



# CMOS CAMERA MODULES

*your BEST camera module partner*

## KLT-OIS-AF-IMX258-C V1.2

**SONY IMX258 MIPI Interface Auto Focus 13MP Camera Module**  
**Micro Gimbal Stabilizer, Optical Image Stabilization (OIS) Platform**



<b>Camera Module No.</b>	<b>KLT-OIS-AF-IMX258-C V1.2</b>
<b>Image Sensor</b>	IMX258
<b>Stabilizer</b>	Micro Gimbal Stabilizer (MGS)
<b>EFL</b>	3.05 mm
<b>F.NO</b>	2.2
<b>Pixel</b>	4224 x 3192
<b>View Angle</b>	87.6°
<b>Lens Type</b>	1/3.06 inch
<b>Lens Dimensions</b>	19.00 x 19.00 x 9.9 mm
<b>Module Size</b>	39.00 x 19.00 mm
<b>Module Type</b>	Auto Focus
<b>Interface</b>	MIPI
<b>IMT Lens Model</b>	IMT-1A65H005-N

**Mating Connector Part No. BAF04-30083-0500**



Mating Connector On Main Board. Sold Separately.

**www.KaiLapTech.com sales@KaiLapTech.com Tel: (852) 6908 1256 Fax: (852) 3017 6778**

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# OIS Camera Modules

(OIS = Optical Image Stabilization Platform)

## World's Smallest Gimbal Stabilizer



### Core Technologies:

- MGS (micro gimbal stabilizer)  
(The lens and image sensor tilt together)
- $\pm 5^\circ$  max. compensation angle  
(More than enough for walking and jogging)
- Innovative anti-shaking solutions with 10+ patents
- Integrated design, including a gyroscope and an MGS driver IC

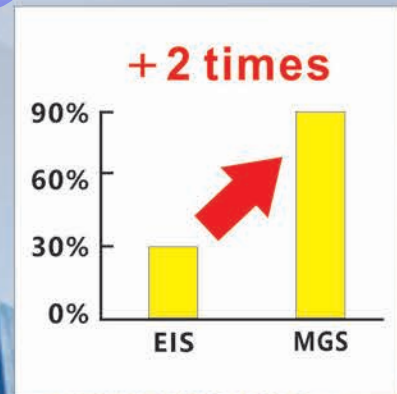
**EIS:**



**MGS:**



**Face recognition success rate**



**MGS can significantly reduce blur especially in low-light conditions, and thus support dynamic face recognition and other emerging technologies**

### Main Advantages:

- Support horizontal FOV over 100deg
- Support all-glass lens
- 2m+ drop test
- Easy to use
- One-stop anti-shaking solution provider
- Light weight down to 5g
- Small size down to 19×19mm
- Competitive price



#### Ordering Models



KLT-OIS-USB1A-IMX258 V1.0



KLT-OIS-AF-IMX258-C V1.0

#### MGA190 series:

Size: 19×19×9.9mm

Auto Focus MGS

Largest FOV: 100deg

Max. compensation angle: ±5deg

Weight: 5g

Support a wide variety of lenses and image sensors

Supported sensors:

OmniVision OV5640, Sony IMX179 & IMX258

#### MGF250 series:

Size: 25x25x15mm

Fixed Focus MGS

Largest FOV: 140deg

Max. compensation angle: ±5deg

Weight: 28g

Support a wide variety of lenses and image sensors

Supported sensors:

Onsemi AR1335, OmniVision OV2718 & OV4689



KLT-OIS-FF-OV4689 V7.0A

Module	Resolution	Sensor	Focus	DFOV
KLT-OIS-AF-IMX258-C V1.0	13 MP OIS	IMX258-C	Auto	87.6
KLT-OIS-USB1A-IMX258 V1.0	13 MP OIS	IMX258	Auto	87.6
KLT-OIS-FF-OV4689 V7.0A	4 MP OIS	OV4689	Fixed	122

