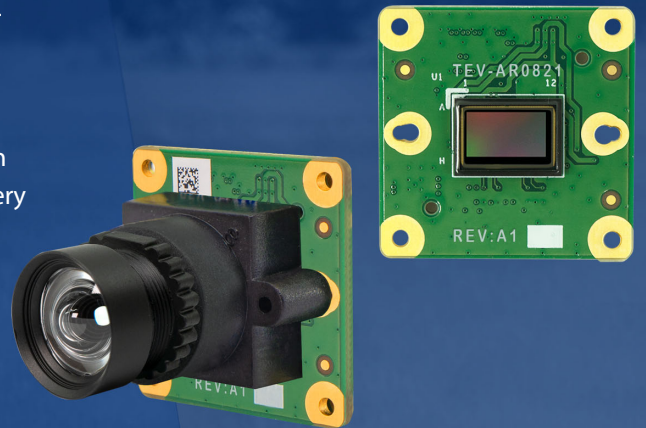


TEVI-AR0821



- TEVI-AR0821 features an ON Semi AR0821 rolling shutter sensor with a type 1/2" color CMOS 8M effective pixel to achieve 3848 x 2168 resolution.
- The TEVI-AR0821 camera sensor provides a high sensitivity, high image quality, high dynamic range, low noise, low power in a very compact package.
- Inter-changeable M12 S-Mount lenses to fully integrate the TEVI-AR0821 into your embedded system are available upon request.



Specifications

Sensor Information

CMOS Sensor	ON Semi AR0821
Active Pixels	3848 (H) x 2168 (V)
Pixel Size	2.1 μm x 2.1 μm
Optical Format	1/2" (Diagonal 9.25 mm)
Shutter Type	Rolling Shutter
Chromaticity	Color
Max Frame Rate	8Mp/3 exposure HDR: 40 fps 8Mp/4 exposure HDR: 30 fps
Chief Ray Angle	18°
Input Clock Range	10 - 48 MHz (Default 48MHz)
Bit Depths	8 / 10 / 12 bit
Color Format	YUV422, RGB888, RAW8, RAW10, RAW12

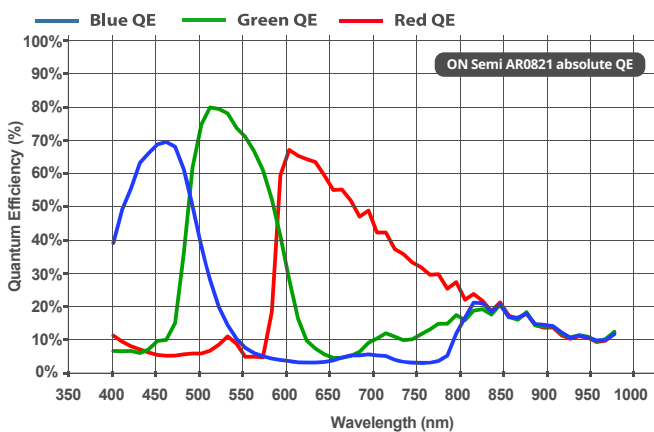
Interface

Data Transmission	MIPI CSI-2, up to 4 lanes
Communication Interface	I ² C
Connector	Hirose DF40C-70DP-0.4V(51)

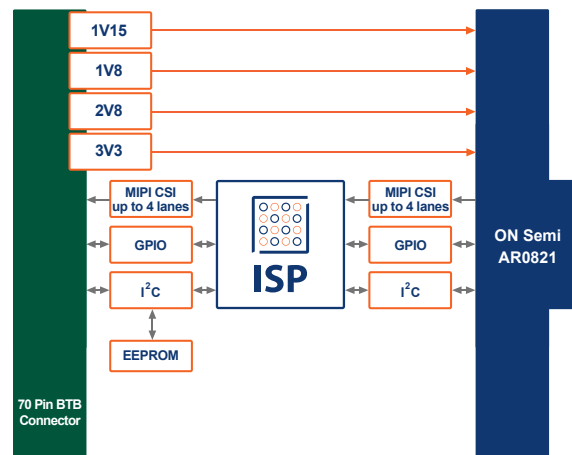
Support

Platform	NXP i.MX Series NVIDIA Jetson Nano NVIDIA Jetson Xavier NX
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Spectral Characteristics

