



LEOPARD
IMAGING

LI-OX05C1S-ST80-MIPI-143H



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INTRODUCTION

The LI-OX05C1S-ST80-MIPI-143H is a stereo global shutter color camera equipped with dual OmniVision 1/2.525" CMOS 5MP global shutter image RGB-IR sensor OX05C1S which has defective pixel cancellation, automatic black level correction, HDR combination and piece-wise linear (PWL) bit depth compression functions. This camera outputs RAW data.

SPECIFICATIONS

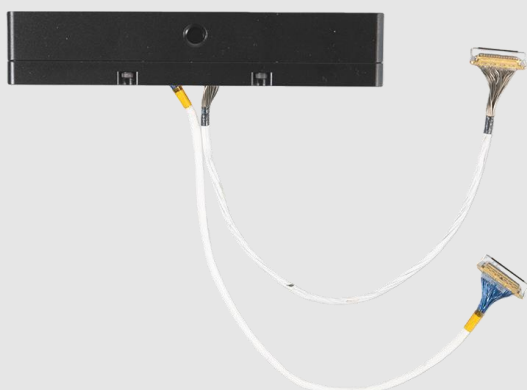
Maximum Frame Rate	60 fps @ 3-exposure HDR
Output Format	10-bit / 12-bit / 14-bit / 16-bit HDR RAW
Baseline	80 mm
Focused distance	45 cm
Sensor	2x OmniVision 1/2.525" CMOS 5MP image sensor OX05C1S
Optical Format	1/2.525"
Color / Mono	RGB-IR
Pixel Size	2.2 x 2.2 μm
Shutter Type	Global shutter
Resolution	2592 (H) x 1944 (V) (active pixels)
Interface	2x 4-lane MIPI CSI-2
Connector	2x 30-PIN IPEX MIPI Connector
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 114 g

APPLICATIONS

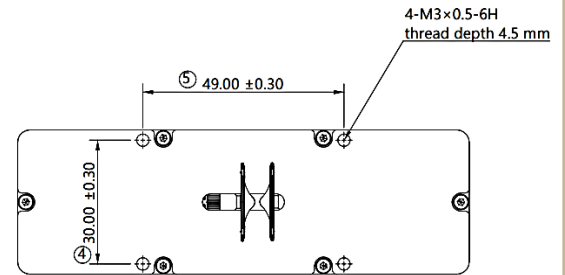
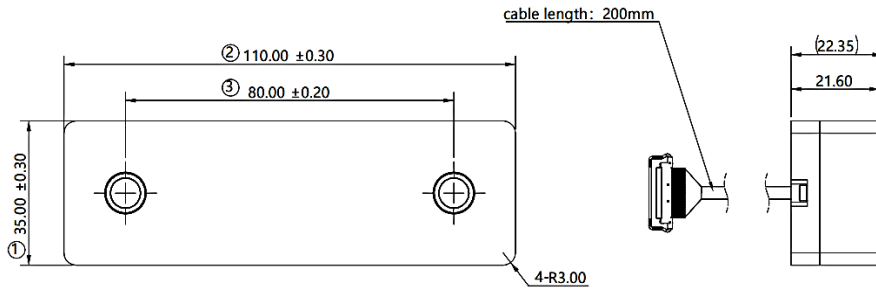
- Autonomous Driving
- Driver Monitoring System
- Occupant Monitoring System
- In-Cabin Monitoring System

LENS SPECIFICATIONS

Focal Length	2.42 $\pm$ 5% mm
Aperture, F/#	2.2 $\pm$ 5%
Field of View (FOV)	143° horizontal
IR Filter (Only for RGB-IR sensor)	940 nm dual bandpass filter
Lens Mount	M12 x P0.5



