



LEOPARD
IMAGING

LI-IMX253-MIPI-020H



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INTRODUCTION

The LI-IMX253-MIPI-020H is a high resolution MIPI CSI-2 camera equipped with Sony Polarsens Diagonal 17.6 mm CMOS Image color Sensor IMX253 which features a global shutter and FPGA. This camera supports polarization analysis, making it suitable for scenarios with complex ambient light or requiring enhanced contrast, such as aerial photography or remote sensing monitoring.

SPECIFICATIONS

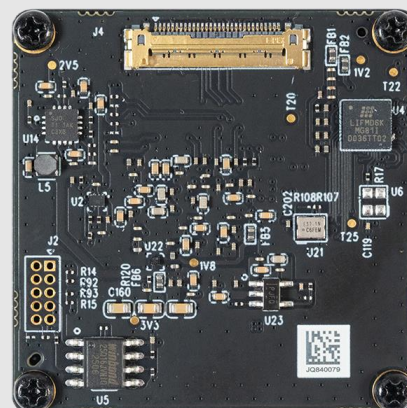
Maximum Frame Rate	8-bit: 42.6 fps @ All-pixel scan mode
	10-bit: 34.6 fps @ All-pixel scan mode
	12-bit: 29.1 fps @ All-pixel scan mode
Sensor	Sony Polarsens Diagonal 17.6 mm CMOS Image Sensor IMX253
Optical Format	1.1"
Pixel Size	3.45 x 3.45 μm
Color / Mono	Color sensor
Shutter Type	Global shutter
Resolution	4112 (H) x 3008 (V) (active pixels)
FPGA	Included
Interface	4-lane MIPI CSI-2
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 136 g

APPLICATIONS

- FA
- ITS
- Drone

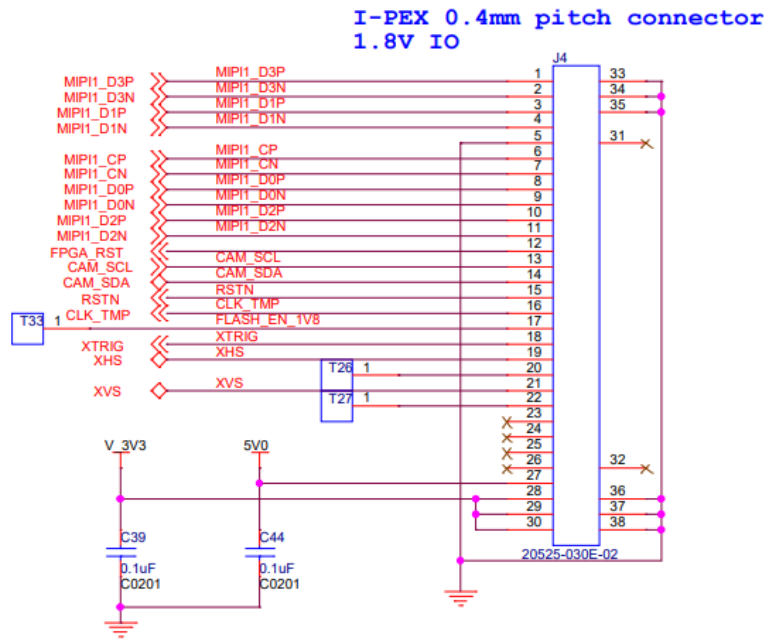
LENS SPECIFICATIONS

Focal Length	35 mm
Aperture, F/#	2.4 ~ 16
Field of View (FOV)	20° horizontal
TV Distortion	<0.1%
Illumination	$\geq 70\%$
IR Filter	650 nm IR cut filter (on holder)
Lens Mount	C Mount



INTERFACE J4

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233
- Sensor I2C Address: 0x10 (7-bit)
- External Power Supply: 3V3, 5V0



PINOUT DETAILS OF J4

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	FPGA_RST	INPUT	1.8V IO FPGA reset signal (Pulled up to 1.8V with 10k)	1.8V
13	CAM_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 1k)	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 1k)	1.8V
15	RSTN	INPUT	1.8V IO camera reset signal (Pulled up to 1.8V with 10k)	1.8V
16	CLK_TMP	INPUT	Reserved CLK for camera	1.8V
17	-	-	-	-
18	XTRIG	INPUT	Trigger signal	1.8V
19	XHS	I/O	Horizontal sync signal (Pulled up to 1.8V with 10k)	1.8V
20	-	-	-	-
21	XVS	I/O	Vertical sync signal (Pulled up to 1.8V with 10k)	1.8V
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	VCC_5V0	POWER	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
1.0	First realse.	26 Dec 2023

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