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

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

Mating Connector Part No. BAF04-30083-0500

Mating Connector On Main Board. Sold Separately.

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OIS Camera Modules

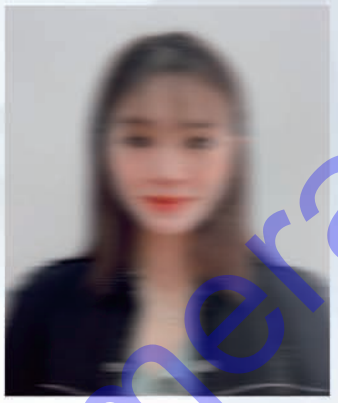
(OIS = Optical Image Stabilization Platform)

World's Smallest Gimbal Stabilizer

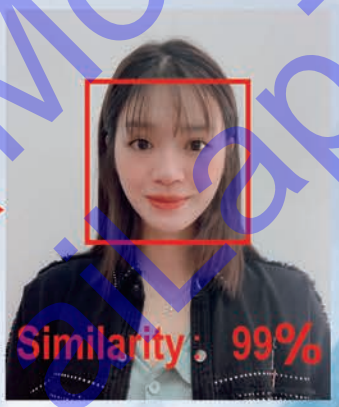
Core Technologies:

- MGS (micro gimbal stabilizer)
  (The lens and image sensor tilt together)
- ±5deg 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

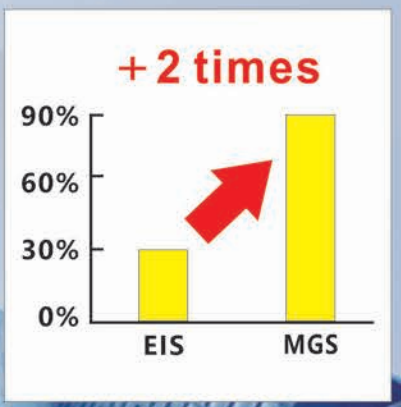
EIS:



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

KLT-OIS-FF-OV4689 V7.0A

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

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

SONY

[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

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 RS™ 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.

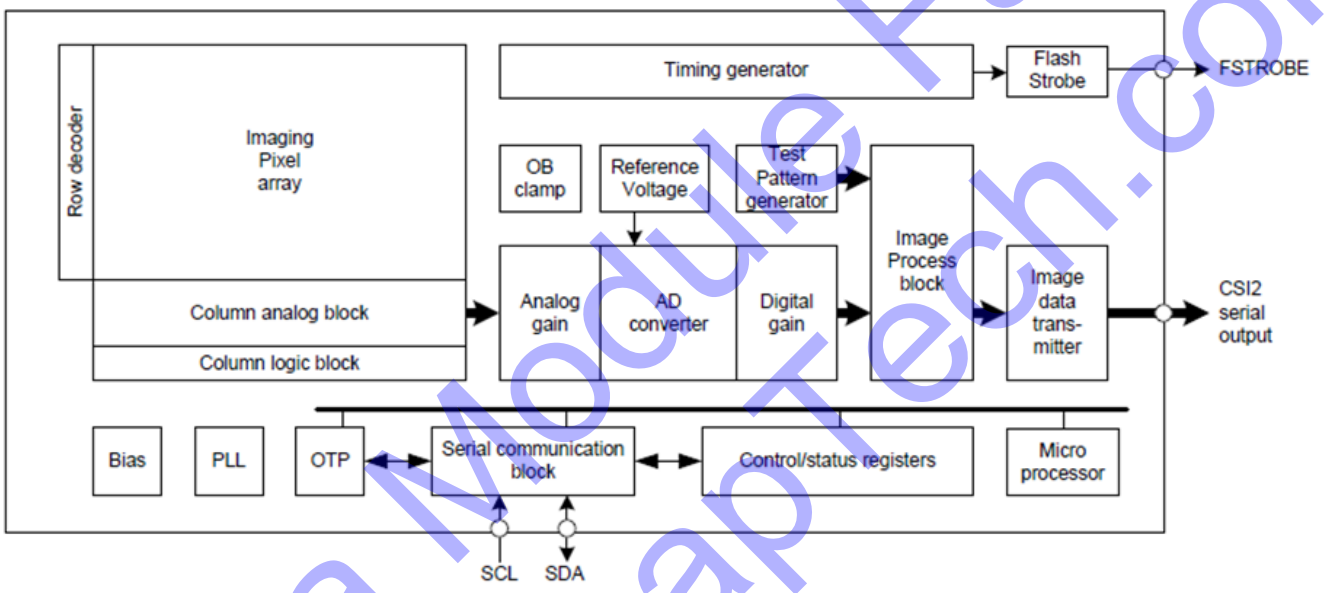
Functions and Features

- 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.