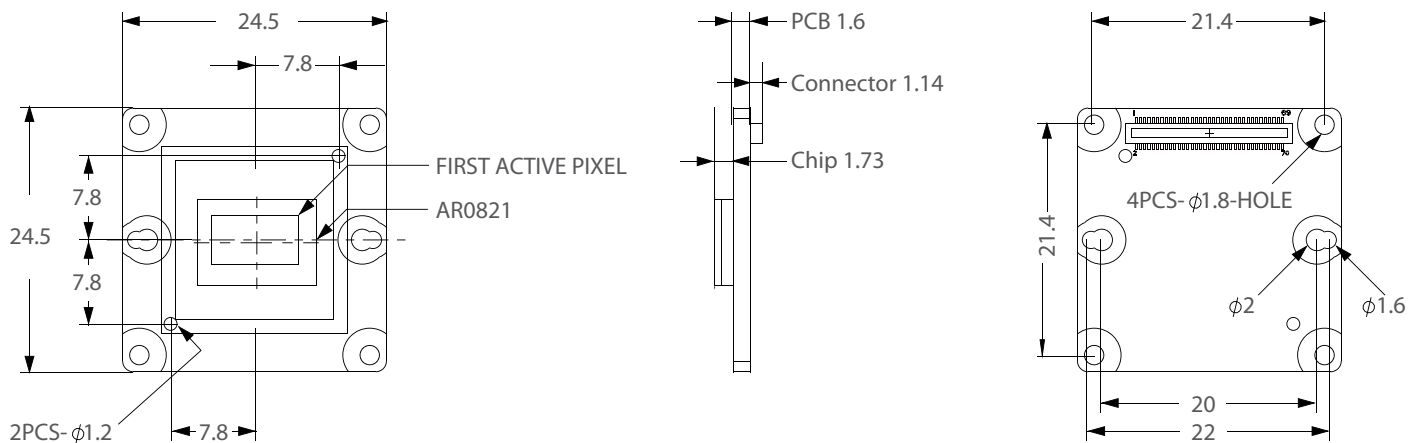


Block Diagram



Mechanical Dimension

(units in mm)



Environmental and Mechanical

L x W x H	24.5 x 24.5 x 4.47 mm
Mass	<3g
Operating Temperature	-30° ~ 85°C (Junction)
Storage Temperature	-40° ~ 125°C
Ambient Humidity	10% to 90% RH

Certification and Compliance

Certification	Compliant with CE / FCC / RoHS / REACH directives
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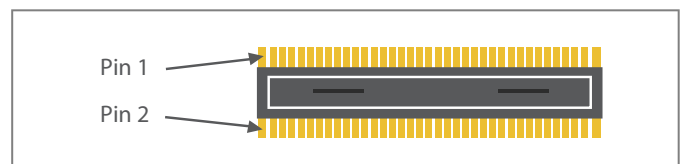
Power

Supply Voltage	Analog: 2.8V I/O: 1.8V Digital: 1.15V / 3.3V
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ISP Function

