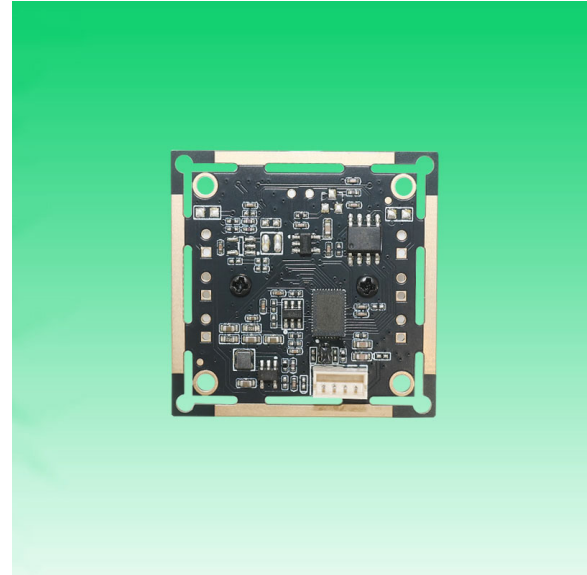


KLT-UFA70-PS5268 V2.0**2MP PrimeSensor PixArt PS5268 M12 Fixed Focus USB 2.0 Camera Module**

KLT-UFA70-PS5268 V2.0 is a 2MP Fixed Focus USB camera module based on 1/2.7" PS5268 image sensor. It delivers high-speed, 2K resolution ultra sharp image. The S-mount (M12) lens holder enables customers to choose different lens as per varies applications. This camera module is ideal solution for mobile payment, home supplies, dog and cat monitor, visitor terminal equipment, medical imaging, gaming.

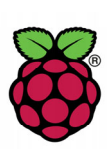
Key Features

- 2K resolution (1920 x 1080) PixArt (PrimeSensor) PS5268 sensor
- High speed USB 2.0 Plug and Play
- MJPG/YUV2 dual output format
- Low power consumption
- Adaptive dual size options 38x38mm or 32x32mm
- UVC compliant to Windows, Linux, OS with UVC driver
- USB OTG (On-The-Go) support

KLT-UFA70-PS5268 V2.0**2MP PrimeSensor PixArt PS5268 M12 Fixed Focus USB 2.0 Camera Module**

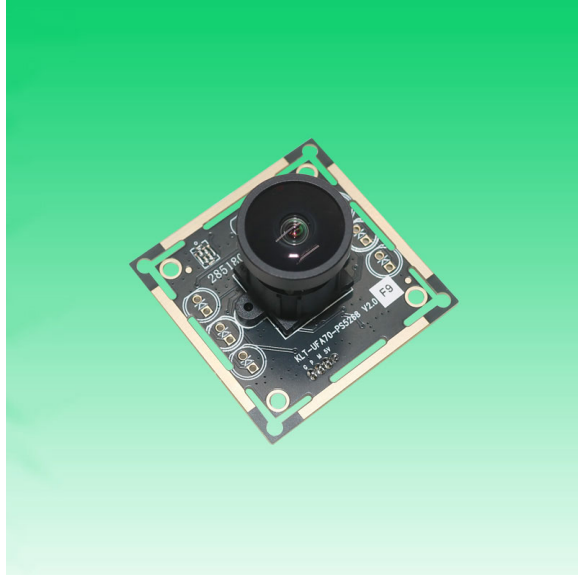
Camera Module No.	KLT-UFA70-PS5268 V2.0
Resolution	2MP
Image Sensor	PS5268
Sensor Type	1/2.7"
Pixel Size	3.0 um x 3.0 um
EFL	3.00 mm
F.NO	1.55
Pixel	1920 x 1080
View Angle	139.0°(DFOV) 106.4°(HFOV) 77.2°(VFOV)
Lens Dimensions	13.65 x 13.65 x 23.90 mm
Module Type	Fixed Focus
Interface	USB 2.0
Output Format	MJPEG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio (Optional)	Digital Microphone, Single, Dual Channel
Input Voltage	DC 5V
Working Current	Max 500mA
PCB Size	38 x 38 mm / 32 x 32 mm
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	USB Cable

