



LEOPARD
IMAGING

LI-OS04E10-MIPI-183H



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INTRODUCTION

The LI-OS04E10-MIPI-183H camera module incorporates the OmniVision 1/3.111" color 4MP COMS sensor OS04E10, with PureCel Plus and Nyxel technologies. The camera captures 2048×2048 video at 60 fps, offering excellent low-light performance with minimal noise and smearing for clear, stable images. This makes it an ideal solution for AI security systems and mass-market cameras demanding high detail for threat identification and reliable wide-angle video.

SPECIFICATIONS

Maximum Frame Rate	60 fps @ 2048 x 2048, 80 fps @ 1920 x 1080, 120 fps @ 1024 x 1024, 240 fps @ 512 x 512
Output Format	10-bit / 12-bit RGB RAW
Focusing Distance	12 cm ~ Infinity
Sensor	OmniVision 1/3.111" CMOS 4MP image sensor OS04E10
Optical Format	1/3.111"
Pixel Size	1.998 μmx 1.998 μm
Color / Mono	Color
Resolution	2048 (H) x 2048 (V) (active pixels)
Staggered HDR (High Dynamic Range)	Supported
Interface	4-lane MIPI-CSI
Operating Temp	TBD
Storage Temp	TBD
Power Consumption	TBD
Weight	~ 4 g

APPLICATIONS

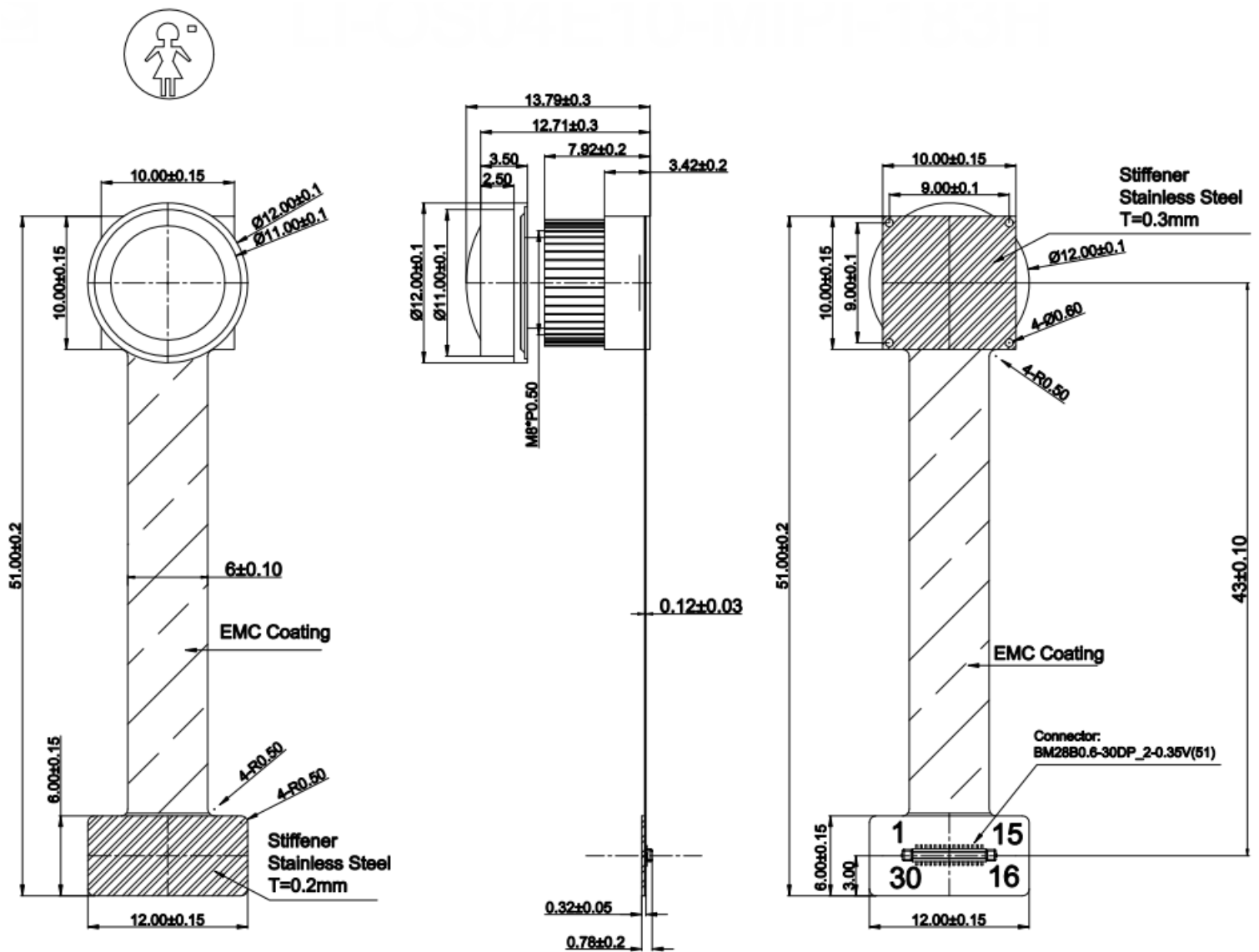
- Doorbell Security Camera
- Dome / VFOV Security Camera
- AR / R Pass-Through Camera
- Action Camera

