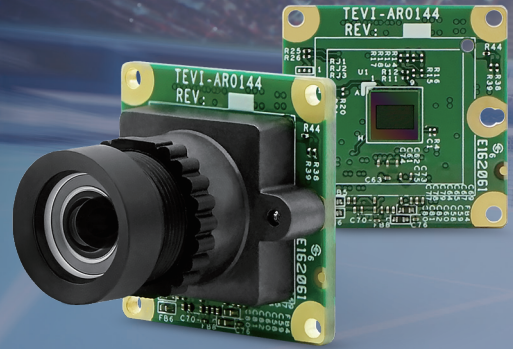


TEVI-AR0144

- onsemi AR0144 1MP global shutter image sensor with ISP.
- Captures high-speed dynamic targets clearly within an ultra-short exposure time.
- Convenient S-Mount (M12) interchangeable lens.
- Driver integration support for :
 - NXP i.MX8 / i.MX9 Family
 - Nvidia Jetson Nano / Xavier NX / Orin
 - TI Sitara™ AM62x / Jacinto™ TDA4 Family
- Comes with VizionViewer™ Configuration Utility and VizionSDK



Specifications

Camera Information

CMOS Sensor	onsemi AR0144
Active Pixels	1280 (H) x 800 (V) = 1MP
Pixel Size	3.0 μm x 3.0 μm
Optical Format	1/4" (Diagonal 4.5 mm)
Shutter Type	Global Shutter
Chromaticity	Color
Illuminated type	Front Side Illuminated (FSI)
Maximum Frame Rate (UYVY)	1280 x 800 @ 55 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps
Maximum S/N Ratio	38 dB
Input Clock Range	48 MHz
Output Format	UYVY

Camera Interface

Module Data Transmission	MIPI CSI-2, up to 4 lanes
Communication Interface	I ² C
Connector	70 Pin Standardized Camera Connector

Power

Supply Voltage	I/O: 1.8V Analog: 2.8V Digital: 1.15V & 3.3V
Power Consumption	1280 x 800 @ 55 fps \leq 434 mW
Standby Power	\leq 23 mW Standby



Software Support

Platform Support	NXP i.MX8M Nano / Mini / Plus NXP i.MX93 TI Sitara™ AM62x / AM62A TI Jacinto™ TDA4VM / TDA4VA / TDA4VH NVIDIA Jetson Nano NVIDIA Xavier NX NVIDIA Orin Nano/NX
Operation System	Linux Yocto Android
Software	VizionViewer™
Development SDK	VizionSDK

