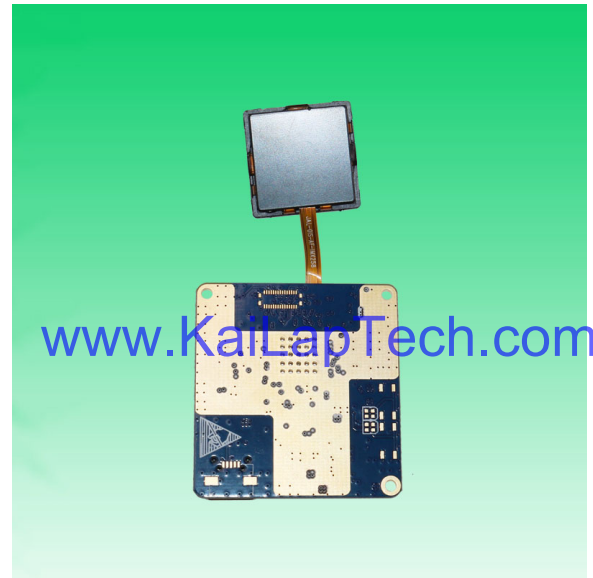
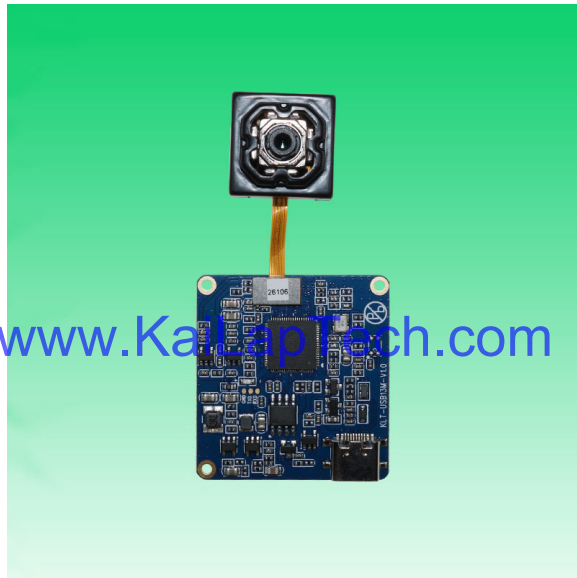


**KLT-OIS-USB3A-AF-IMX258 V2.0****13MP Sony IMX258 OIS MGS Auto Focus USB 2.0 Camera Module**

KLT-OIS-USB3A-AF-IMX258 V2.0 is an 13MP Auto Focus USB camera module based on 1/3.06" IMX258 image sensor. Micro Gimbal Stabilizer (MGS) enables the camera to take clear and sharp images in moving environment. Auto Focus captures images clearly at different distances.

It delivers high-speed, 4K resolution ultra sharp image. The camera has a dedicated, high-performance auto focus function providing best-in-class image and video output. This camera module is ideal solution for drones, automotive, agriculture farming, medical equipment, and traffic monitoring.

Key Features

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- 4K resolution (4224 x 3192) Sony IMX258 sensor
- Micro Gimbal Stabilizer (MGS) on optical image stabilization (OIS)
- High speed USB 2.0 Plug and Play
- MJPG output format
- Low power consumption
- Compact size
- UVC compliant to Windows, Linux, OS with UVC driver
- USB OTG (On-The-Go) support