LENS SPECIFICATIONS

Focal Length	1.44 mm
Aperture, F/#	2.3
Field of View (FOV)	183° diagonal
	183° horizontal
	183° vertical



DIMENSIONS

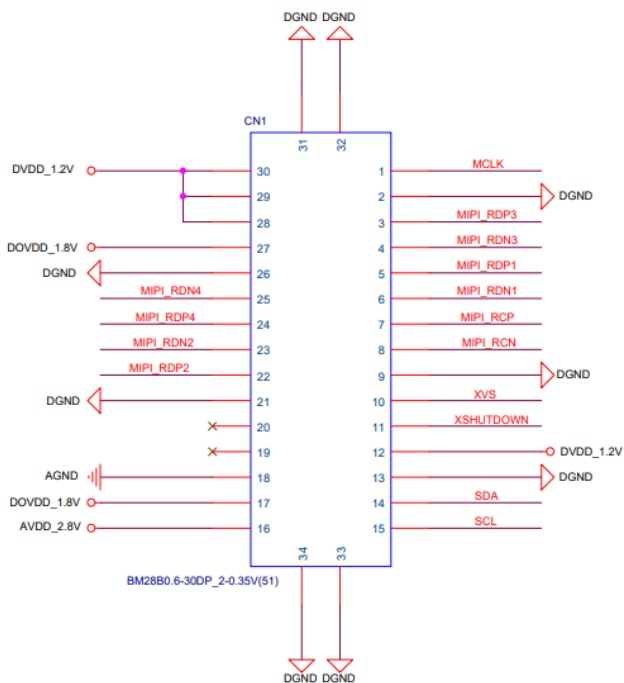


Unit: mm

● MODULE CONNECTOR

- Connector Part#: BM28B0.6-30DP/2-0.35V(51)
- Number of Positions: 30
- Pitch: 0.4 mm
- Sensor I2C Address: 0X6C (8-bit)
- External Power Supply: 1.2V, 1.8V, 2.8V

Note: 1.2V, 1.8V, 2.8V can rise in any order.



