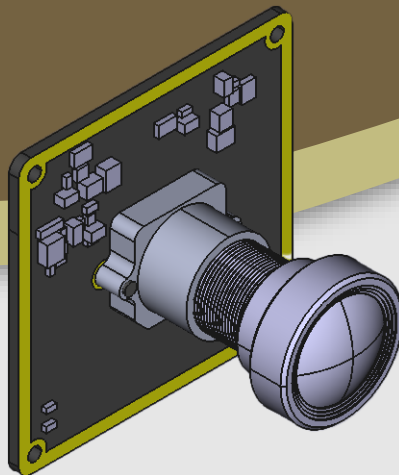




LEOPARD
IMAGING

LI-OG05B20-MIPI-081H



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INTRODUCTION

The LI-OG05B20-MPI-081H is a MIPI CSI-2 camera with OmniVision 1/2.53" CMOS 5MP global shutter image color sensor OG05B20. This camera outputs 2592 x 1944 RAW data.

SPECIFICATIONS

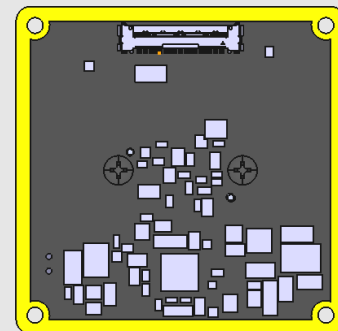
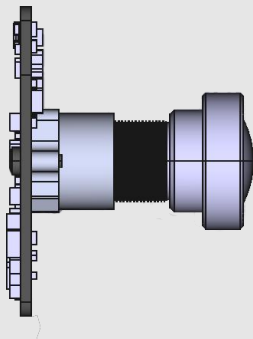
Sensor	OmniVision 1/2.53" CMOS 5MP Image Sensor OG05B20
Optical Format	1/2.5"
Resolution	2592 (H) x 1944 (V) (active pixels)
Pixel Size	2.2 x 2.2 μ m
Shutter	Global shutter
Output Format	RAW
Maximum Frame Rate	60 fps @ full size
ISP	Not included
Color / Mono	Color
Interface	4-lane MIPI CSI-2
Power Consumption	Approximate 286 mA @ 3.3 VDC (2592 x 1944 @ 30 fps)
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 15 g
Part#	LI-OG05B20-MIPI-081H

APPLICATIONS

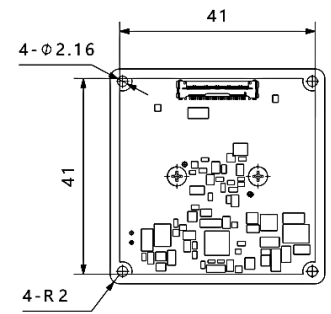
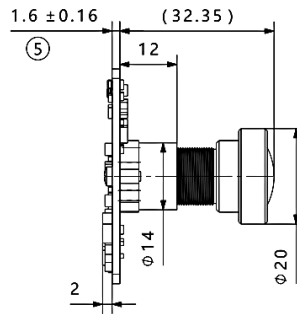
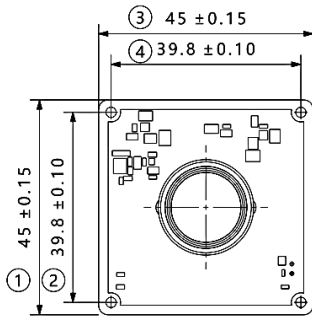
- Machine Vision Camera
- Logistics Application
- Industrial Bar Code Scanning
- Robotics

LENS SPECIFICATIONS

Focal Length	4 mm
Aperture, F/#	2.0
Field of View (FOV)	81° horizontal
OP Distortion	<-34.8%
Relative Illumination	>50%
IR Filter	650nm IR CUT Filter
Lens Mount	M12 x P0.5