| | |
|---------------------------------|--|
| Camera Module No. | KLT-OIS-USB3A-AF-IMX258 V2.0 |
| Resolution | 13MP |
| Image Sensor | IMX258 w/ MGS OIS |
| Sensor Type | 1/3.06" |
| Pixel Size | 1.12 um x 1.12 um |
| EFL | 6.00 mm |
| F.NO | 2.60 |
| Stabilization Method | Optical Image Stabilization (OIS) |
| Stabilizer Type | Micro Gimbal Stabilizer (MGS) |
| Stabilizer Axis No. | 2 Axis (Pitch and Yaw) |
| Stabilizer Angle | Max 3.0° |
| Stabilizer Power | 180 mW |
| Pixel | 4224 x 3192 |
| View Angle | 47.3°(DFOV) 38.8°(HFOV) 29.5°(VFOV) |
| Lens Dimensions | 19.0 x 19.0 x 10.80 mm |
| Module Type | Auto Focus |
| Auto Focus VCM Driver IC | DW9763 |
| Lens Model | KLT-LENS-60018A1 |
| Interface | USB 2.0 |
| Output Format | MJPEG |
| Auto Control | Saturation, Contrast, Acutance White Balance, Exposure |
| Audio | None |
| Input Voltage | DC 5V |
| Working Current | Max 500mA |
| System Compatibility | Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC Driver Raspberry Pi by USB Port |
| Software for USB Camera | AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam |
| Lens Type | 650nm IR Cut |
| Operating Temperature | -20°C to +70°C |
| USB Cable | KLT-Cable-U006 |



