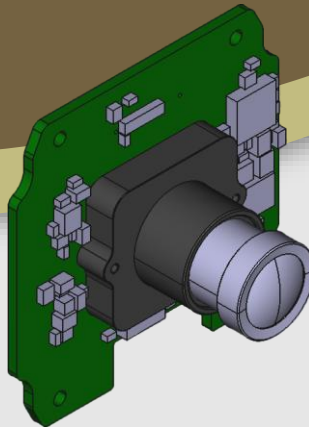




LEOPARD
IMAGING

LI-OG05B20-YUV-MIPI-090H



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INTRODUCTION

The LI-OG05B20-YUV-MIPI-090H is a global shutter MIPI camera. It is equipped with OmniVision 1/2.53" CMOS 5MP global shutter image color sensor OG05B20 which features with PureCel®plus-S and Nyxel® technologies and ISP. It has a dedicated Inbuilt high-performance Image Signal Processor (ISP) chip tuned to bring out the best-in-class image quality and color reproduction, making it adaptable to different lighting conditions. This camera outputs YUV image data.

SPECIFICATIONS

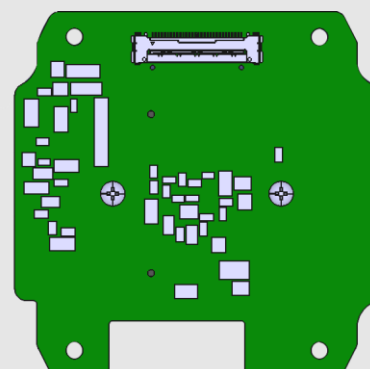
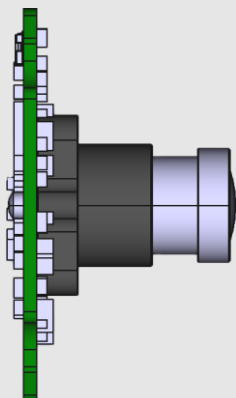
Maximum Frame Rate	60 fps @ full size
Data Format	YUV422
Sensor	OmniVision 1/2.53" CMOS 5MP image sensor OG05B20
Optical Format	1/2.53"
Pixel Size	2.2 x 2.2 μm
Color / Mono	Color
Shutter Type	Global shutter
Resolution	2592 (H) x 1944 (V) (active pixels)
ISP	Included
Interface	4-lane MIPI D-PHY
Operating Temp	TBD
Storage Temp	TBD
Power Consumption	TBD
Weight	TBD

Applications

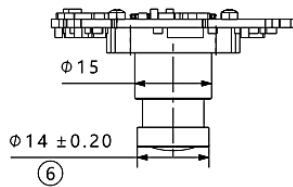
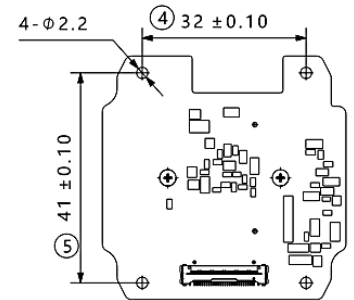
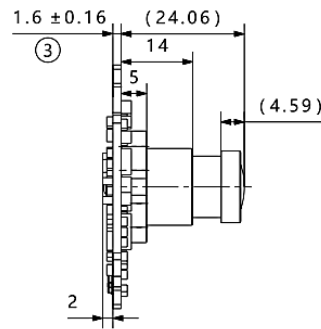
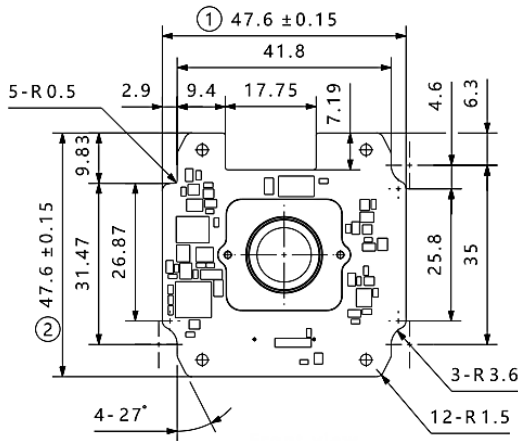
- Machine vision
- Logistics
- Industrial bar code scanning
- Robotics

Lens Specifications

Focal Length	3.8 mm
Aperture, F/#	2.6
Field of View (FOV)	90° horizontal
IR Filter	650nm IR cut filter
Lens Mount	M12 x P0.5



