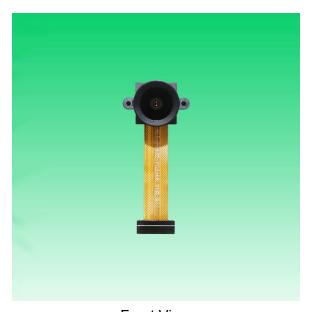




your BEST camera module partner

KLT-PFA32-PS5268 V1.0

2MP PrimeSensor PixArt PS5268 DVP Parallel Interface **M12 Fixed Focus Camera Module**





Front View

Back View

Specifications

Camera Module No.	KLT-PFA32-PS5268 V1.0
Resolution	2MP
Image Sensor	PS5268
Sensor Type	1/2.7"
Pixel Size	3.0 um x 3.0 um
EFL	3.35 mm
F.NO	2.00
Pixel	1920 x 1080
View Angle	142.0°(DFOV) 112.0°(HFOV) 57.0°(VFOV)
Lens Dimensions	13.65 x 13.65 x 18.57 mm
Module Size	50.00 x 22.00 mm
Module Type	Fixed Focus
Interface	DVP Parallel
Auto Focus VCM Driver IC	None
Lens Type	650nm IR Cut
Operating Temperature	-20°C to +70°C
Mating Connector	FH12-24S-0.5SH





your BEST camera module partner

KLT-PFA32-PS5268 V1.0

2MP PrimeSensor PixArt PS5268 DVP Parallel Interface **M12 Fixed Focus Camera Module**