**KLT-OIS-USB3A-AF-IMX258 V2.0****13MP Sony IMX258 OIS MGS Auto Focus USB 2.0 Camera Module**

Top View



Side View

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Bottom View



Mating Connector

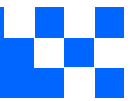


KLT-OIS-USB3A-AF-IMX258 V2.0

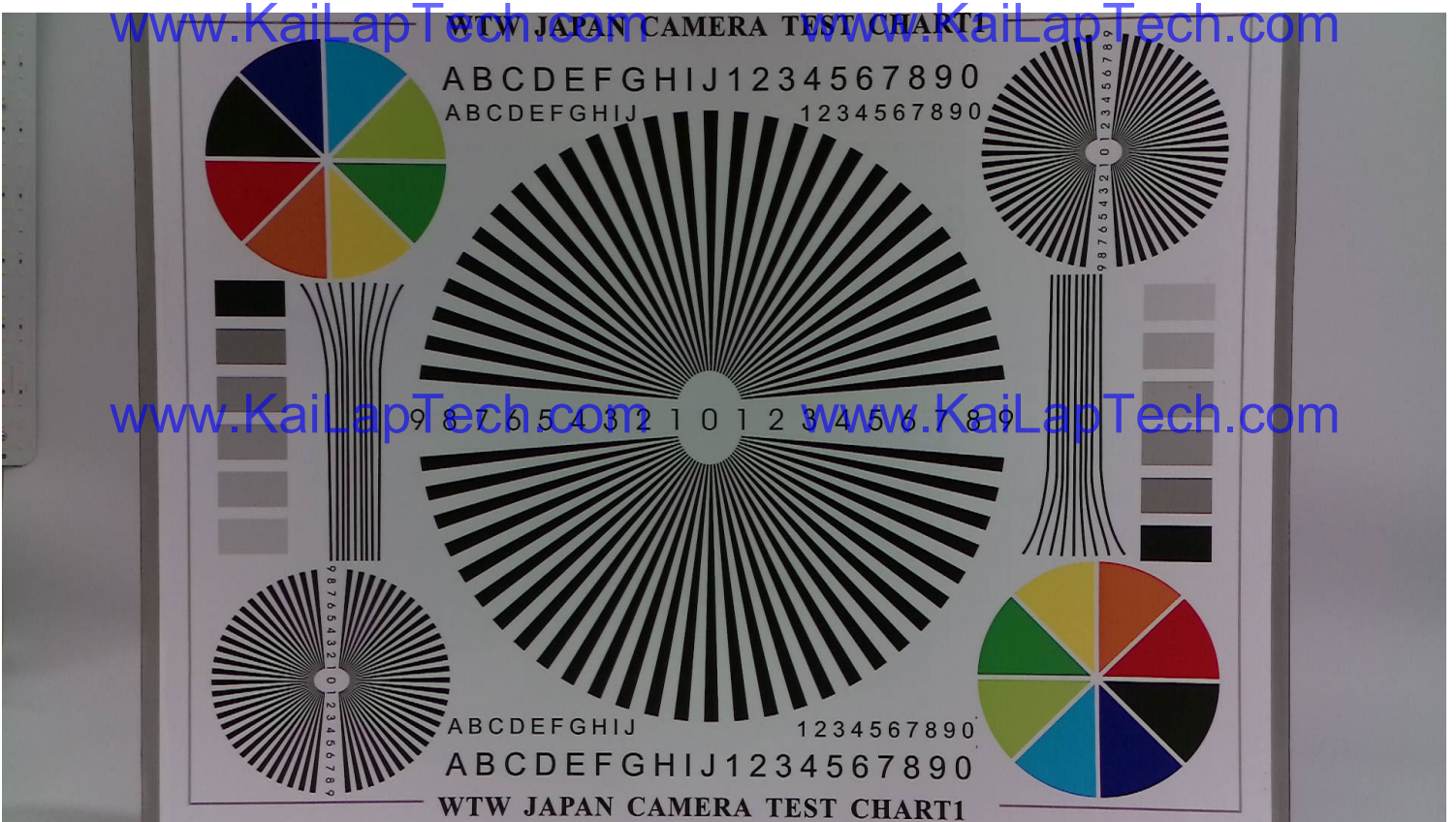
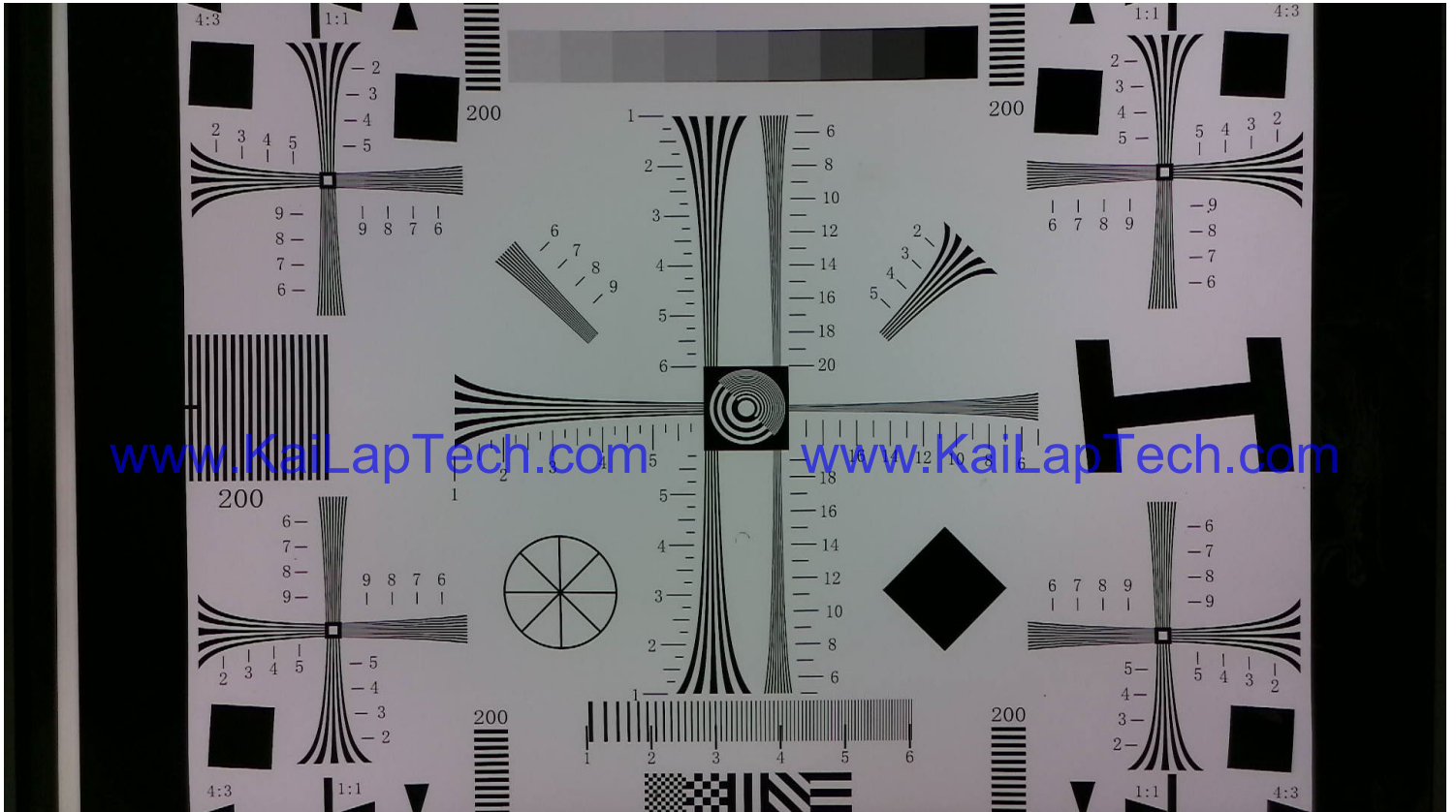
13MP Sony IMX258 OIS MGS Auto Focus USB 2.0 Camera Module