## Product Applications:



AI face recognition



Body worn camera



Robot



AR/VR smart glasses



Sport DV

## [Product Brief]

Ver.1.0

# IMX258

Diagonal 5.867 mm (Type 1/3.06) 13Mega-Pixel CMOS Image Sensor with Square Pixel for Color Cameras

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### Description

IMX258 is a diagonal 5.867mm (Type 1/3.06) 13 Mega-pixel CMOS active pixel type stacked image sensor with a square pixel array. It adopts Exmor RSTM technology to achieve high speed image capturing by column parallel A/D converter circuits and high sensitivity and low noise image (comparing with conventional CMOS image sensor) through the backside illuminated imaging pixel structure. R, G, and B pigment primary color mosaic filter is employed. By introducing spatially multiplexed exposure technology, high dynamic range still pictures and movies are achievable. It

equips an electronic shutter with variable integration time. It operates with three power supply voltages: analog 2.7 V, digital 1.2 V and 1.8 V for input/output interface and achieves low power consumption.

In addition, this product is designed for use in cellular phone and tablet pc. When using this for another application, Sony does not guarantee the quality and reliability of product. Therefore, don't use this for applications other than cellular phone and tablet pc. Consult your Sony sales representative if you have any questions.

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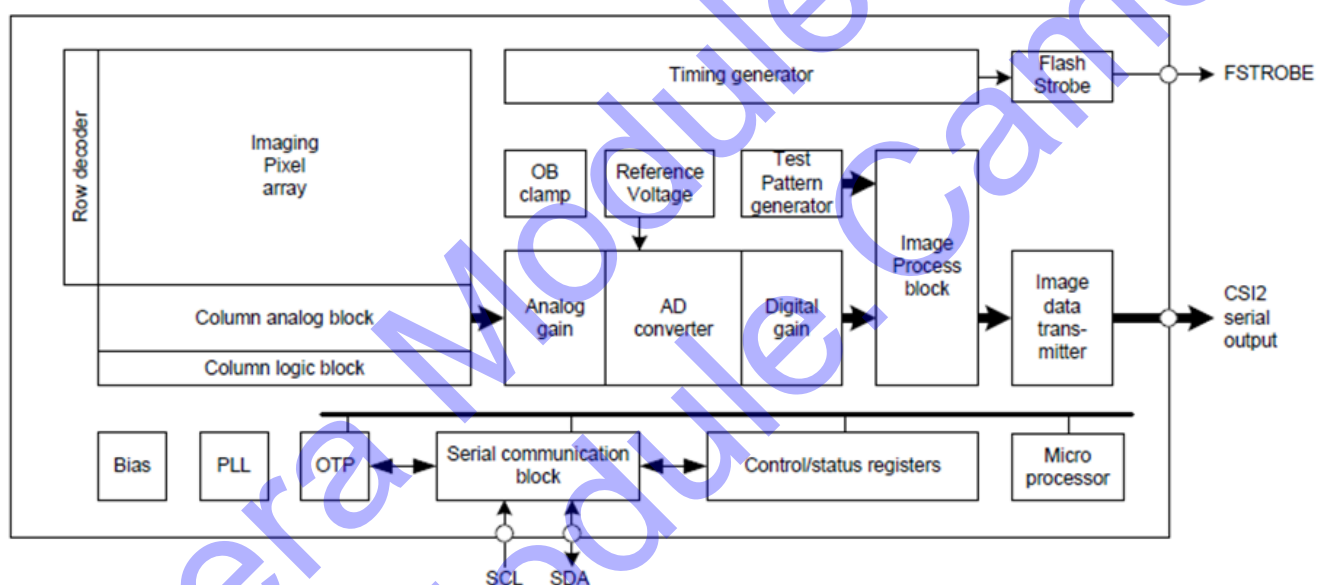
### Functions and Features