DIMENSIONS



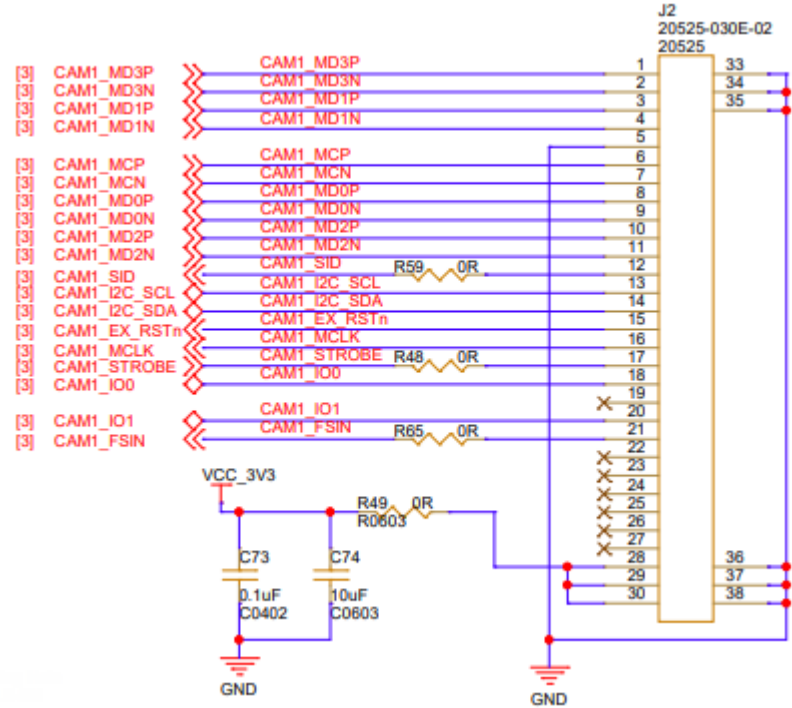
NOTE:

- ⊗ marked are important sizes.
- Tolerances for the unmarked – refer to the Tolerance table.
- All materials are compliant with RoHS requirements.
- Unit: mm

TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
0.5 < X ≤ 3	±0.1	0.5 < X ≤ 3	±0.2	X ≤ 10	±1°
3 < X ≤ 6	±0.1	3 < X ≤ 6	±0.5	10 < X ≤ 50	±30'
6 < X ≤ 30	±0.2	6 < X ≤ 30	±1	50 < X ≤ 120	±20'
30 < X ≤ 120	±0.3	X > 30	±2	120 < X ≤ 400	±10'
120 < X ≤ 400	±0.5			X > 400	±5'
400 < X ≤ 1000	±0.8				
X > 1000	±1.2				

MODULE CONNECTOR

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Mating I-PEX Cable: FAW-1233
- ISP I2C Address: 0x3C (8-bit)
- External Power Supply: 3.3V



Pinout Details For Host Side (MIPI Receiver side)

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	CAM_MD3P	OUTPUT	Camera MIPI Clock Data3 Differential Pair +	1.8V
2	CAM_MD3N	OUTPUT	Camera MIPI Clock Data3 Differential Pair -	1.8V
3	CAM_MD1P	OUTPUT	Camera MIPI Clock Data1 Differential Pair +	1.8V
4	CAM_MD1N	OUTPUT	Camera MIPI Clock Data1 Differential Pair -	1.8V
5	GND	-	-	-
6	CAM_MCP	OUTPUT	Camera 0MIPI Clock Lane Differential Pair +	1.8V
7	CAM_MCN	OUTPUT	Camera 0MIPI Clock Lane Differential Pair -	1.8V
8	CAM_MD0P	OUTPUT	Camera MIPI Clock Data0 Differential Pair +	1.8V
9	CAM_MD0N	OUTPUT	Camera MIPI Clock Data0 Differential Pair -	1.8V
10	CAM_MD2P	OUTPUT	Camera MIPI Clock Data2 Differential Pair +	1.8V
11	CAM_MD2N	OUTPUT	Camera MIPI Clock Data2 Differential Pair -	1.8V
12	CAM_SID	INPUT	I2C Address select Pin(Default Low)	1.8V
13	CAM_I2C_SCL	INPUT	1.8V IO I2C SCL signal with 1.5kΩ onboard pull-up.	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	CAM_SDA	I/O	1.8V IO I2C SDA signal (Pulled up to 1.8V with 1.5k)	1.8V
15	CAM_RST	INPUT	Reserved system clear (Normal: High, Clear: Low)	1.8V
16	CLKIN	INPUT	Reserved Master clock input	1.8V
17	XTRIG1	I/O	Reserved trigger input 1	1.8V
18	TOUT0	INPUT	Pulse0 output pin	1.8V
19	XHS	I/O	Horizontal sync signal	1.8V
20	-	-	-	-
21	XVS	I/O	Vertical sync signal	1.8V
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	VCC_3V3	INPUT	3.3V digital power supply (Must be provided from the host side)	3.3V
29	VCC_3V3	INPUT	3.3V digital power supply (Must be provided from the host side)	3.3V
30	VCC_3V3	INPUT	3.3V digital power supply (Must be provided from the host side)	3.3V

● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	14 Jan 2026

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