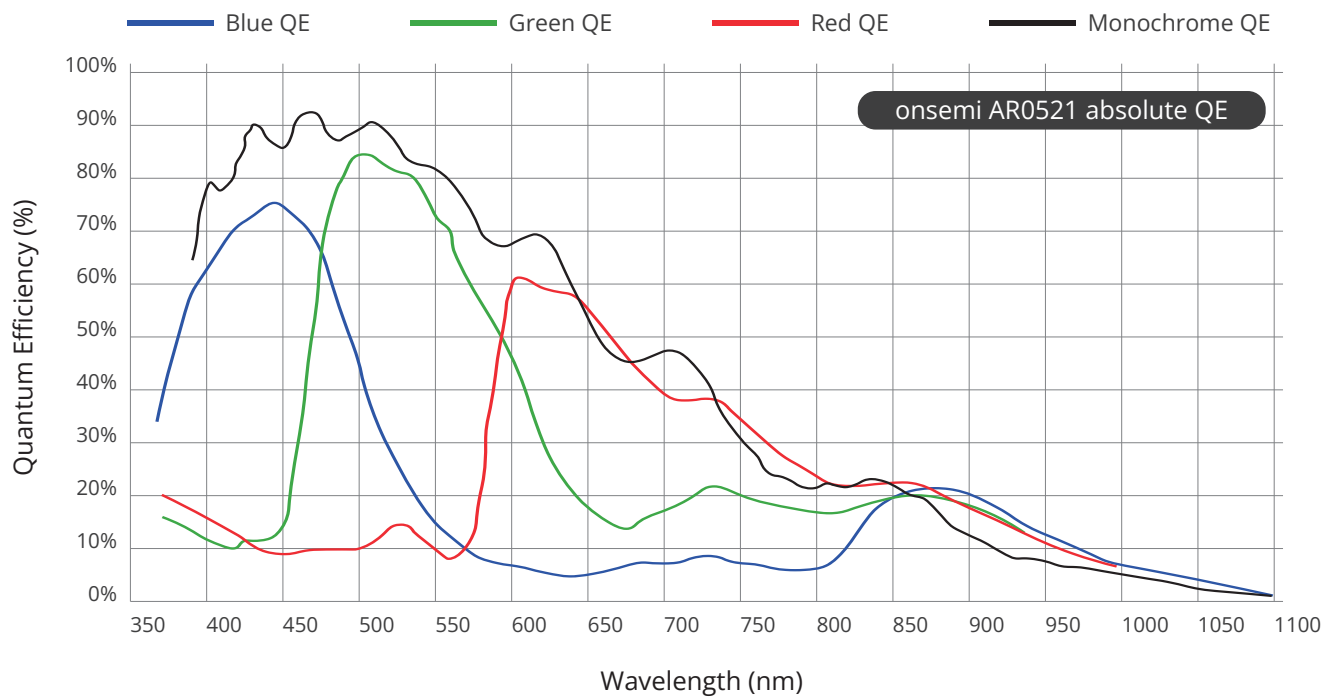
## Environmental and Mechanical

|                       |                                |
|-----------------------|--------------------------------|
| Dimensions            | 29.5(W) x 29.5(H) x 33.7(D) mm |
| Weight                | $\leq$ 39 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                |