Wide Compatibility with Windows, Android, Mac OS, Linux, or Raspberry Pi



Windows® 안드로이드 Mac™ OS Linux Raspberry Pi

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

KLT-UFA70-PS5268 V2.0**2MP PrimeSensor PixArt PS5268 M12 Fixed Focus USB 2.0 Camera Module**

Top View



Side View



Bottom View

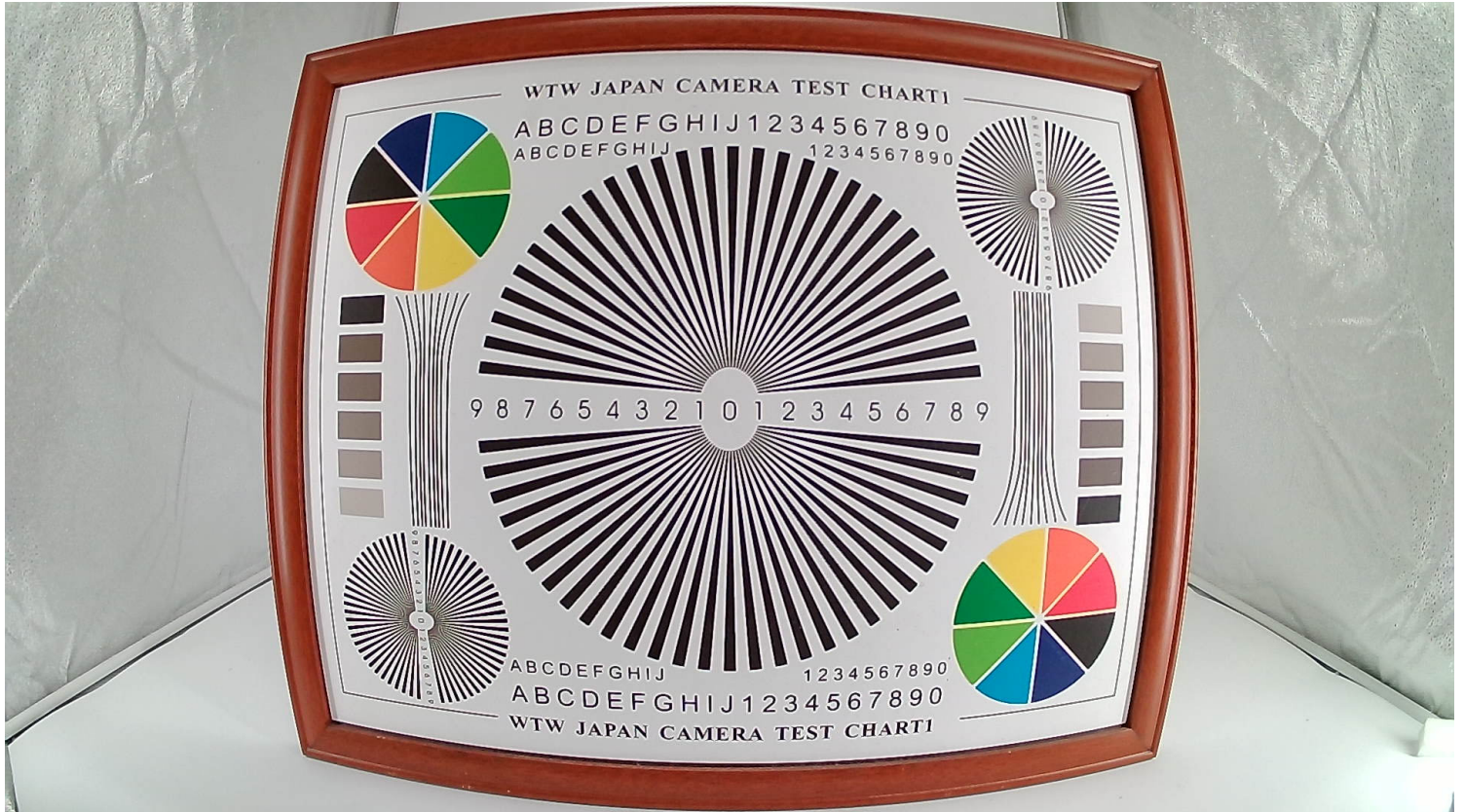


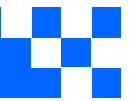
Mating Connector

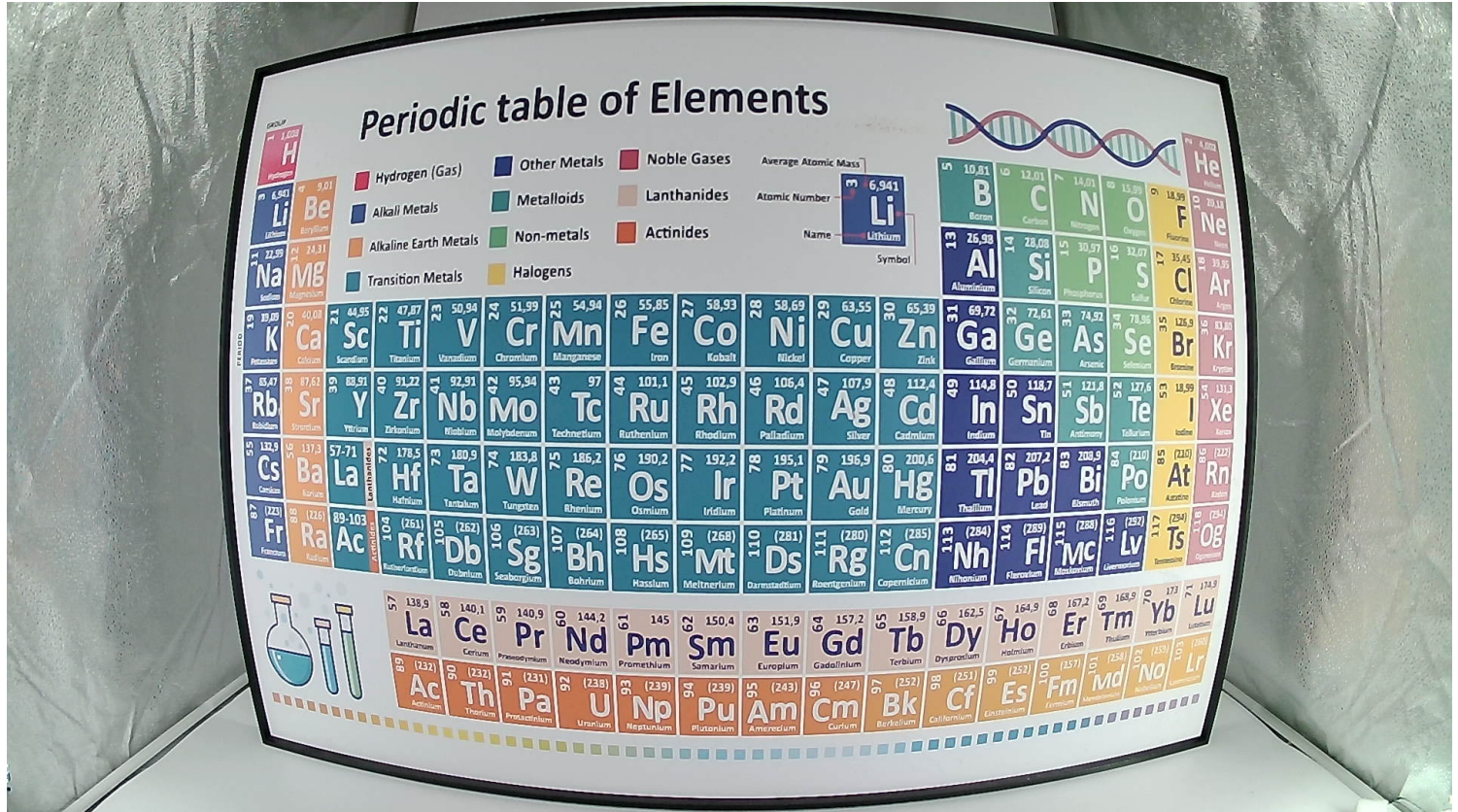
KLT-UFA70-PS5268 V2.0**2MP PrimeSensor PixArt PS5268 M12 Fixed Focus USB 2.0 Camera Module**

FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	30 FPS
	1280 x 720 (720P)	30 FPS
	1920 x 1080 (1080P)	30 FPS
YUV2	640 x 480 (VGA)	30 FPS
	1280 x 720 (720P)	10 FPS
	1920 x 1080 (1080P)	5 FPS









21

7

IR Cut Coating: 650nm±10nm@50%

3

Version:	1/0
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PS5268 Full-HD 1080p HDR CMOS IMAGE SENSOR

General Description

The **PS5268** is a low power, highly integrated CMOS image sensor that output of **1920x1080 (Full HD-1080p)** pixels with rolling shutter readout. It embedded the new FinePixel™ and HDR sensor technology to perform the excellent image quality and single-shot high dynamic range synthesized image output. **PS5268** outputs linear 14-bit or local tone mapped 12-bit raw data through MIPI CSI-2 interface with very low power consumption. It is available in **CSP** package.

The **PS5268** can be programmed to set the exposure time for different luminance condition via I2C™ serial control bus. Embedded HDR image synthesis with local tone mapping to deliver high performance, cost effective and time to market for high resolution HDR application. By programming the internal register set, it performs on-chip black level correction and high temperature image quality control.

Features

- Image size : 1928 x 1088 pixels with Bayer-RGB color filter array and micro-lens
- Output format:
 - 14bit Linear HDR-RAW RGB
 - 12bit HDR + Local Tone Mapped
- RAW RGB
 - 10bit Linear RAW RGB
- Output interface
 - 12bit parallel DVP output
 - 2-lane MIPI output (up to 800Mbps per lane)
- I2C™ Interface with two kinds of Slave_ID
- Low Power consumption
- High sensitivity
- Support on-chip HDR synthesis
- Image sensor processor functions :
 - Automatic black-level calibration
 - Embedded Local Tone Mapping
 - Black sun cancellation
- Support sensor frame synchronization
- On-chip PLL (input_clock / PLL_m >= 1MHz)
- On-chip column A/D converter
- On-chip manual analog gain control
- Continuous variable frame time & exposure time
- Support WOI and subsampling
- Support dummy line & pixel timing
- Support output Hsync at Vsync
- Support 1.7V~3.3V I/O
- Support Fast Auto Exposure (FAE) function

Specifications

Parameter	Typical Value
Active array size	1928(H) x 1088(V)
Pixel size	3.0um (H) x 3.0um (V)
Shutter type	Electronic rolling shutter (ERS)
Optical format	1/2.7-inch
Lens chief ray angle	17 degree
ADC	10-bit
Sensitivity	5800 mV/Lux-sec
SNRmax	41 dB
Dynamic range	85 dB
Scan mode	Progressive scan
Input clock	Max 50MHz
Pixel clock	Max 148.5MHz
Max. frame rate	1080p: 1920x1080 Linear@ 60fps 1080p: 1920x1080 HDR+LTM @30fps
Supply voltage	Analog: 3.3 V Digital: 1.2 V I/O: 1.8V / 3.3V
Power consumption	75mW@1080p30 (MIPI) 54.5mW@1080p30 (DVP w/o I/O) 124mW@HDR-LTM1080p30 (MIPI) 107mW@HDR-LTM 1080p30 (DVP w/o I/O)
Operating temperature	-30°C ~ 85°C

Applications

- Surveillance HD-CCTV Camera
- Surveillance IP Camera
- Car Video Recorder
- Video Door Phone