| FORMAT | RESOLUTION | FRAME RATE |
|-------------|---------------------|------------|
| | | USB 2.0 |
| MJPEG | 320 x 240 | 25 FPS |
| | 640 x 480 (VGA) | 25 FPS |
| | 800 x 600 | 25 FPS |
| | 1024 x 768 | 25 FPS |
| | 1280 x 720 (720P) | 25 FPS |
| | 1600 x 1200 | 25 FPS |
| | 1920 x 1080 (1080P) | 25 FPS |
| | 2592 x 1944 (5MP) | 10 FPS |
| | 3264 x 2448 (8MP) | 10 FPS |
| | 3840 x 2160 | 10 FPS |
| 4192 x 3104 | 10 FPS | |



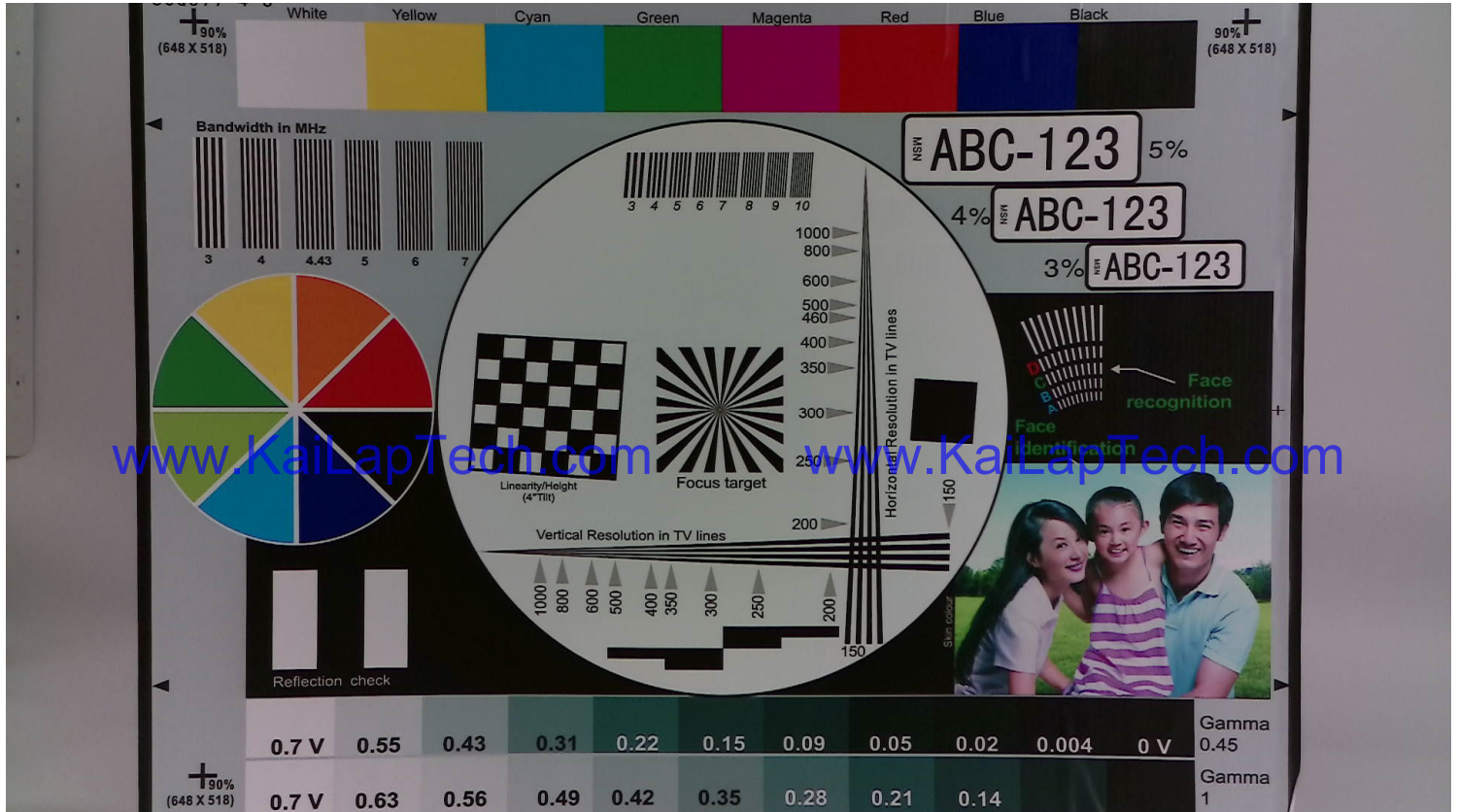


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Micro Gimbal Stabilizer (MGS) OIS Camera Modules

Micro Gimbal Stabilizer (MGS) is the patented mechanical optical image stabilizer (OIS) for camera modules. The MGS technology is tilting the image sensor and lens together, enabling anti-shaking performance for moving devices to take a sharp and clear image, even in the low light environment.



Features

2-Axis Compensation
Small, Light Weight
18.80x18.80x15.80mm



Smallest Gimbal



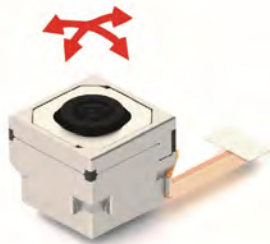
Multi-Axis Compensation



Embedded Moving FPC



One-stop Solution



Stabilizer



Max. View Angle



Integrated Design



Patents

Applications



5G Smart Helmet



Sport Camera



Drones



Robots

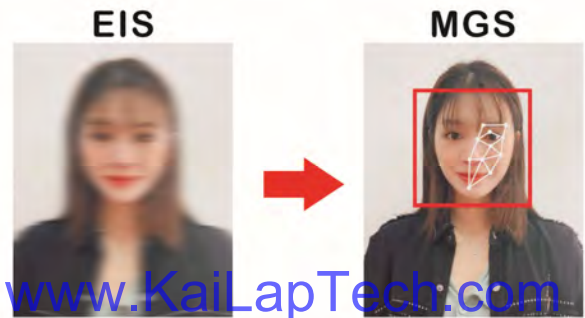
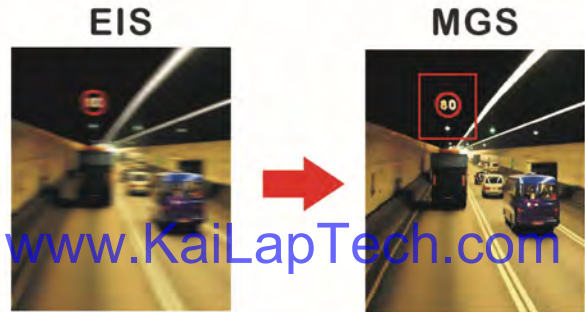


Wearable Cameras



Micro Gimbal Stabilizer (MGS) for Mobile Phones

Micro Gimbal Stabilizer (MGS) is fitting in the compact size, enabling the smartphones and tablet PC to take clear images in the moving environment.



1. General Description

The DW9763 is a single 10-bit DAC with 100mA output current sinking capability and embedded 8KByte eFlash memory. Designed for linear control of voice coil motors, the DW9763 is capable of operating voltage up to 3.3V.

The SAC (Smart Actuator Control) mode is applied to minimize the mechanical vibration. The SAC mode highly improves the actuator's settling time and tolerance coverage compared with conventional LSC (Linear Slope Control) mode. The DAC and eFlash are controlled via an I2C compatible serial interface.