DIMENSIONS



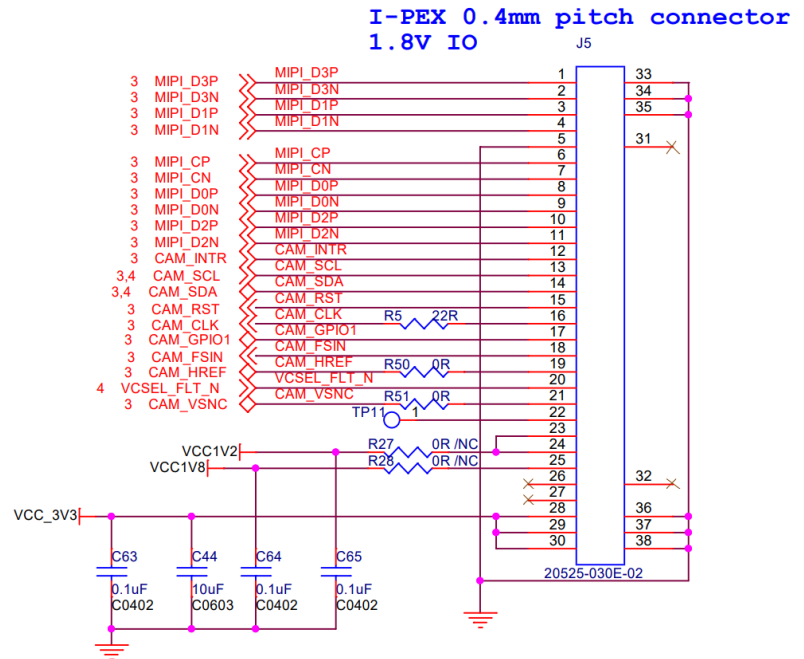
NOTE:

- ⊗ 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				

INTERFACE J5

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX cable: LI-FAW-1233
- Sensor I2C Address: 0x6C (7-bit)
- External Power Supply: 3.3V
- 2.8VA, 1.8V and 1.2V are generated from board



PINOUT DETAILS OF J2

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI1_D3P	OUTPUT	MIPI Data Lane 3 Differential Pair +	MIPI DPHY
2	MIPI1_D3N	OUTPUT	MIPI Data Lane 3 Differential Pair -	MIPI DPHY
3	MIPI1_D1P	OUTPUT	MIPI Data Lane 1 Differential Pair +	MIPI DPHY
4	MIPI1_D1N	OUTPUT	MIPI Data Lane 1 Differential Pair -	MIPI DPHY
5	GND	POWER	Ground signal for digital and analog	-
6	MIPI_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI_D0P	OUTPUT	MIPI Clock Data0 Differential Pair +	MIPI DPHY
9	MIPI_D0N	OUTPUT	MIPI Clock Data0 Differential Pair -	MIPI DPHY
10	MIPI1_D2P	OUTPUT	MIPI Data Lane 2 Differential Pair +	MIPI DPHY
11	MIPI1_D2N	OUTPUT	MIPI Data Lane 2 Differential Pair -	MIPI DPHY
12	CAM_INTR	I/O	Camera error interrupt (active low)	1.8V
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 2.2k)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	CAM_SDA	I/O	1.8V IO Camera I2C SDA signal (Pulled up to 1.8V with 2.2k)	1.8V
15	CAM_RST	INPUT	1.8V IO camera reset signal	1.8V
16	CAM_CLK	INPUT	Reserved CLK for camera	1.8V
17	CAM_GPIO1	I/O	General-purpose input/output	1.8V
18	CAM_FSIN	INPUT	1.8V IO Trigger signal for camera	1.8V
19	CAM_HREF	I/O	1.8V IO Horizontal sync signal for camera	1.8V
20	VCSEL_FLT_N	I/O	Reserved	1.8V
21	VSYNC	I/O	1.8V IO Vertical sync signal for camera	1.8V
22	TP	I/O	Test Point	1.8V
23	VCC_1V2	POWER	Reserved 1.2V power supply	1.2V
24	VCC_1V2	POWER	Reserved 1.2V power supply	1.2V
25	VCC_1V8	POWER	Reserved 1.8V power supply	1.8V
26	NC	-	-	-
27	NC	-	-	-
28	VCC_3V3	POWER	3.3V power supply	3.3V
29	VCC_3V3	POWER	3.3V power supply	3.3V
30	VCC_3V3	POWER	3.3V power supply	3.3V

- REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	14 Mar 2025

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