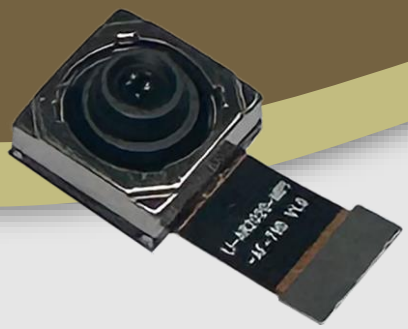
LEOPARD IMAGING

LI-AR2020-MIPI-AF-79D



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INTRODUCTION

The LI-AR2020-MIPI-079H is a MIPI camera equipped with ON Semiconductor 1/1.8-inch 20 Mp CMOS sensor AR2020 which features advanced 1.4 µm pixel stacked BSI technology and enhanced NIR response on 850 nm and 940 nm wavelength. This camera outputs 10-bit RAW data.

SPECIFICATIONS

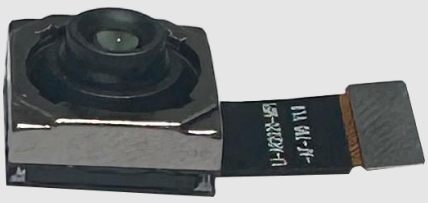
Sensor	ON Semiconductor 20 Mp CMOS sensor AR2020
Optical Format	1/1.8"
Resolution	5120 (H) x 3840 (V) (active pixels)
Pixel Size	1.4 µm Back Side Illuminated (BSI)
ADC resolution	10−bits, on die
Auto Focus	Supported
VCM for Auto Focus	Yes
Color / Mono	Color sensor
Maximum Frame Rate	30 fps @ full size, Linear mode
Interface	1x 4-lane MIPI
Power Consumption	TBD
Operating Temp	TBD
Storage Temp	TBD
Weight	~ 2 g
Part#	LI-AR2020-MIPI-AF-79D

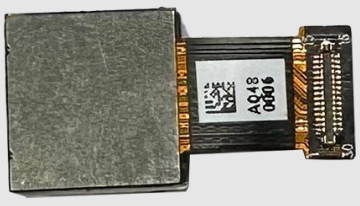
APPLICATIONS

- Surveillance Camera
- Video Conferencing
- Machine Vision
- 3D and Stereo Imaging