The DW9763 incorporates with a POR (Power On Reset) circuit, power down mode. POR circuit gets to operate when VDD (supply power) turns on. The output current keeps 0mA until valid register value takes place. During the power down mode, it consumes current max.1uA.

The DW9763 is designed for auto focus and optical zoom for mobile camera, digital still camera, camcorders and other nano actuator applications.

■ Features

- 10 bit resolution current sinking of 100mA for VCM
- SAC (Smart Actuator Control) mode
- Supply voltage range (VDD) : 2.3V to 3.3V
- Fast mode I2C interface compatible (1.8V interface available)
- Power down mode
- Power on reset (POR)
- Embedded 8KByte eFlash memory
- Package : 8 pin WLCSP
- Package Size : 0.77mm X 1.75mm X 0.3mm

■ Applications

- Mobile camera
- Digital still camera
- Camcorder
- Web camera
- Nano actuator

[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 RSM 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.

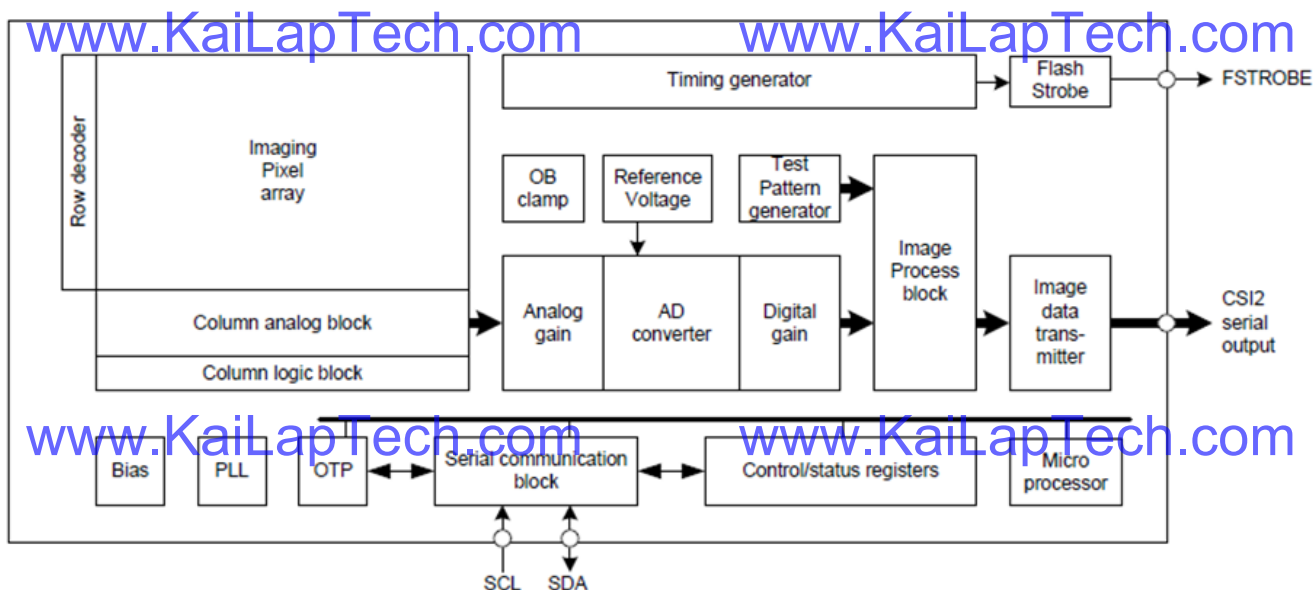
Functions and Features

- ◆ Back-illuminated and stacked CMOS image sensor Exmor RSM
- ◆ 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



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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.