Ordering Information

Part Number	Description
PS5268LT	47-ball CSP

Cameras Applications



Automotive Driver Pilot



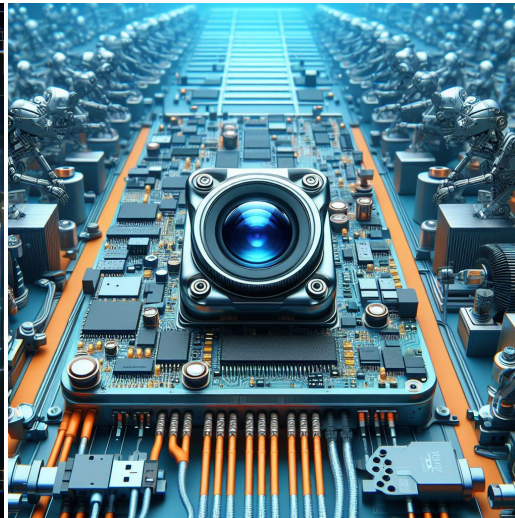
Live Streaming



Video Conference



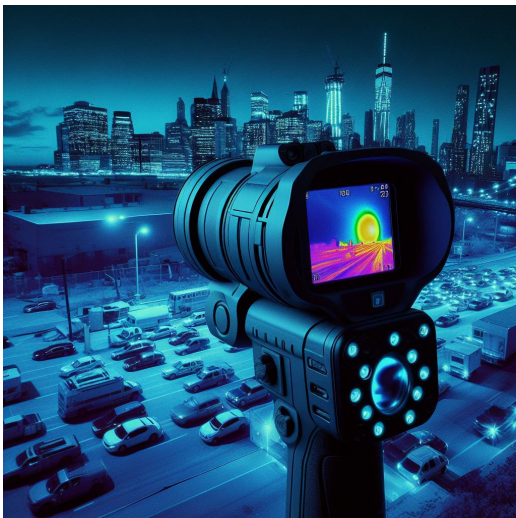
Eye Tracker Biometric Detection



Machine Vision



Agricultural Monitor



Night Vision Security



Drone and Sports Eagle Eyes



Interactive Pet Camera

Cameras Applications

your BEST camera module partner



IMAGING DEVICES



Camera Module Pinout Definition Reference Chart

OmniVision Sony Samsung On-Semi Aptina Himax GalaxyCore PixArt SmartSens Sensors	
Pin Signal	Description
DGND GND	ground for digital circuit
AGND	ground for analog circuit
PCLK DCK	DVP PCLK output
XCLR PWDN XSHUTDOWN STANDBY	power down active high with internal pull-down resistor
MCLK XVCLK XCLK INCK	system input clock
RESET RST	reset active low with internal pull-up resistor
NC NULL	no connect
SDA SIO_D SIOD	SCCB data
SCL SIO_C SIOC	SCCB input clock
VSYNCS XVS FSYNCS	DVP VSYNC output
HREF XHS	DVP HREF output
DOVDD	power for I/O circuit
AFVDD	power for VCM circuit
AVDD	power for analog circuit
DVDD	power for digital circuit
STROBE FSTROBE	strobe output
FSIN	synchronize the VSYNC signal from the other sensor
SID	SCCB last bit ID input
ILPWM	mechanical shutter output indicator
FREX	frame exposure / mechanical shutter
GPIO	general purpose inputs
SLASEL	I2C slave address select
AFEN	CEN chip enable active high on VCM driver IC
MIPI Interface	
MDN0 DN0 MD0N DATA_N DMO1N	MIPI 1st data lane negative output
MDP0 DP0 MD0P DATA_P DMO1P	MIPI 1st data lane positive output
MDN1 DN1 MD1N DATA2_N DMO2N	MIPI 2nd data lane negative output
MDP1 DP1 MD1P DATA2_P DMO2P	MIPI 2nd data lane positive output
MDN2 DN2 MD2N DATA3_N DMO3N	MIPI 3rd data lane negative output
MDP2 DP2 MD2P DATA3_P DMO3P	MIPI 3rd data lane positive output
MDN3 DN3 MD3N DATA4_N DMO4N	MIPI 4th data lane negative output
MDP3 DP3 MD3P DATA4_P DMO4P	MIPI 4th data lane positive output
MCN CLKN CLK_N DCKN	MIPI clock negative output
MCP CLKP MCP CLK_P DCKN	MIPI clock positive output
DVP Parallel Interface	
D0 DO0 Y0	DVP data output port 0
D1 DO1 Y1	DVP data output port 1
D2 DO2 Y2	DVP data output port 2
D3 DO3 Y3	DVP data output port 3
D4 DO4 Y4	DVP data output port 4
D5 DO5 Y5	DVP data output port 5
D6 DO6 Y6	DVP data output port 6
D7 DO7 Y7	DVP data output port 7
D8 DO8 Y8	DVP data output port 8
D9 DO9 Y9	DVP data output port 9
D10 DO10 Y10	DVP data output port 10
D11 DO11 Y11	DVP data output port 11