- ◆ Back-illuminated and stacked CMOS image sensor Exmor RSTM
- ◆ Phase Detection pixel data output for Phase Detection Auto Focus
- ◆ High Dynamic Range (HDR) mode with raw data output.
- ◆ High signal to noise ratio (SNR).
- ◆ Full resolution @30fps (Normal / HDR). 4K2K @30fps (Normal / HDR) 1080p @60fps (Normal )
- ◆ Output video format of RAW10/8.
- ◆ Pixel binning readout and V sub-sampling function.
- ◆ Independent flipping and mirroring.
- ◆ CSI-2 serial data output (MIPI 2lane/4lane, Max. 1.3Gbps/lane, D-PHY spec. ver. 1.1 compliant)
- ◆ 2-wire serial communication.
- ◆ Two PLLs for independent clock generation for pixel control and data output interface.
- ◆ Dynamic Defect Pixel Correction.
- ◆ Fast mode transition. (on the fly)
- ◆ Dual sensor synchronization operation.
- ◆ 4K bit of OTP ROM for users.
- ◆ Built-in temperature sensor.

## Device Structure

- ◆ CMOS image sensor
- ◆ Image size : Diagonal 5.867 mm (Type 1/3.06)
- ◆ Total number of pixels : 4224 (H) × 3192 (V) approx. 13.48 M pixels
- ◆ Number of effective pixels : 4224 (H) × 3144 (V) approx. 13.28 M pixels
- ◆ Number of active pixels : 4208 (H) × 3120 (V) approx. 13.13 M pixels
- ◆ Chip size : 5.990 mm (H) × 3.908 mm (V)
- ◆ Unit cell size : 1.12 μm (H) × 1.12 μm (V)
- ◆ Substrate material : Silicon

System block diagram



## Exmor RS

\* Exmor RS is a trademark of Sony Corporation. The Exmor RS is a Sony's CMOS image sensor with high-resolution, high-performance and compact size by replacing a supporting substrate in Exmor R™ which changed fundamental structure of Exmor™ pixel adopted column parallel A/D converter to back-illuminated type, with layered chips formed signal processing circuits.

## IMT-1A65H005-N

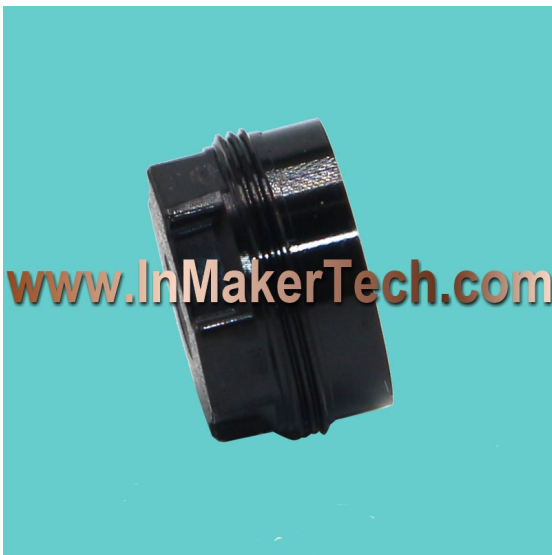
**1/3.1" 13MP COB F2.2 DFOV 87.6 Degree M6.5 Lens**



Lens Model	<b>IMT-1A65H005-N</b>
Sensor Format	1/3.1"
Resolution	13 MP
Sensor Type	COB
Structure	5P
Max Image Circle	Ø5.8
F/NO.	2.2 +/- 5%
EFL (mm)	3.05
TTL (mm)	4.60
FOV	Field of View
Diagonal DFOV	87.6°
Horizontal HFOV	74.9°
Vertical VFOV	59.4°
TV Distortion	<1%
CRA	<34.9°
Lens Filter	None
Barrel	M6.5*P0.25
KLT Camera Modules	KLT-OIS-USB1A-IMX258 V1.0
Use IMT Made Lenses	KLT-D3MA-IMX258 V5.0

## IMT-1A65H005-N

1/3.1" 13MP COB F2.2 DFOV 87.6 Degree M6.5 Lens



IMT Lens on  
the real  
Camera

KLT is our  
Camera  
Modules  
Design and  
Manufacture  
Partner

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[www.InMakerTech.com](http://www.InMakerTech.com) [Sales@InMakerTech.com](mailto:Sales@InMakerTech.com) China: (+86) 17727326718 HK: (+852) 69089316

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