



FSM-IMX304 Datasheet

Sony IMX304LLR / IMX304LQR Sensor Module

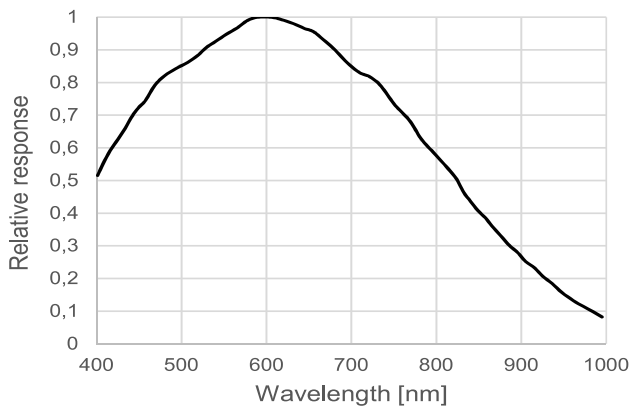
FRAMOS Sensor Module



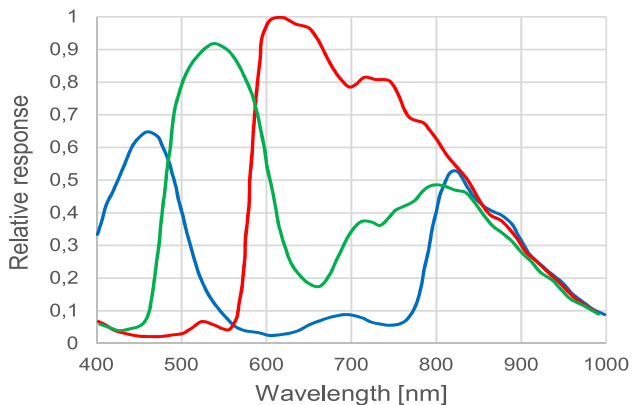
Key Benefits & Features:

- 12.4 Mpx Sony CMOS Global Shutter sensor module, ready to embed!
- All FSMs are part of a rapid prototyping ecosystem, consisting of:
 - ✓ Adapters to various processing boards
 - ✓ Design sources for deep embedding
 - ✓ Various accessories and design in services

FSM-IMX304M (Monochrome):



FSM-IMX304C (Color):



Specification

Model Name	FSM-IMX304M / FSM-IMX304C (V1A)
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Image Sensor

Vendor / Name	Sony IMX304LLR / IMX304LQR
Shutter Type	CMOS Global Shutter
Technology / Grade	Pregius (Gen2) / Industrial
Chromaticity	Color / Mono
Optical Format	1.1"
Pixel Size	3.45 x 3.45 μm
Max. Resolution	12.4 Mpx / 4112 x 3008 px
Framerate (max.)	CSI-2: 23.4 FPS (4-Lane)
Bit Depth(s)	12 bit

Interface

Data Interface	SubLVDS (4 / 8 Lane)
Communication Interface	I ² C (4-wire serial)
Drive Frequency(s)	37.125 / 54 / 74.25 MHz
Input Voltages	1.2V, 1.8V, 3.3V
Interface Connector	Hirose DF40C-60DP-0.4V(51)
EEPROM (Sensor ID)	Yes

Mechanical

Dimensions (HxWxD)	28 x 28
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Environmental

Operating Temperature	-30°C to +75°C (function) -10°C to +60°C (performance)
Storage Temperature	-40°C to +85°C
Ambient Humidity	20% to 95% RH, non condensing

Software Support (requires FSA with MIPI CSI-2 conversion)