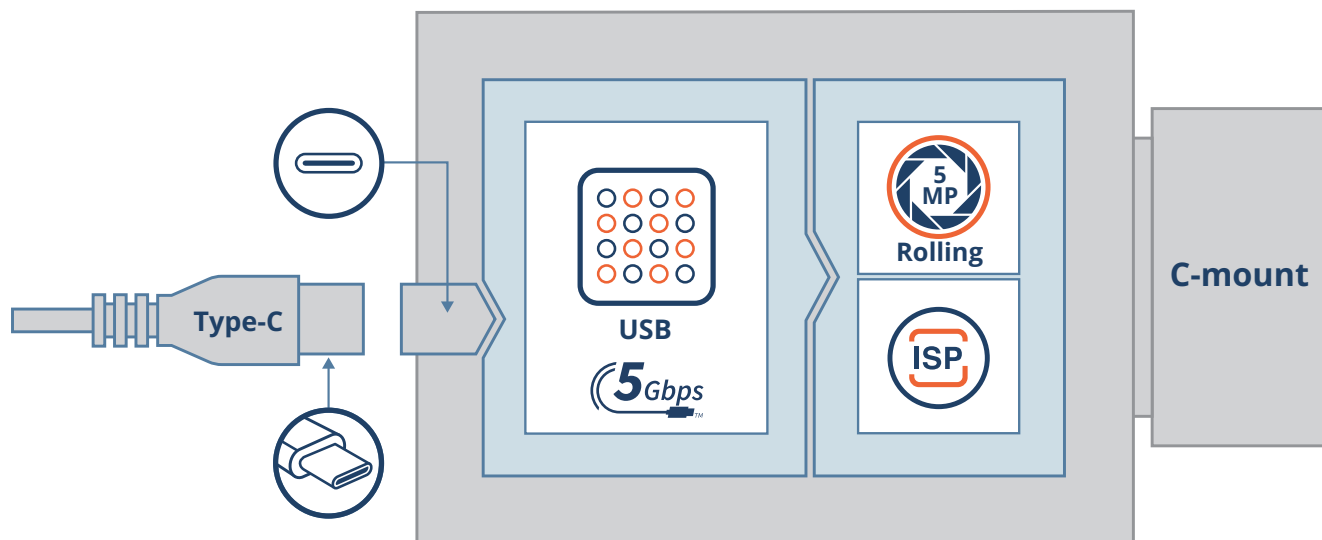
## Certification and Compliance

|               |                                                   |
|---------------|---------------------------------------------------|
| Certification | Compliant with CE / FCC / RoHS / REACH directives |
|---------------|---------------------------------------------------|

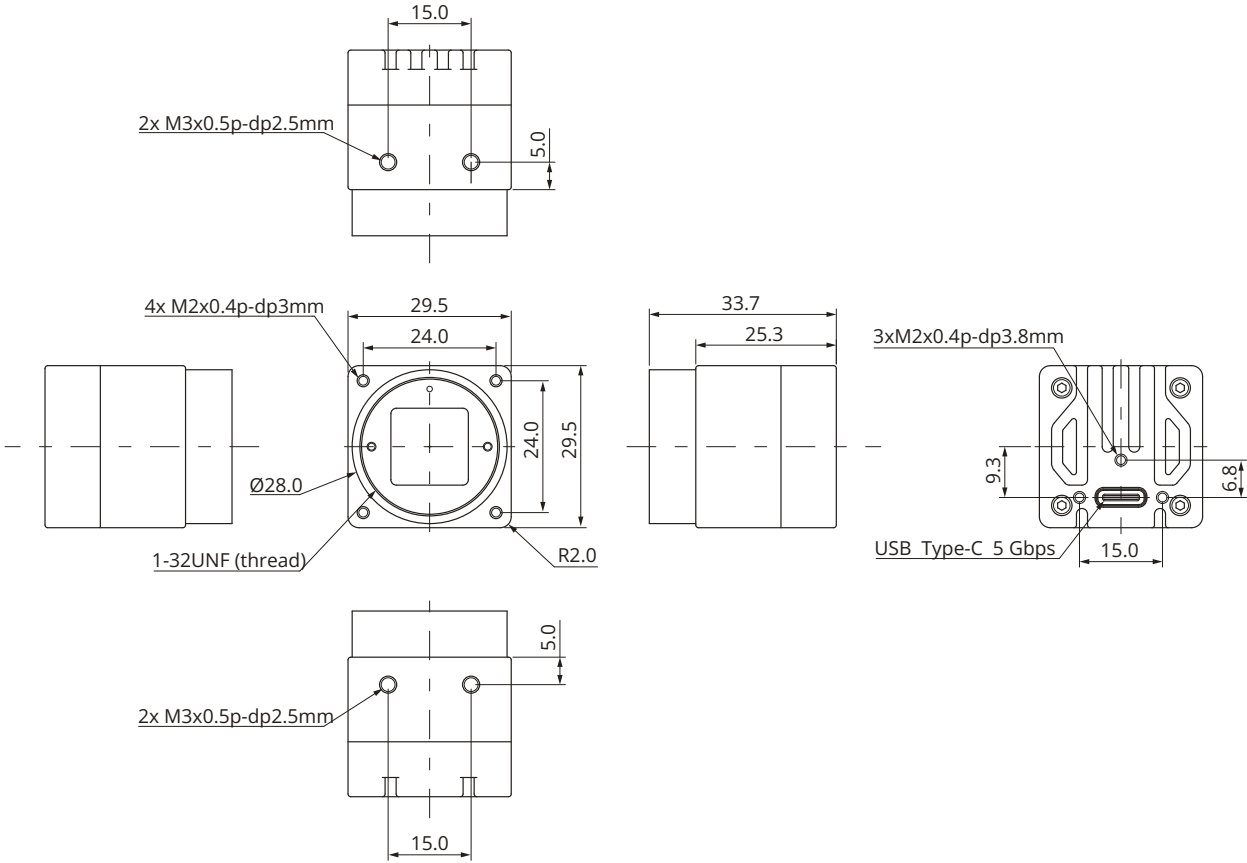
## Spectral Characteristics



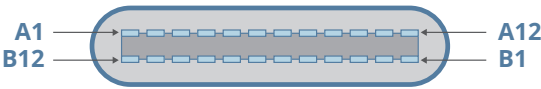
## Block Diagram



## 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        |

# Order Information

VCI-AR0521-x-CB-xx-xxxx

| Option       | Code | Description           |
|--------------|------|-----------------------|
| Chromaticity | C    | Color                 |
| Filter       | -    | -                     |
|              | IR   | IR Cut Filter 650nm   |
| Custom ID    | 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)

## Custom Lens Solutions

Our C-mount cameras can be paired with a variety of off-the-shelf lenses. Customers are welcome to choose their own, or alternatively our engineers are on standby to assist with selecting the right camera lens for different applications.