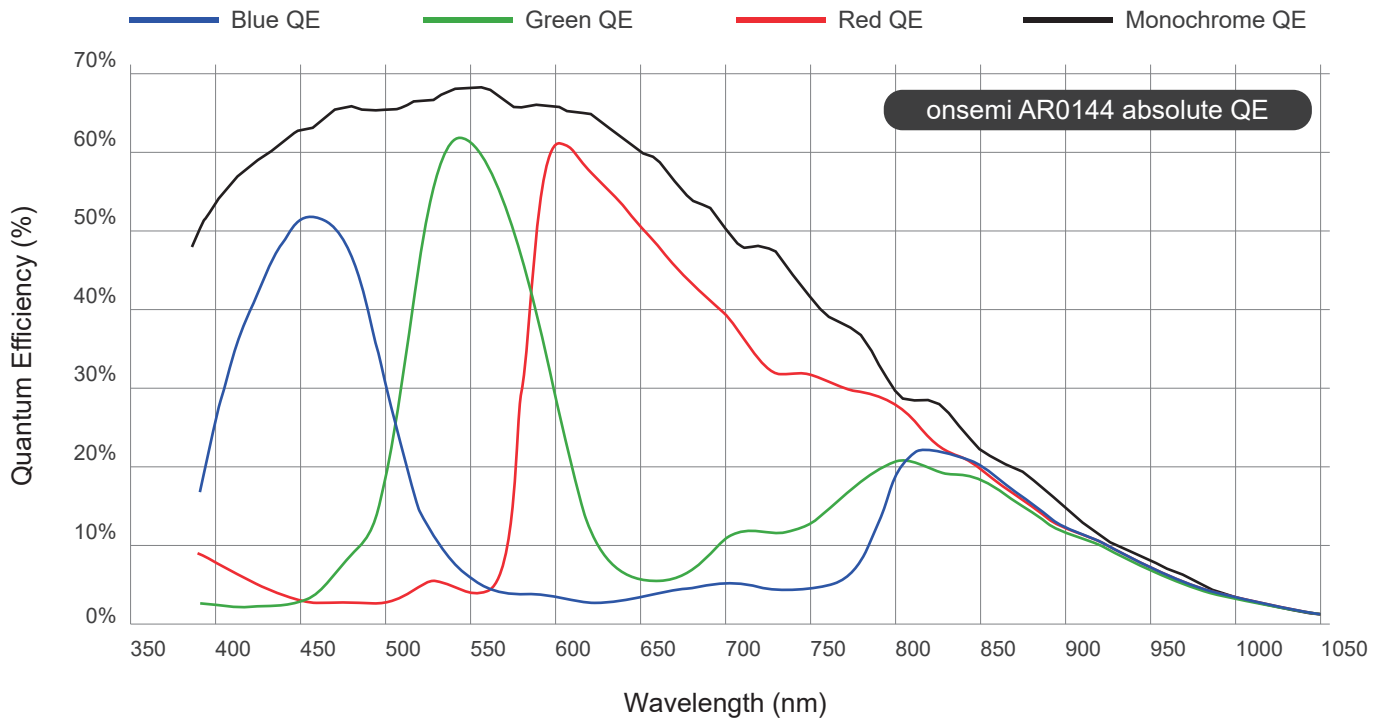
Environmental and Mechanical

Dimensions	24.5(W) x 24.5(H) x 3.47(D) mm
Weight	\leq 3 grams
Operating Temperature	-30°C to +70°C