DIMENSIONS



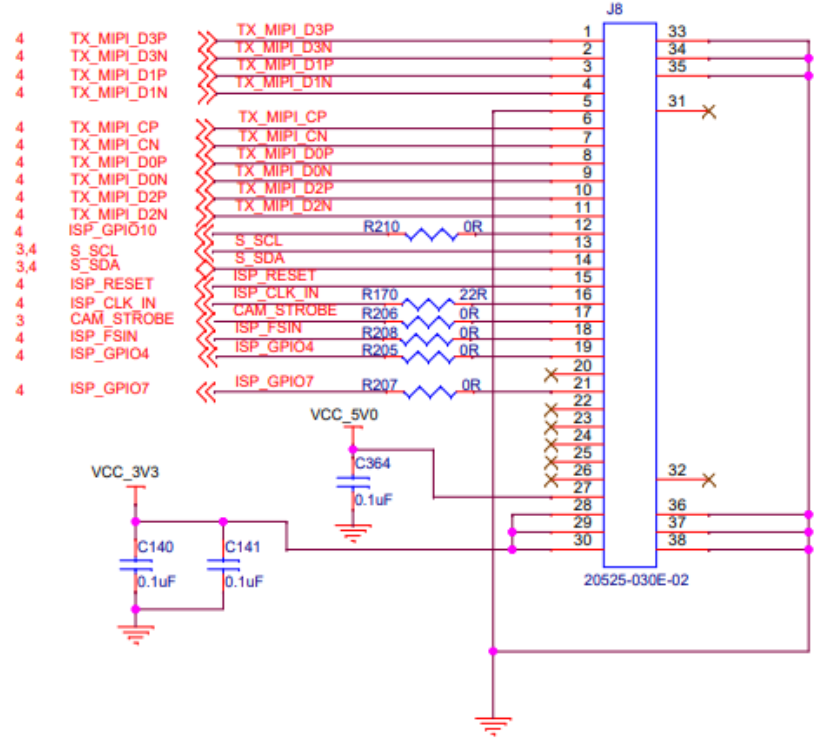
NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the tolerance table.
- Unit: mm

TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
$0.5 < X \leq 3$	± 0.1	$0.5 < X \leq 3$	± 0.2	$X \leq 10$	$\pm 1^\circ$
$3 < X \leq 6$	± 0.1	$3 < X \leq 6$	± 0.5	$10 < X \leq 50$	$\pm 30'$
$6 < X \leq 30$	± 0.2	$6 < X \leq 30$	± 1	$50 < X \leq 120$	$\pm 20'$
$30 < X \leq 120$	± 0.3	$X > 30$	± 2	$120 < X \leq 400$	$\pm 10'$
$120 < X \leq 400$	± 0.5			$X > 400$	$\pm 5'$
$400 < X \leq 1000$	± 0.8				
$X > 1000$	± 1.2				

INTERFACE

- Connector Part#: 20525-030E-02
- Number of positions: 30
- Pitch: 0.4 mm
- ISP I2C address: 0x48 (8-bit)
- External power supply: 3.3V



PINOUT DETAILS

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI1_D3P	OUTPUT	MIPI Clock Data3 Differential Pair +	MIPI DPHY
2	MIPI1_D3N	OUTPUT	MIPI Clock Data3 Differential Pair -	MIPI DPHY
3	MIPI1_D1P	OUTPUT	MIPI Clock Data1 Differential Pair +	MIPI DPHY
4	MIPI1_D1N	OUTPUT	MIPI Clock Data1 Differential Pair -	MIPI DPHY
5	GND	POWER	Ground signal for digital and analog	-
6	MIPI1_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI1_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI1_D0P	OUTPUT	MIPI Clock Data0 Differential Pair +	MIPI DPHY
9	MIPI1_D0N	OUTPUT	MIPI Clock Data0 Differential Pair -	MIPI DPHY
10	MIPI1_D2P	OUTPUT	MIPI Clock Data2 Differential Pair +	MIPI DPHY
11	MIPI1_D2N	OUTPUT	MIPI Clock Data2 Differential Pair -	MIPI DPHY
12	ISP_GIOP10	I/O	General-Purpose Input/Output 5 (ISP)	1.8V
13	S_SCL	INPUT	1.8V IO ISP I2C SCL signal (Pulled up to 1.8V with 1.5k)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	S_SDA	I/O	1.8V IO ISP I2C SDA signal (Pulled up to 1.8V with 1.5k)	1.8V
15	ISP_RESET	INPUT	1.8V IO ISP reset signal (Active Low) (Pulled up to 1.8V with 10k)	1.8V
16	ISP_CLK-IN	INPUT	Reserved CLK for ISP	1.8V
17	CAM_STROBE	I/O	1.8V CAM STROBE output	1.8V
18	ISP_FSIN	INPUT	1.8V IO ISP Trigger input	1.8V
19	ISP_GPIO4	I/O	General-Purpose Input/Output 4 (ISP)	1.8V
20	-	-	-	-
21	ISP_GPIO7	I/O	General-Purpose Input/Output 7 (ISP)	1.8V
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	VCC_5V0	POWER	Reserved 5V power supply	5V
28	VCC_3V3	POWER	3.3V digital power supply	3.3V
29	VCC_3V3	POWER	3.3V digital power supply	3.3V
30	VCC_3V3	POWER	3.3V digital power supply	3.3V

- REVISION HISTORY

Revision	Description	Release date
0.1	Initial draft.	11 Nov 2025

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