



LEOPARD
IMAGING

LI-USB30-AR1223-YUV-098H



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INTRODUCTION

The LI-USB30-AR1223-YUV-098H is a high resolution USB 3.0 camera equipped with ON Semiconductor 12MP CMOS digital image color sensor AR1223, ISP and USB30 controller. 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

Frame Rate	15 fps @ 4096 × 3046
Output Format	YUV422
Sensor	ON Semiconductor 12MP CMOS digital image sensor AR1223
Optical Format	1/1.6"
Color / Mono	Color
Pixel Size	2.0 μm
Resolution	4096 (H) x 3046 (V) active pixels
xDR (X-tended Dynamic Range)	Supported
ISP	Included
USB30 Controller	Included
Interface	USB 3.0
Power Supply Range	5 VDC (from USB3.0 port)
Power Consumption	0.378 A @ +5 VDC (15 fps @ 4096 × 3046)
Operating Temp	TBD
Storage Temp	TBD
Ingress Protection	N/A
Weight	~85 g

Applications

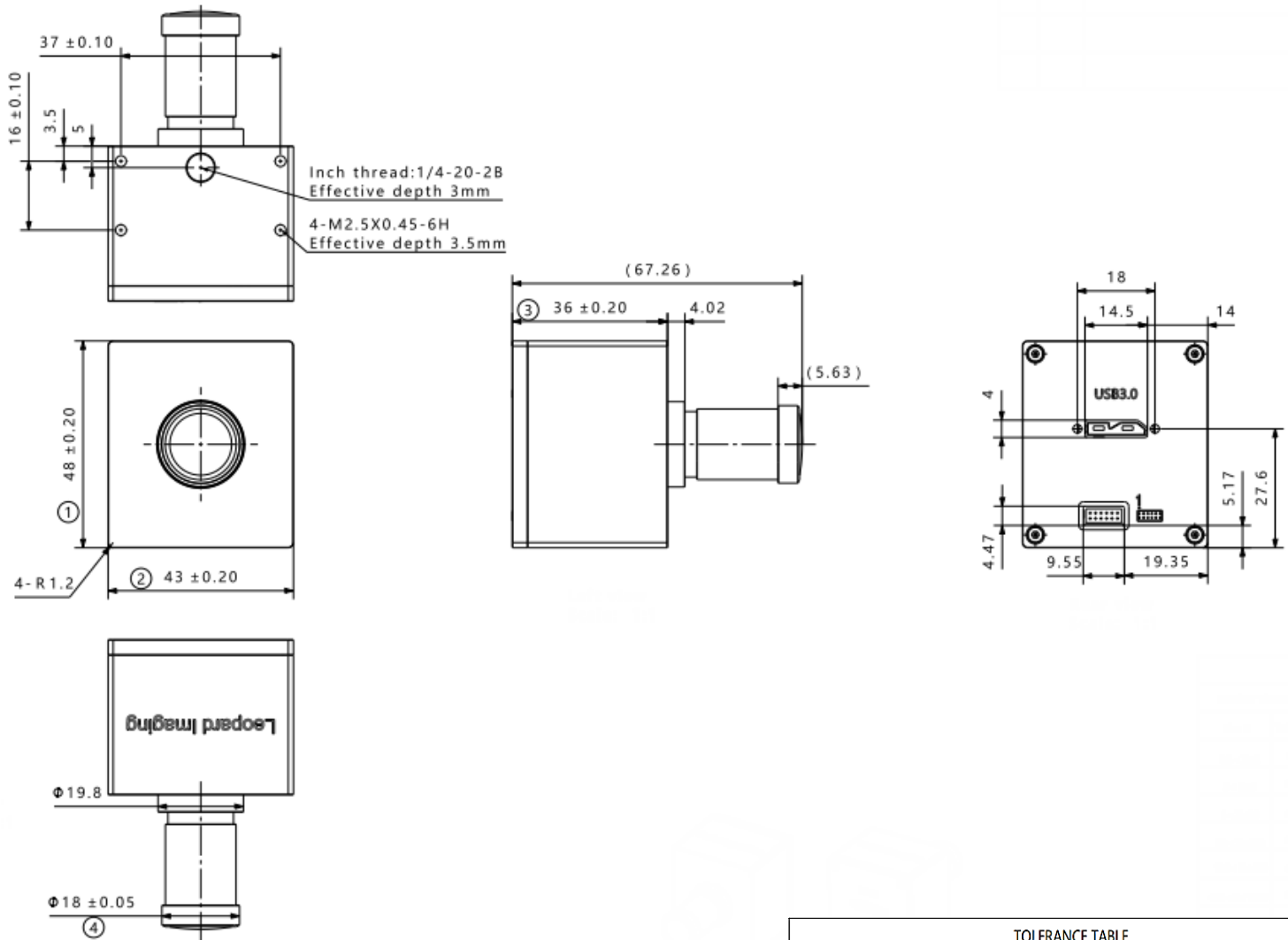
- Security
- IoT
- Car DVR

Lens Specifications

Effective Focal Length	5.17 ± 5% mm
Aperture, F/#	1.6 ± 5%
Field of View (FOV)	98° horizontal
IR Filter	650 nm IR CUT filter
Lens Mount	M16 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				

● INTERFACE

- Part#: PZ3161212PDGFCNN070
- Number of Positions: 12
- Pitch: 1.27mm



PINOUT DETAILS

Pin No	Pin Name	Description	Pin Type	Voltage Level
1	OPT_IN	Isolated Input of optoiso	Input	Max 30V
2	NC	No connection	-	-
3	UART_TX	Transmitting end of UART of CYUSB3014	Output	3.3V
4	UART_RX	Receiving end of UART of CYUSB3014	Input	3.3V
5	GND	Field Ground of optoiso	-	-
6	GND	Digital Ground	-	-
7	5V0	5V power	Power	5V
8	3V3	3.3V power	Power	3.3V
9	GPIO25	General-purpose input/output	Bidir	3.3V
10	GPIO60	General-purpose input/output	Bidir	3.3V
11	GPIO26	General-purpose input/output	Bidir	3.3V
12	GPIO27	General-purpose input/output	Bidir	3.3V

● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	11 Nov 2025
0.2	1. Updated frame rate and power consumption. 2. Updated pictures on the page 1 & 2.	29 Jul 2026

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