Camera Reliability Test

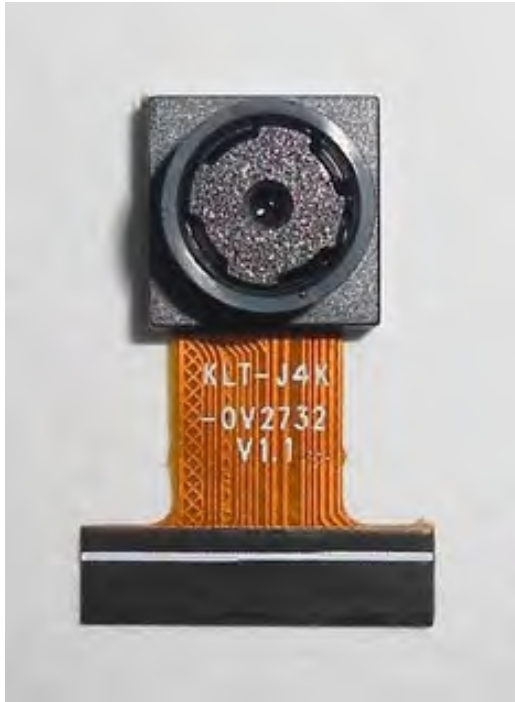
Reliability Inspection Item			Testing Method	Acceptance Criteria
Category		Item		
Environmental	Storage Temperature	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature	High 60°C 24 Hours	Temperature Chamber	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	Not Allowed
			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