Pinout Details

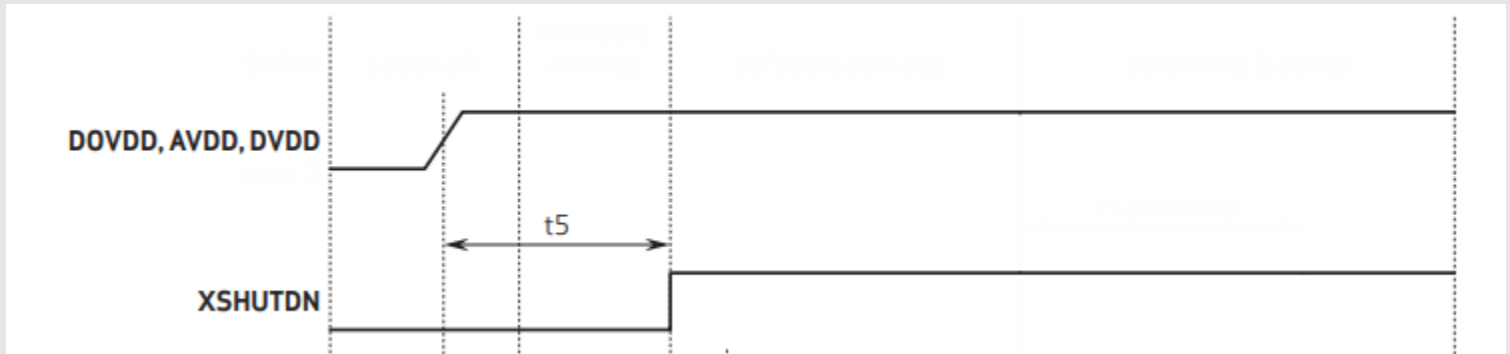
Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MCLK	INPUT	Sensor clock signal (Must be provided from the host side)	1.8 V
2	DGND	–	–	–
3	MIPI_RDP3	OUTPUT	MIPI Data Lane 3 Differential Pair +	MIPI DPHY
4	MIPI_RDN3	OUTPUT	MIPI Data Lane 3 Differential Pair -	MIPI DPHY
5	MIPI_RDP1	OUTPUT	MIPI Data Lane 1 Differential Pair +	MIPI DPHY
6	MIPI_RDN1	OUTPUT	MIPI Data Lane 1 Differential Pair -	MIPI DPHY
7	MIPI_RCP	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
8	MIPI_RCN	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
9	DGND	–	–	–
10	XVS	I/O	Frame Sync	1.8 V
11	XSHUTDOWN	INPUT	Asynchronous active LOW reset (Require pullup at host side)	1.8 V
12	DVDD_1.2V	INPUT	1.2V digital power supply for MIPI D-PHY (Must be provided from the host side)	1.2 V
13	DGND	–	–	–

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	SDA	I/O	1.8V IO Camera I2C SCL signal (Require pull-up at the host)	1.8 V
15	SCL	INPUT	1.8V IO Camera I2C SDA signal (Require pull-up at the host)	1.8 V
16	AVDD_2.8V	INPUT	2.8V Analog Power Supply for sensor (Must be provided from the host side)	2.8 V
17	DOVDD_1V8	INPUT	1.8V Power Supply for I/O (Must be provided from the host side)	1.8 V
18	AGND	–	–	–
19	NC	–	–	–
20	NC	–	–	–
21	DGND	–	–	–
22	MIPI_RDP2	OUTPUT	MIPI Data Lane 2 Differential Pair +	MIPI DPHY
23	MIPI_RDN2	OUTPUT	MIPI Data Lane 2 Differential Pair -	MIPI DPHY
24	MIPI_RDP4	OUTPUT	MIPI Data Lane 4 Differential Pair +	MIPI DPHY
25	MIPI_RDN4	OUTPUT	MIPI Data Lane 4 Differential Pair -	MIPI DPHY
26	DGND	–	–	–
27	DOVDD_1V8	INPUT	1.8V Power Supply for I/O (Must be provided from the host side)	1.8 V
28	DVDD_1.2V	INPUT	1.2V digital power supply for MIPI D-PHY (Must be provided from the host side)	1.2 V
29	DVDD_1.2V	INPUT	1.2V digital power supply for MIPI D-PHY (Must be provided from the host side)	1.2 V
30	DVDD_1.2V	INPUT	1.2V digital power supply for MIPI D-PHY (Must be provided from the host side)	1.2 V

External Power supply Power On Sequence

The recommended power-on sequence is shown in as follows.

1. DOVDD(1.8V),AVDD(2.8V), and DVDD(1.2V) can rise in any order
2. XSHUTDOWN rising must occur after DOVDD(1.8V),AVDD(2.8V), and DVDD(1.2V) are stable.



Constraint	Timing	Min.	Max.	Unit
AVDD.DOVDD or DVDD, whichever is last-XSHUTDOWN rising	t5	0	∞	ns

Power Consumption

Symbol	Min.	Typ.	Max.	Unit
I_{DOVDD}		0.02	0.045	mA
I_{DVDD}		80	90	
I_{AVDD}		29	40	

● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	24 Dec 2025

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