Auto Exposure
Auto Gain
Gamma
Auto White Balance
Color Calibration

Connector Pin Definition



Pin Definition			
Pin 01	3V3D	Pin 02	3V3D
Pin 03	3V3D	Pin 04	3V3D
Pin 05	GND	Pin 06	GND
Pin 07	NC	Pin 08	NC
Pin 09	GND	Pin 10	GND
Pin 11	2V8A	Pin 12	2V8A
Pin 13	GND	Pin 14	GND
Pin 15	1V8D	Pin 16	1V8D
Pin 17	GND	Pin 18	GND
Pin 19	1V15D	Pin 20	1V15D
Pin 21	GND	Pin 22	GND
Pin 23	NC	Pin 24	NC
Pin 25	NC	Pin 26	NC
Pin 27	NC	Pin 28	NC
Pin 29	NC	Pin 30	NC
Pin 31	NC	Pin 32	NC
Pin 33	NC	Pin 34	NC
Pin 35	GND	Pin 36	GND
Pin 37	H_CAM_DN0	Pin 38	NC
Pin 39	H_CAM_DP0	Pin 40	CSI_nRST
Pin 41	GND	Pin 42	GND
Pin 43	H_CAM_DN1	Pin 44	STANDBY
Pin 45	H_CAM_DP1	Pin 46	NC
Pin 47	GND	Pin 48	GND
Pin 49	H_CAM_DN2	Pin 50	NC
Pin 51	H_CAM_DP2	Pin 52	NC
Pin 53	GND	Pin 54	GND
Pin 55	H_CAM_DN3	Pin 56	I2C_SCL
Pin 57	H_CAM_DP3	Pin 58	I2C_SDA
Pin 59	GND	Pin 60	GND
Pin 61	H_CAM_CKN	Pin 62	NC
Pin 63	H_CAM_CKP	Pin 64	NC
Pin 65	GND	Pin 66	NC
Pin 67	NC	Pin 68	NC
Pin 69	GND	Pin 70	GND

TEVI-AR0821

8MP ON Semi AR0821 Camera Sensor

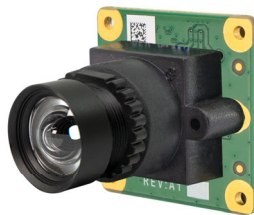


Package Content

- Camera sensor with ON Semi AR0821
- Integrated Image Signal Processor (ISP)

TEVI-AR0821-S72

8MP ON Semi AR0821 Camera Sensor with M12 72 degrees lens

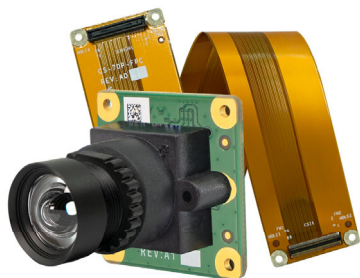


Package Content

- Camera sensor with ON Semi AR0821
- Integrated Image Signal Processor (ISP)
- M12 Holder with diagonal FOV 72° lens

TEVI-AR0821-S72-EVK

8MP ON Semi AR0821 Camera Sensor with M12 72 degrees lens and Flexible Connection Cable



Package Content

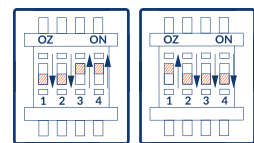
- TEVI-AR0821
- M12 Holder with diagonal FOV 72° lens
- 20cm flexible PCB to connect to TechNexion Evaluation Kits

Software

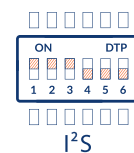
Demo images and Sourcecode software support for Linux, Yocto and Android is available for TechNexion NXP i.MX8M Plus / i.MX8M Mini and i.MX8M Nano evaluation kits and System-on-Modules.

TechNexion EVK

Switch

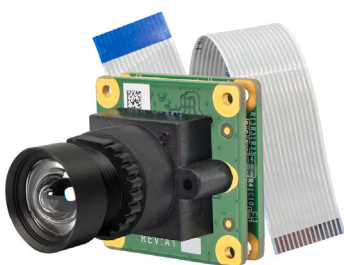


Power Sequence Setting



TEVI-AR0821-S72-RPI

8MP ON Semi AR0821 Camera Sensor with M12 72 degrees lens and 15 Pin FFC Connection Cable

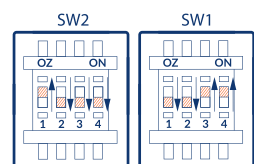


Package Content

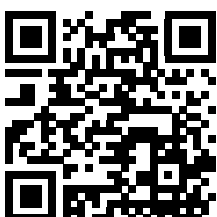
- TEVI-AR0821
- M12 Holder with diagonal FOV 72° lens
- RPi 15 Pin compatible converter PCB
- Hardware compatible with Nvidia Jetson Family

RPI ADAPTER

Switch



Power Sequence Setting



For more details, check TechNexion Embedded Vision products. www.technexion.com/products/embedded-vision/