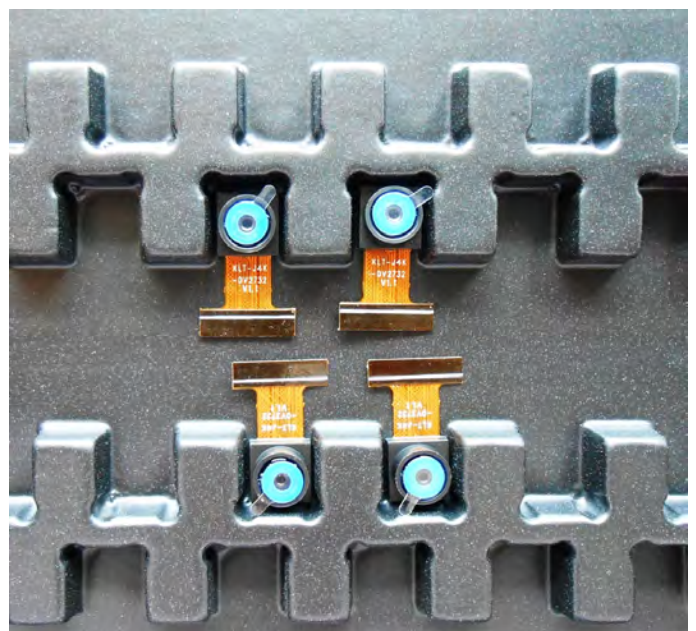
Complete with Lens Protection Film



Tray with Grid and Space

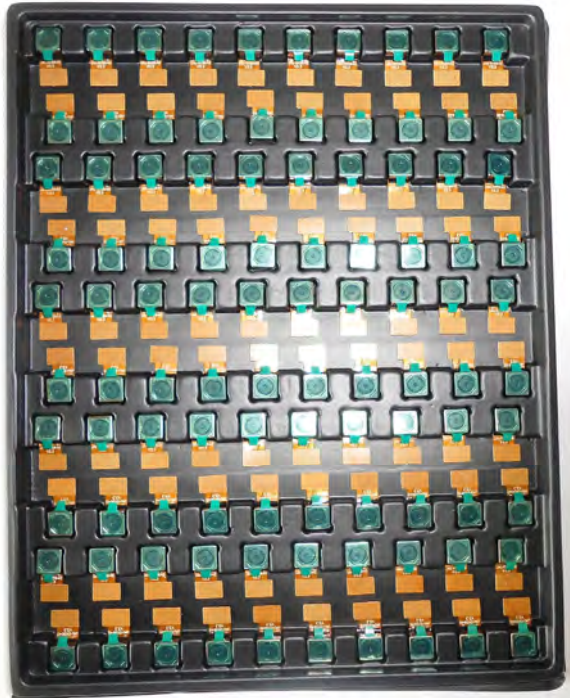


Place Cameras on the Tray



Camera Modules Package Solution

Full Tray of Cameras



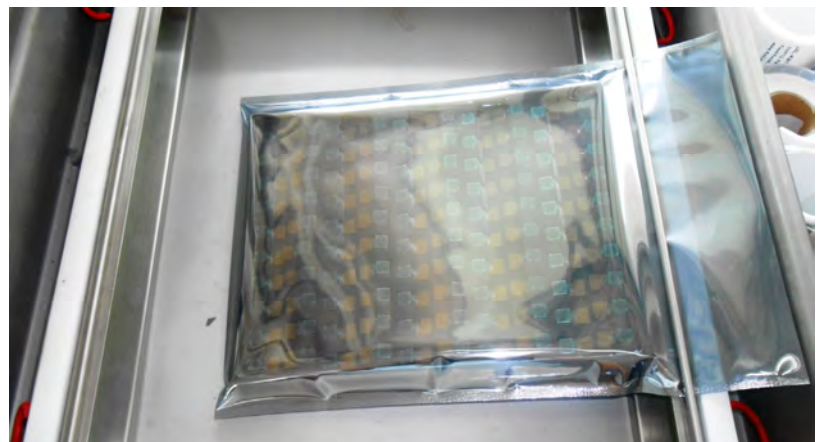
Cover Tray with Lid



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



Large Order Package Solution

Place Foam Sheets Between Trays



Foam Sheets are Slightly Larger than Trays



Place Foam Sheets and Trays into Box



Foam Sheets are Tightly Fitting Box



Small Order Package Solution

Place Foam Sheets and Trays into Small Box



Foam Sheets are Nicely Fitting the Small Box



Package in Small Box for Shipment



Place Small Boxes into Larger Box



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

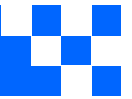


Connectors Box Ready for Shipment





CMOS CAMERA MODULES



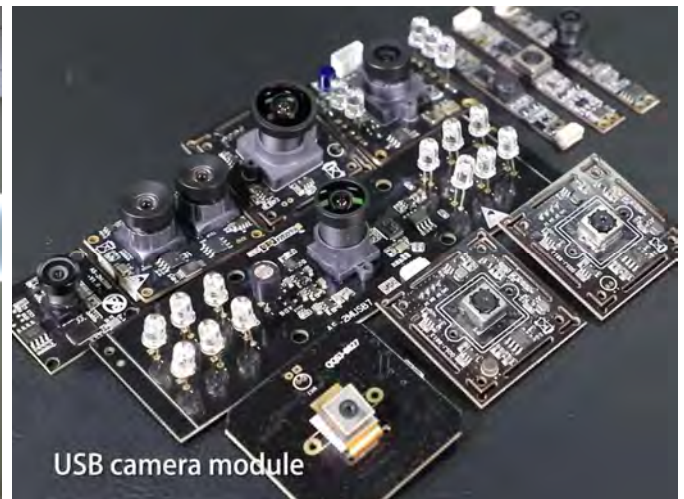
your BEST camera module partner

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.



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.



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



CMOS CAMERA MODULES



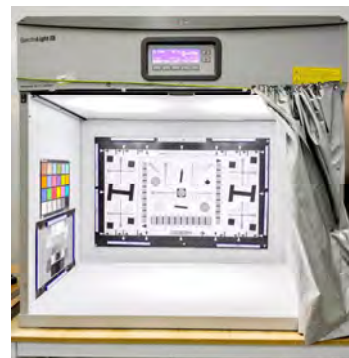
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KLT Strength

Powerful Factory



Professional Service



Promised Delivery



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