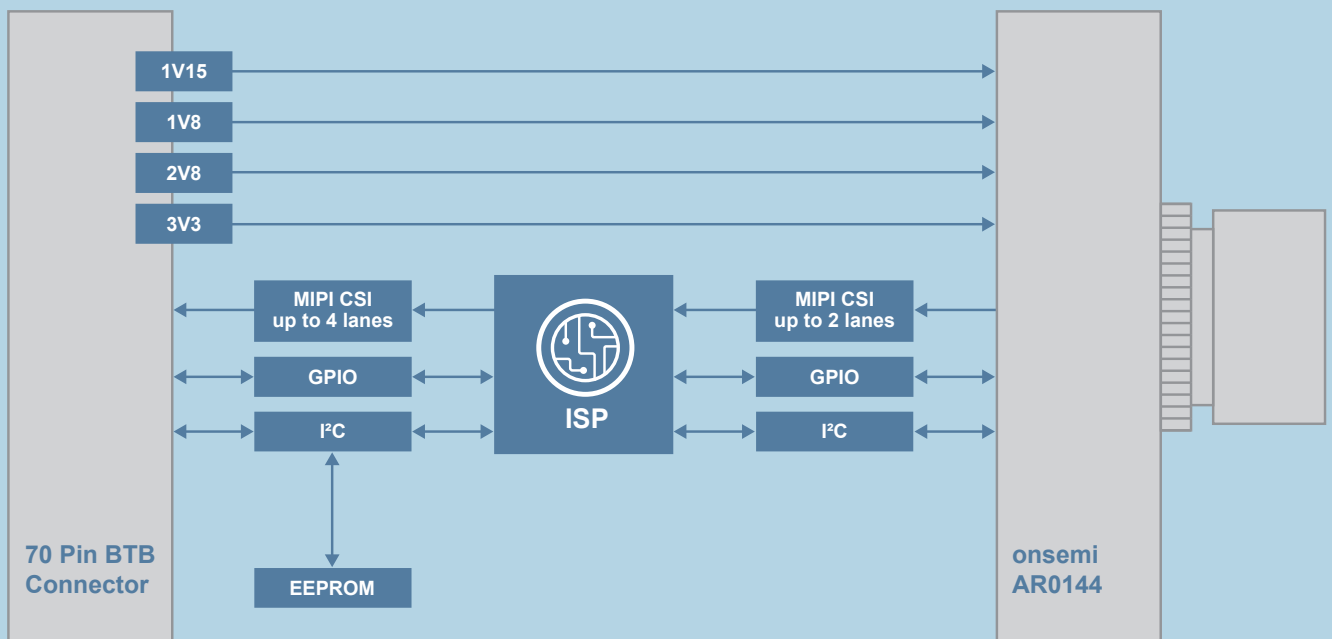
Certification and Compliance

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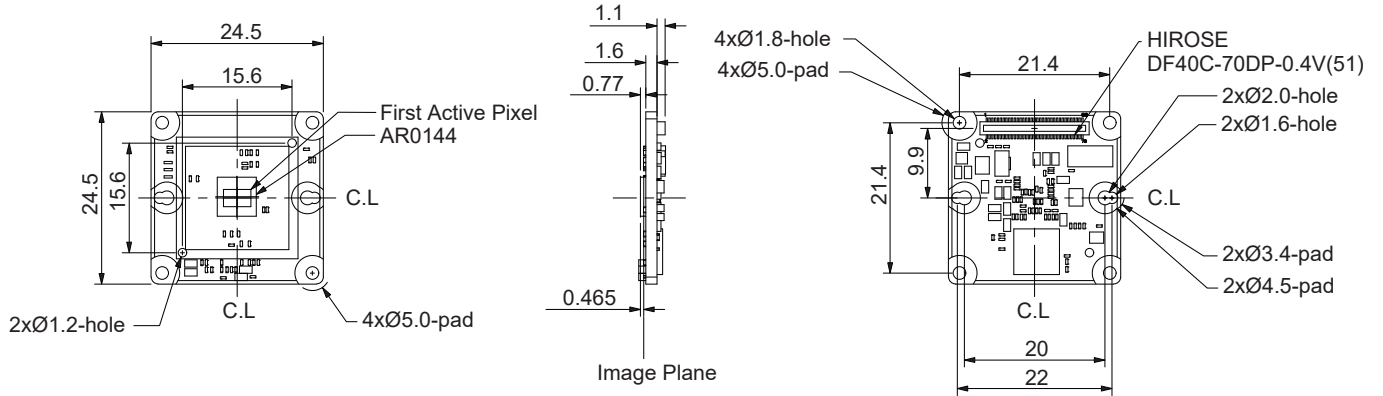
Spectral Characteristics



Block Diagram



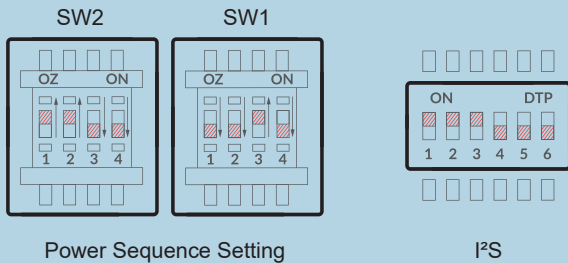
Dimensions (units in mm)