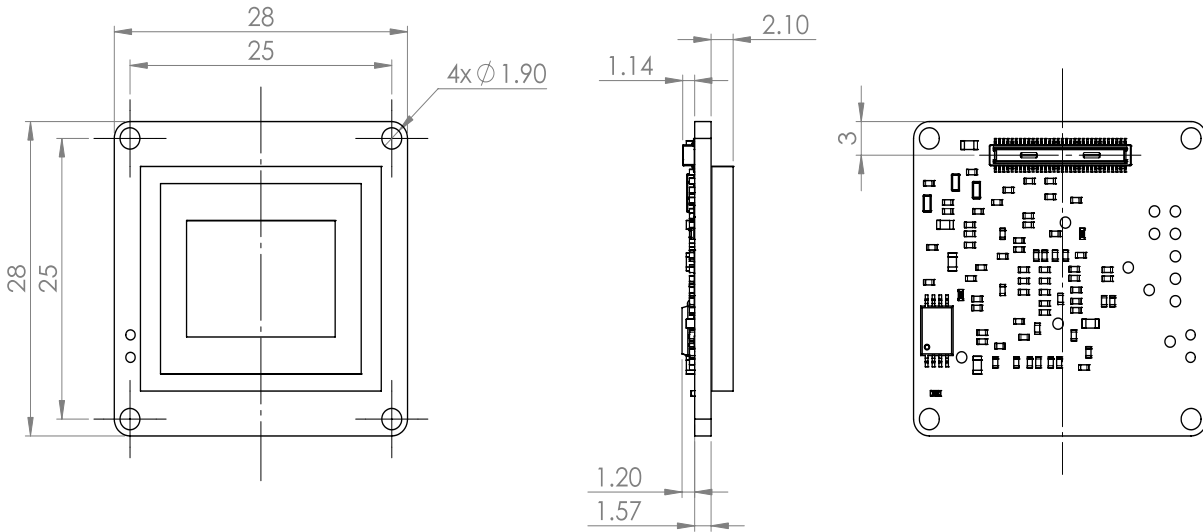
Driver	V4L2 Based Device Driver Libargus / Argus Camera (ISP Tuned) Isaac ROS compliant
Supported Platform(s)	NVIDIA Jetson AGX Xavier, TX2, AGX Orin
Software Version(s)	NVIDIA JP4.6 / L4T32.6.1

Suggested Accessories & Adapters

Compatible FSA Type	FSA-FT15/A-00G
Recommended Devkit(s)	FSM-IMX304x/TXA_Devkit (TX2, AGX)
Lens Mounts	C/CS-Mount option

A matrix with compatible *Sensor Adapters (FSA)* and *Processor Board Adapters (FPA)* for various setups can be found at the end of this document.

Mechanical Drawing



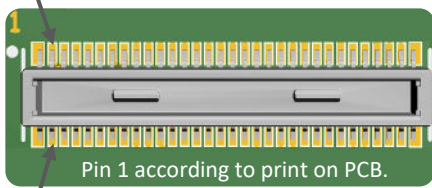
Sensor image optical center is in mechanical board center.

Connector Pinout

Type: Hirose DF40C-60DP-0.4V(51)

Mating Type: Hirose DF40HC(4.0)-60DS-0.4V(51)

Pin	Name
1	NC
3	NC
5	3V3
7	3V3
9	1V8
11	GND
13	GND
15	SDA
17	SDO
19	TOUT0
21	TOUT1
23	TOUT2
25	NC
27	NC
29	NC
31	GND
33	RST
35	MCLK
37	GND
39	D_DATA_6_P
41	D_DATA_6_N
43	GND
45	D_DATA_4_P
47	D_DATA_4_N
49	GND
51	D_DATA_2_P
53	D_DATA_2_N
55	GND
57	D_DATA_0_P
59	D_DATA_0_N



Pin	Name
2	1V8_EEPROM
4	1V8_EEPROM
6	1V2
8	1V2
10	NC
12	GND
14	GND
16	SCL
18	XCE
20	SLAMODE
22	XMASTER
24	NC
26	XTRIG
28	XHS
30	XVS
32	GND
34	D_DATA_7_P
36	D_DATA_7_N
38	GND
40	D_DATA_5_P
42	D_DATA_5_N
44	GND
46	D_DATA_3_P
48	D_DATA_3_N
50	GND
52	D_DATA_1_P
54	D_DATA_1_N
56	GND
58	D_CLK_0_P
60	D_CLK_0_N

Signals are routed directly from image sensor to connector. Details on specific signals are described in the respective image sensor datasheet.