Cameras Applications

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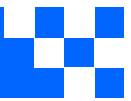


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Camera Reliability Test

| Reliability Inspection Item | | Testing Method | Acceptance Criteria | |
|-----------------------------|--|---|-------------------------|-------------------------|
| Category | Item | | | |
| Environmental | Storage Temperature | High 60°C 96 Hours | Temperature Chamber | No Abnormal Situation |
| | | Low -20°C 96 Hours | Temperature Chamber | No Abnormal Situation |
| | Operation Temperature | High 60°C 24 Hours | Temperature Chamber | No Abnormal Situation |
| | | Low -20°C 24 Hours | Temperature Chamber | No Abnormal Situation |
| | Humidity | 60°C 80% 24 Hours | Temperature Chamber | No Abnormal Situation |
| | Thermal Shock | High 60°C 0.5 Hours Low -20°C 0.5 Hours Cycling in 24 Hours | Temperature Chamber | No Abnormal Situation |
| Physical | Drop Test (Free Falling) | Without Package 60cm | 10 Times on Wood Floor | Electrically Functional |
| | | With Package 60cm | 10 Times on Wood Floor | Electrically Functional |
| | Vibration Test | 50Hz X-Axis 2mm 30min | Vibration Table | Electrically Functional |
| | | 50Hz Y-Axis 2mm 30min | Vibration Table | Electrically Functional |
| | | 50Hz Z-Axis 2mm 30min | Vibration Table | Electrically Functional |
| Cable Tensile Strength Test | Loading Weight 4 kg 60 Seconds Cycling in 24 Hours | Tensile Testing Machine | Electrically Functional | |
| Electrical | ESD Test | Contact Discharge 2 KV | ESD Testing Machine | Electrically Functional |
| | | Air Discharge 4 KV | ESD Testing Machine | Electrically Functional |
| | Aging Test | On/Off 30 Seconds Cycling in 24 Hours | Power Switch | Electrically Functional |
| | USB Connector | On/Off 250 Times | Plug and Unplug | Electrically Functional |





| Inspection Item | | Inspection Method | Standard of Inspection | |
|------------------|----------|-------------------|-----------------------------|--|
| Category | Item | | | |
| Appearance | FPC/ PCB | Color | The Naked Eye | Major Difference is Not Allowed. |
| | | Be Torn/Chopped | The Naked Eye | Copper Crack Exposure is Not Allowed. |
| | | Marking | The Naked Eye | Clear, Recognizable (Within 30cm Distance) |
| | Holder | Scratches | The Naked Eye | The Inside Crack Exposure is Not Allowed |
| | | Gap | The Naked Eye | Meet the Height Standard |
| | | Screw | The Naked Eye | Make Sure Screws Are Presented (If Any) |
| | | Damage | The Naked Eye | The Inside Crack Exposure is Not Allowed |
| | Lens | Scratch | The Naked Eye | No Effect On Resolution Standard |
| | | Contamination | The Naked Eye | No Effect On Resolution Standard |
| | | Oil Film | The Naked Eye | No Effect On Resolution Standard |
| | | Cover Tape | The Naked Eye | No Issue On Appearance. |
| | Function | Image | No Communication | Test Board |
| Bright Pixel | | | Black Board | Not Allowed In the Image Center |
| Dark Pixel | | | White board | Not Allowed In the Image Center |
| Blurry | | | The Naked Eye | Not Allowed |
| No Image | | | The Naked Eye | Not Allowed |
| Vertical Line | | | The Naked Eye | Not Allowed |
| Horizontal Line | | | The Naked Eye | Not Allowed |
| Light Leakage | | | The Naked Eye | Not Allowed |
| Blinking Image | | | The Naked Eye | Not Allowed |
| Bruise | | | Inspection Jig | Not Allowed |
| Resolution | | | Chart | Follows Outgoing Inspection Chart Standard |
| Color | | | The Naked Eye | No Issue |
| Noise | | | The Naked Eye | Not Allowed |
| Corner Dark | | | The Naked Eye | Less Than 100px By 100px |
| Color Resolution | | | The Naked Eye | No Issue |
| Dimension | Height | The Naked Eye | Follows Approval Data Sheet | |
| | Width | The Naked Eye | Follows Approval Data Sheet | |
| | Length | The Naked Eye | Follows Approval Data Sheet | |
| | Overall | The Naked Eye | Follows Approval Data Sheet | |



KLT Package Solutions

KLT Camera Module



Complete with Lens Protection Film



Tray with Grid and Space



Place Cameras on the Tray





Camera Modules Package Solution

Full Tray of Cameras



Cover Tray with Lid



Put Tray into Anti-Static Bag



Vacuum the Anti-Static Bag





Camera Modules Package Solution

Sealed Vacuum Bag with Labels

- 1. Model and Description 2. Quantity 3. Shipping Date 4. Caution**





CMOS CAMERA MODULES



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Large Order Package Solution