Switch Configuration

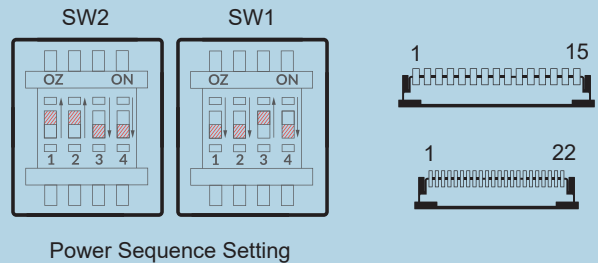
TechNexion EVK

Switch

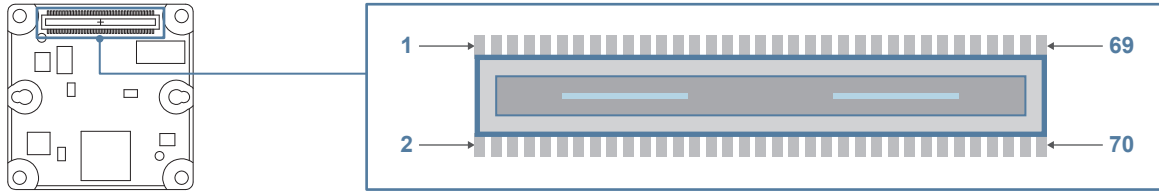


RPI Adapter

Switch



Connector Pin Definition



No.	Pin Define	Level	No.	Pin Define	Level
01	3V3D	3.3V	02	3V3D	3.3V
03	3V3D	3.3V	04	3V3D	3.3V
05	GND	GND	06	GND	GND
07	NC		08	NC	
09	GND	GND	10	GND	GND
11	2V8A	2.8V	12	2V8A	2.8V
13	GND	GND	14	GND	GND
15	1V8D	1.8V	16	1V8D	1.8V
17	GND	GND	18	GND	GND
19	1V15D	1.15V	20	1V15D	1.15V
21	GND	GND	22	GND	GND
23	NC		24	NC	
25	NC		26	NC	
27	NC		28	NC	
29	NC		30	NC	
31	NC		32	NC	
33	NC		34	NC	
35	GND	GND	36	GND	GND
37	H_CAM_DN0		38	NC	
39	H_CAM_DP0		40	CSI_nRST	1.8V
41	GND	GND	42	GND	GND
43	H_CAM_DN1		44	STANDBY	1.8V
45	H_CAM_DP1		46	NC	
47	GND	GND	48	GND	GND
49	H_CAM_DN2		50	CAM_SHUTDOWN	1.8V
51	H_CAM_DP2		52	NC	
53	GND	GND	54	GND	GND
55	H_CAM_DN3		56	I ² C_SCL	1.8V
57	H_CAM_DP3		58	I ² C_SDA	1.8V
59	GND	GND	60	GND	GND
61	H_CAM_CKN		62	NC	
63	H_CAM_CKP		64	NC	
65	GND	GND	66	NC	
67	NC		68	NC	
69	GND	GND	70	GND	GND

Lenses

Lens Information

Focus Type	Fixed Focus
Focal Length	2.85 mm
Aperture	F2.8
Lens D-FOV	84.0°
Lens H-FOV	75.0°
Lens V-FOV	58.0°
Module D-FOV	82.6° ± 5%
Module H-FOV	73.5° ± 5%
Module V-FOV	50.3° ± 5%
TTL	20 mm
BFL	2.03 mm
MOD	0.3 m
Distortion	< -0.35%
IR-Filter	650 nm
Lens Operating Temperature	- 20°C to + 60°C

Order Information

TEVI-AR0144-x-Sxx-xx-xxx

Part Number Rules

Option	Code	Description
Chromaticity	C	Color
Lens	-	-
	S83	S-Mount Module D-FOV 83°
Filter	-	-
	IR	IR Cut Filter 650nm
Evaluation Kit	-	70 pin Standardized Camera Connector
	EVK	70 pin Standardized Camera Connector with FPC cable
	RPI15	15 pin Standardized ZIF Connector with FFC cable
	RPI22	22 pin Standardized ZIF Connector with FFC cable
	NXP	Mini-SAS connection cable for NXP Evaluation Board

For customization, please contact your TechNexion sales representative.