



LEOPARD
IMAGING

LI-ISX031-MIPI-118H



Address:

910 Auburn Ct
Fremont, CA 94538
USA



Phone:

+1 (408)263-0988

Fax:

+1 (408)217-1960



Sales:

sales@leopardimaging.com

Support:

support@leopardimaging.com

INTRODUCTION

The LI-ISX031-MIPI-118H is equipped with Sony Diagonal 7.45 mm (Type 1/2.42) CMOS image sensor ISX031 which features a high performance image processing engine. This camera outputs YUV 8-bit data.

SPECIFICATIONS

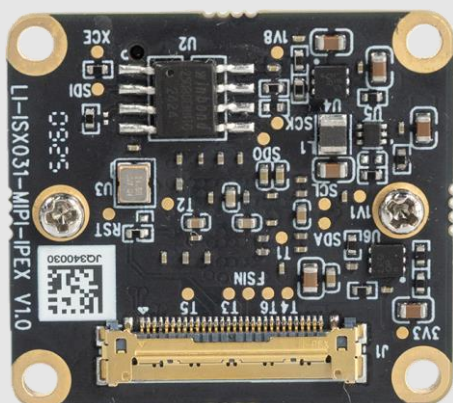
Maximum Frame Rate	60 fps @ All pixel scan mode
Output Format	12-bit / 10-bit RAW data
Sensor	Sony Diagonal 7.45 mm Type 1/2.42 CMOS Image Sensor ISX031
Optical Format	1/2.42"
Resolution	1937 (H) x 1553 (V) (active pixels)
Pixel Size	3.0 x 3.0 μm
HDR (High Dynamic Range)	Supported
ISP	Sensor with built-in ISP
Color / Mono	Color sensor
Interface	4-lane MIPI CSI-2
Power Consumption	~ 0.68 w
Operating Temp	-40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$
Storage Temp	-40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$
Weight	~ 14 g

APPLICATIONS

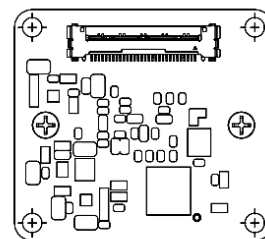
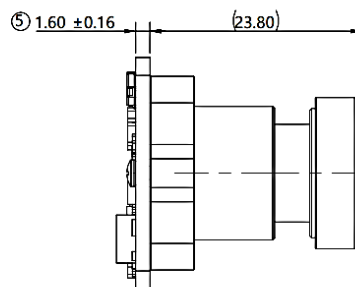
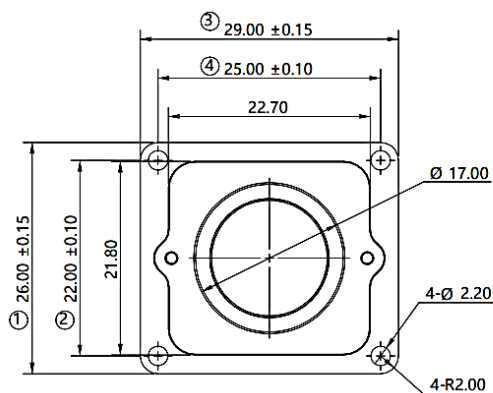
- Automotive
 - ◆ Autonomous Driving
 - ◆ Assisted Driving
 - ◆ Digital Video Recording
 - ◆ Machine Vision

LENS SPECIFICATIONS

Effective Focal Length	3.021 $\pm$ 5% mm
Aperture, F/#	2.0 $\pm$ 5%
Field of View (FOV)	118 $^{\circ}$ horizontal
IR Filter	650nm IR cut filter
Lens Mount	M12 x P0.5



DIMENSIONS



NOTE:

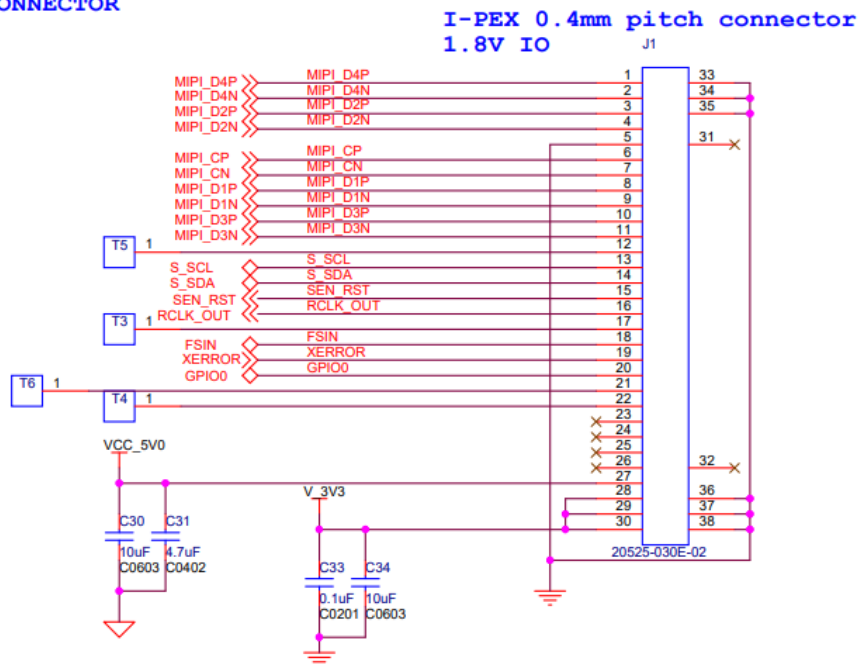
- ⊗ marked are important sizes.
- Tolerances for the unmarked refer to the tolerance table.
- All materials are compliant with RoHS requirements.
- Unit: mm

TOLERANCE TABLE					
LENGTH TOLERANCE		CHAMFER TOLERANCE		ANGLE TOLERANCE	
Size X	Tolerance	Size X	Tolerance	Size X	Tolerance
$0.5 < X \leq 3$	± 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				

MODULE INTERFACE

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-03
- Sensor I2C Address: 0X1A (7-bit)
- External Power Supply: 5V0, 3.3V

CONNECTOR



PINOUT DETAILS

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MIPI_D4P	OUTPUT	MIPI Clock Data4 Differential Pair +	MIPI DPHY
2	MIPI_D4N	OUTPUT	MIPI Clock Data4 Differential Pair -	MIPI DPHY
3	MIPI_D2P	OUTPUT	MIPI Clock Data2 Differential Pair +	MIPI DPHY
4	MIPI_D2N	OUTPUT	MIPI Clock Data2 Differential Pair -	MIPI DPHY
5	GND	-	-	-
6	MIPI_CP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
7	MIPI_CN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
8	MIPI_D1P	OUTPUT	MIPI Clock Data1 Differential Pair +	MIPI DPHY
9	MIPI_D1N	OUTPUT	MIPI Clock Data1 Differential Pair -	MIPI DPHY
10	MIPI_D3P	OUTPUT	MIPI Clock Data3 Differential Pair +	MIPI DPHY
11	MIPI_D3N	OUTPUT	MIPI Clock Data3 Differential Pair -	MIPI DPHY
12	T5	-	Reserved Test Point	-
13	S_SCL	INPUT	1.8V IO Camera I2C SCL signal (Pulled up to 1.8V with 1.5k on the board)	1.8V

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	S_SDA	I/O	1.8V IO Camera I2C SDA signal (Pulled up to 1.8V with 1.5k on the board)	1.8V
15	SEN_RST	INPUT	1.8V IO camera reset signal (Pulled up to 1.8V with 10k on the board)	1.8V
16	RCLK_OUT	INPUT	Reserved CLK for camera (Must be provided from host side)	1.8V
17	T3	-	Reserved Test Point	-
18	FSYNC	I/O	Frame sync signal for camera	1.8V
19	XERROR	OUTPUT	Fault detection signal	1.8V
20	INCKSEL	I/O	Sensor clock frequency selection (Pulled up to 1.8V with 10k on the board)	1.8V
21	T6	-	Reserved test point	-
22	T7	-	Reserved test point	-
23	NC	-	-	-
24	NC	-	-	-
25	NC	-	-	-
26	NC	-	-	-
27	VCC_5V0	INPUT	5V power supply (Must be provided from host side)	5V
28	VCC_3V3	INPUT	3.3V power supply (Must be provided from host side)	3.3V
29	VCC_3V3	INPUT	3.3V power supply (Must be provided from host side)	3.3V
30	VCC_3V3	INPUT	3.3V power supply (Must be provided from host side)	3.3V

• REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	08 Jan 2026

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