Place Foam Sheets Between Trays

Foam Sheets are Slightly Larger than Trays

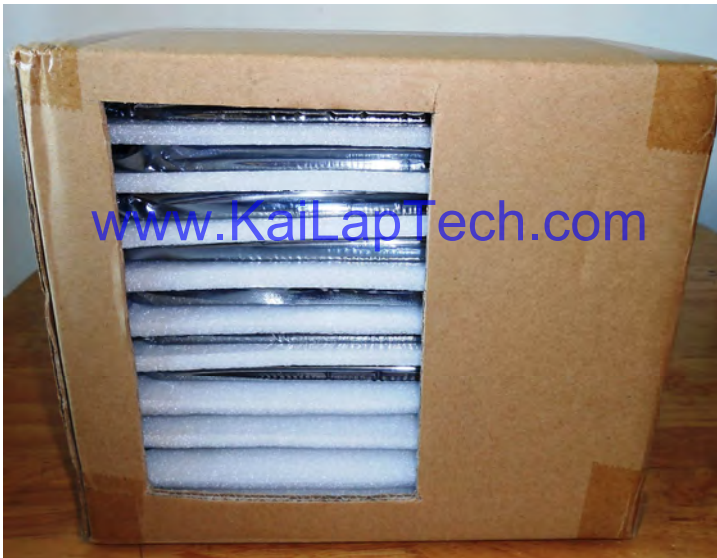


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Place Foam Sheets and Trays into Box

Foam Sheets are Tightly Fitting Box



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Small Order Package Solution

Place Foam Sheets and Trays into Small Box



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Package in Small Box for Shipment

Foam Sheets are Nicely Fitting the Small Box



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Place Small Boxes into Larger Box



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Carbon Box Package Solution

Seal the Carbon Box

Final Package Labelled Box



Carbon Box Ready for Shipment

1. Delivery Address and Phone No.
2. Box No. and Ship Date
3. Fragile Caution





Sample Order Package Solution

Place Sample into Small Anti-Static Bag



Place Connectors into Small Ant-Static Bag



Sample Labels on the Small Bag

1. Camera Module or Connector Model
2. Shipping Date and Quantity
3. Caution





Connectors Large Order Package Solution

Connectors in a Wheel



Label Connectors in the Wheel



The Wheel is Perfectly Fitting the Box



Connectors Box Ready for Shipment



Company Kai Lap Technologies (KLT)

Kai Lap Technologies Group Limited. (KLT) was established in 2009, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. KLT is occupying 20,000 square feet automated plants with 100 employees of annual throughput 30,000,000 units cameras.

KLT provides OEM, ODM design, contract manufacturing, and builds the camera products. You may provide the requirements to us, even with a hand draft, our sales and engineering work together to meet your needs. We consider ourselves your last-term partner in developing practical and innovative solutions.

Our team covers everything from initial concept development to mass produced product. KLT specializes in customized camera design, raw material, electronic engineering, firmware/software development, product testing, and packing design. Our experienced strategic supply systems offer a robust and dependable manufacturing capacity for orders of various sizes.

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Limited Warranty

KLT provides the following limited warranty if you purchased the Product(s) directly from KLT company or from KLT's website, www.KaiLapTech.com. Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. KLT guarantees that the Product(s) will be free from defects in materials and workmanship under normal use for a period of one (1) year from the date you receive the product ("Warranty Period").

For all Product(s) that contain or develop material defects in materials or workmanship during the Warranty Period, KLT will, at its sole option, either: (i) repair the Product(s); (ii) replace the Product(s) with a new or refurbished Product(s) (replacement Product(s) being of identical model or functional equivalent); or (iii) provide you a refund of the price you paid for the Product(s).

This Limited Warranty of KLT is solely limited to repair and/or replacement on the terms set forth above. KLT is not reliable or responsible for any subsequent events.





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KLT Strength

Powerful Factory



Professional Service



Promised Delivery



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