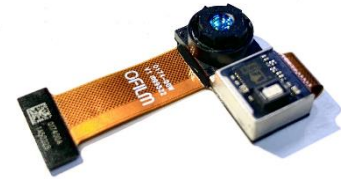


## General Description

OPNM8518A is a tiny 3D camera module, based on OPNOUS 2<sup>nd</sup> generation Time-of-Flight (ToF) technology, using VCSEL illumination. The VGA resolution, high integration, low power consumption and high precision make this module ideal for depth sensing applications.



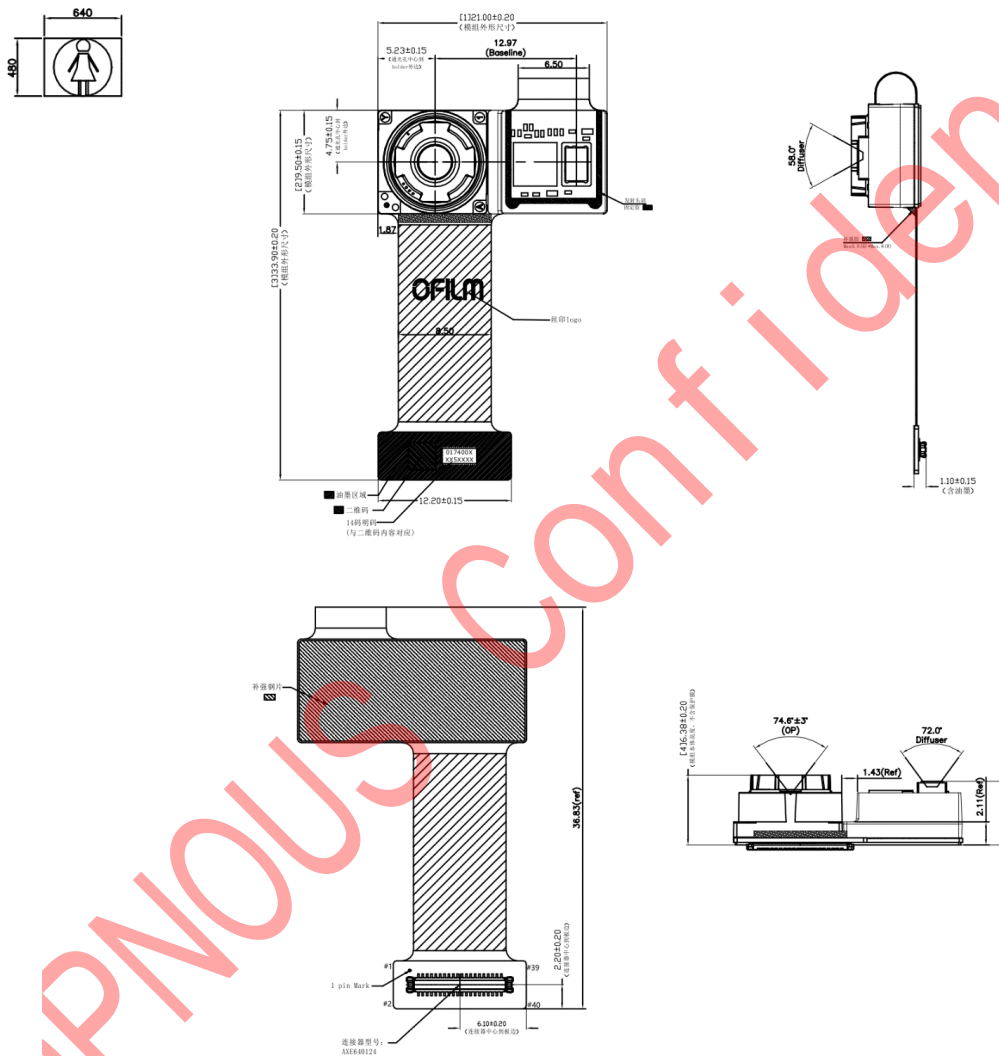
## Key Specifications

Parameter	Description
Sensor	OPN8018D, global shutter
Resolution	640 * 480
Pixel size	7um
Sensor size	1/3"
Dimensions	21.00mm * 9.50mm * 6.38mm
Frame rate	10 – 60 fps
Measurement range	0.15 – 1.2m
FoV	61.7°(H) * 48.2°(V)
Distortion	<2.5%
Illumination	940nm, 3W
Input clock	27Mhz
Power supply	Sensor: 3.3V single power supply, >=300mA VCSEL: 4.6V, >= 2A
Power consumption	500mW. Typ
Depth accuracy	<=1%
Interface	MIPI CSI-2, 2/4 lanes

## Typical Applications

- ✓ 3D reconstruction
- ✓ Visual support for robot grippers
- ✓ Localization, tracking and identification of individuals (humans, animals)
- ✓ People counting and motion analysis

## Module Dimensions



Module connector shown in above Figure:

- ✓ Part Number of module connector is AXE640124.
- ✓ Mating connector is AXE540127.

### Pin Definitions

Pin No.	Name	Description
1	VCSEL VDD	VCSEL Supply
2	3V3SNS	3.3V Power Supply
3	VCSEL VDD	VCSEL Supply
4	3V3SNS	3.3V Power Supply
5	VCSEL VDD	VCSEL Supply
6	3V3	3.3V Power Supply
7	SLV LSB	Address Select
8	GND	Ground
9	GND	Ground
10	CLKP	CSI-2 non-inverting clock output
11	MCLK	Reference Clock,27MHz
12	CLKN	CSI-2 inverting clock output
13	GND	Ground
14	GND	Ground
15	IRQS	Sensor output interrupt
16	D0P	CSI-2 non-inverting data output of data lane 0
17	SPI SDI	SPI Data in
18	D0N	CSI-2 inverting data output of data lane 0
19	SPI_SDO	SPI Data Out
20	GND	Ground
21	SPI_SCLK	SPI Clock
22	D1P	CSI-2 non-inverting data output of data lane 1
23	SPI_CSN0	SPI Selector 0
24	D1N	CSI-2 inverting data output of data lane 1
25	GDRV	Sync input
26	GND	Ground
27	ERR	Error indicator
28	D2P	CSI-2 non-inverting data output of data lane 2
29	SCL	CCI, Camera control interface
30	D2N	CSI-2 inverting data output of data lane 2
31	SDA	CCI, Camera control interface

Pin No.	Name	Description
32	GND	Ground
33	GND	Ground
34	D3P	CSI-2 non-inverting data output of data lane 3
35	RSTN	Reset (active low)
36	D3N	CSI-2 inverting data output of data lane 3
37	SPI_SCN1	SPI Selector 1
38	GND	Ground
39	SPI_EN	SPI interface enables
40	DRV_EN	VCSEL trigger signal output enable

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## Revision History

Revision	Date	Description
v1.0	2020/2/10	Initial revision.
v1.1	2020/2/27	Update FoV.

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