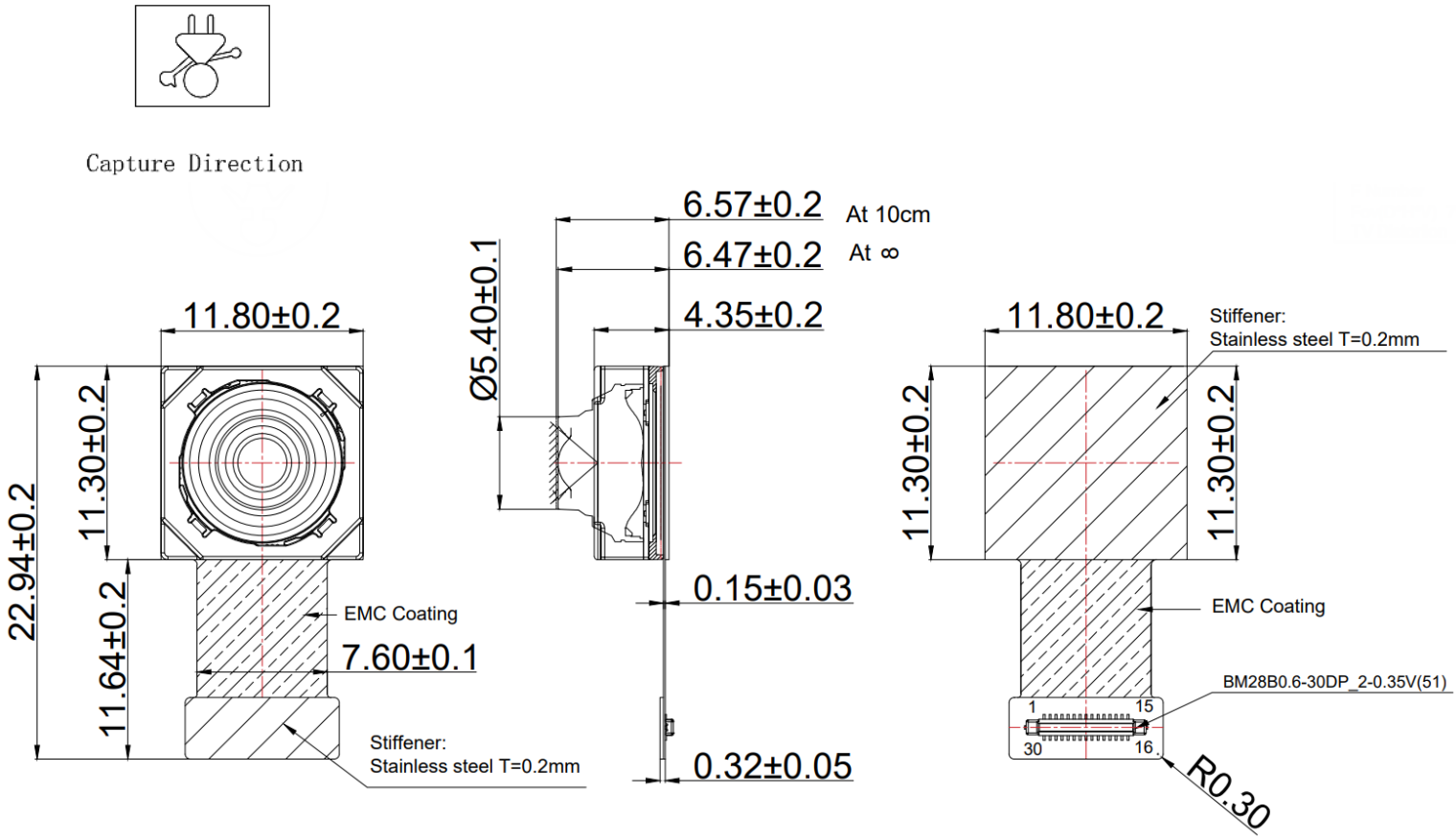
LENS SPECIFICATIONS

Effective Focal Length	5.43 mm
Aperture, F/#	1.89 ± 5%
FOV	79.05 diagonal
	66.85˚ horizontal
	52.67˚ vertical
TV Distortion	<-1.5%





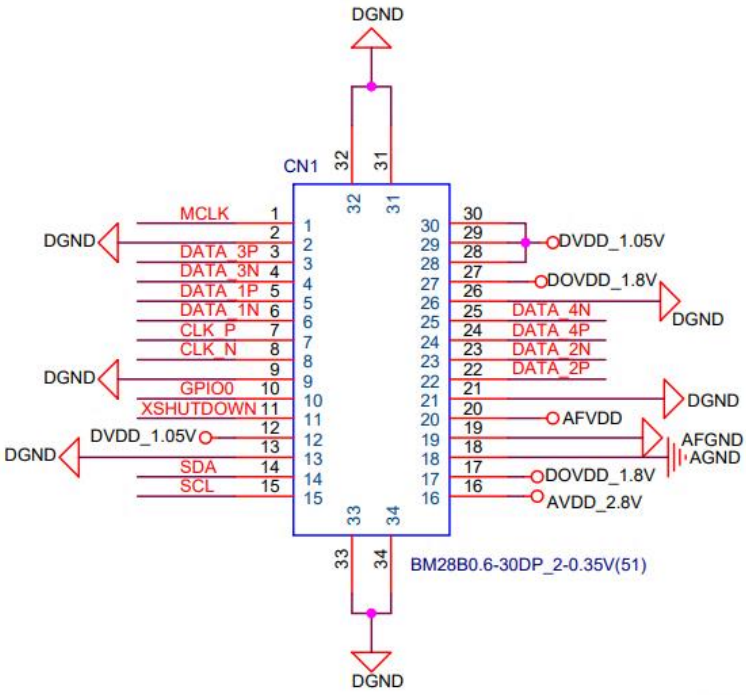
DIMENSIONS



Unit: mm

INTERFACE

- Part#: BM28B0.6-30DP_2-0.35V(51)
- Number of Positions: 30
- Number of Rows: 2
- Pitch: 0.35 mm
- Sensor I2C Address (W / R):
  0X6C / 0X6D (8-bit)
- VCM Driver Address(W / R):
  0X18 / 0X19 (8-bit)
- EEPROM Address(W / R):
  0XA0 / 0XA1 (8-bit)



PINOUT DETAILS

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	MCLK	INPUT	Clock input	1.8V
2	DGND	POWER	Ground signal for digital	-
3	DATA_3P	OUTPUT	MIPI Clock Data3 Differential Pair +	MIPI DPHY
4	DATA_3N	OUTPUT	MIPI Clock Data3 Differential Pair -	MIPI DPHY
5	DATA_1P	OUTPUT	MIPI Clock Data1 Differential Pair +	MIPI DPHY
6	DATA_1N	OUTPUT	MIPI Clock Data1 Differential Pair -	MIPI DPHY
7	CLK_P	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
8	CLK_N	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
9	DGND	POWER	Ground signal for digital	-
10	GPIO	I/O	General purpose inputs and outputs	1.8V
11	XSHUTDOWN	INPUT	Asynchronous active LOW reset	1.8V
12	DVDD_1.05V	POWER	Power supply	1.05V
13	DGND	POWER	Ground signal for digital	-

Pin No	Signal Name	Pin Type	Description	Voltage Level
14	SDA	I/O	1.8V IO Camera I2C SDA signal	1.8V
15	SCL	INPUT	1.8V IO Camera I2C SCL signal	1.8V
16	AVDD_2.8V	POWER	Power supply	2.8V
17	DOVDD_1.8V	POWER	Power supply	1.8V
18	AGND	POWER	Ground signal for analog	-
19	AFGND	POWER	Ground signal for analog	-
20	AFVDD	POWER	Power supply	2.8V
21	DGND	POWER	Ground signal for digital	-
22	DATA_2P	OUTPUT	MIPI Clock Data2 Differential Pair +	MIPI DPHY
23	DATA_2N	OUTPUT	MIPI Clock Data2 Differential Pair -	MIPI DPHY
24	DATA_4P	OUTPUT	MIPI Clock Data4 Differential Pair +	MIPI DPHY
25	DATA_4N	OUTPUT	MIPI Clock Data4 Differential Pair -	MIPI DPHY
26	DGND	POWER	Ground signal for digital	–
27	DOVDD_1.8V	POWER	1.8V Power supply for camera board	1.8V
28	DVDD_1.05V	POWER	1.05V Power supply for camera board	1.05V
29	DVDD_1.05V	POWER	1.05V Power supply for camera board	1.05V
30	DVDD_1.05V	POWER	1.05V Power supply for camera board	1.05V

REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	10 May 2025
0.2	Updated pictures on the page 1 & 2.	01 Sep 2025

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