Top View



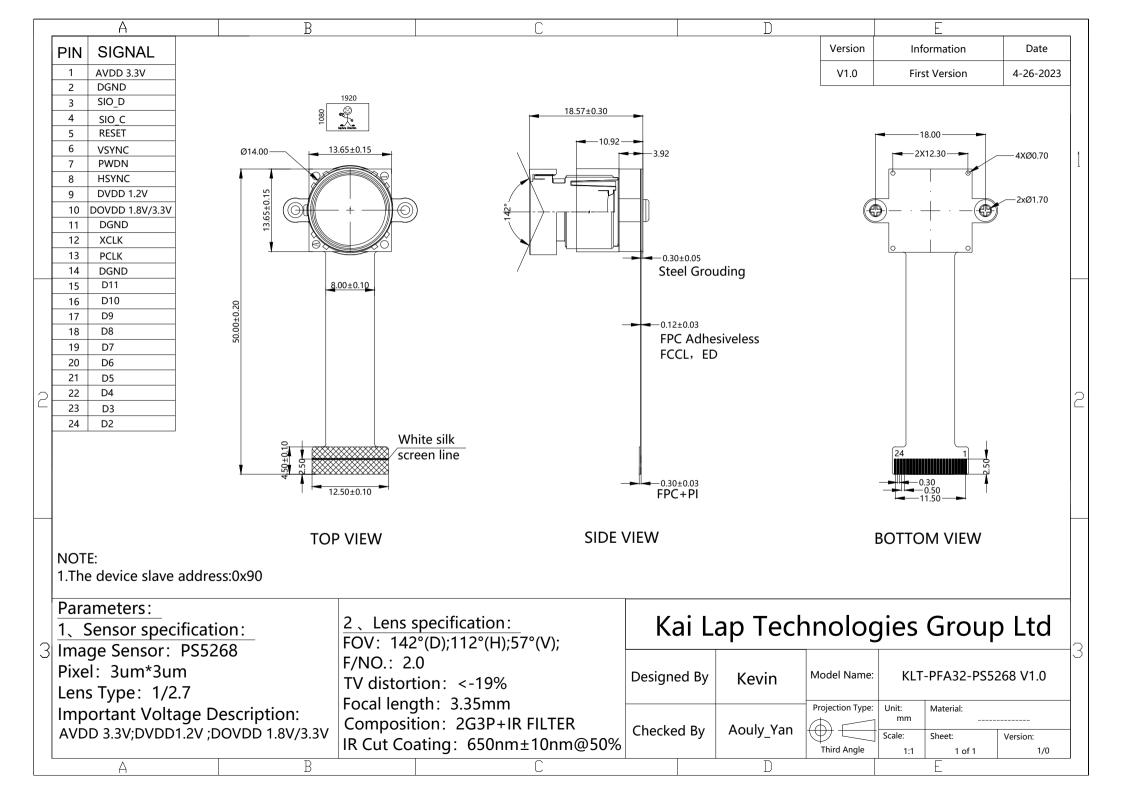
Side View



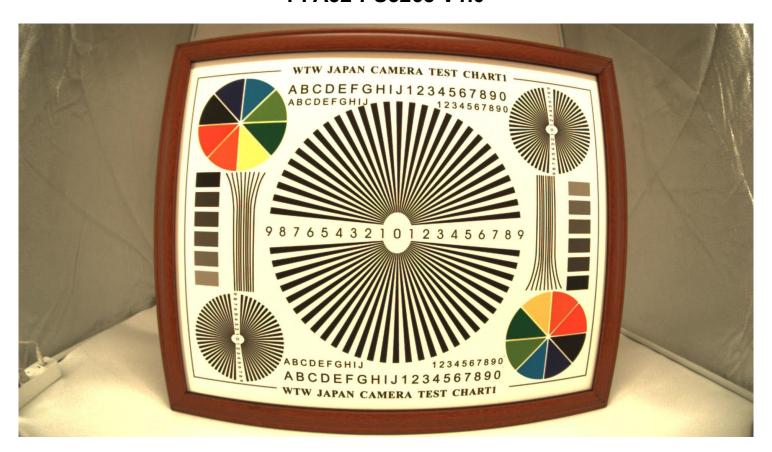
Bottom View



Mating Connector

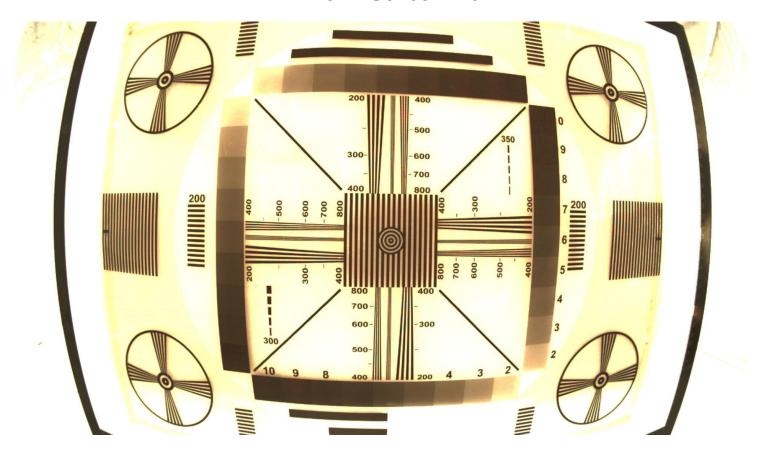


Real Test Images PFA32-PS5268 V1.0





Real Test Images PFA32-PS5268 V1.0





Real Test Images PFA32-PS5268 V1.0





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 FinePixelTM 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 I2CTM 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)
- I2CTM 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

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			
Wax. Ifame face	1080p: 1920x1080 HDR+LTM @30fps			
	Analog: 3.3 V			
Supply voltage	Digital: 1.2 V			
	I/O: 1.8V / 3.3V			
	75mW@1080p30 (MIPI)			
	54.5mW@1080p30 (DVP w/o I/O)			
Power consumption	124mW@HDR-LTM1080p30 (MIPI)			
	107mW@HDR-LTM 1080p30 (DVP w/o			
	I/O)			
Operating temperature	-30°C ~ 85°C			

Applications

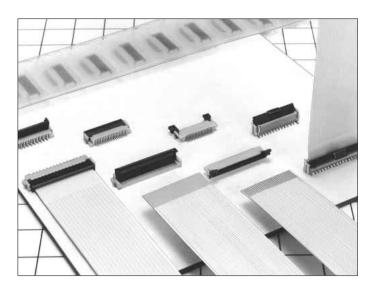
- Surveillance HD-CCTV Camera
- Surveillance IP Camera
- Car Video Recorder
- Video Door Phone

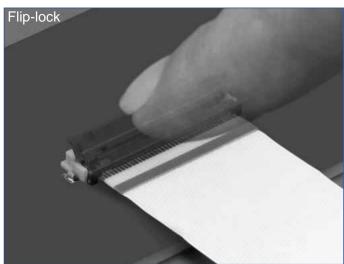
Ordering Information

Part Number	Description
PS5268LT	47-ball CSP

0.5mm and 1mm Pitch Connectors For FPC/FFC

FH12 Series





■Features

1. Ease of Use and Space Savings

Only one finger or 6.9N (Newtons) of force is required to lock Hirose's rotational actuator (flip-lock) as compared to using 2 fingers and 39.2N to close a FFC/FPC connector from our competition.

The Flip-Lock design also allows customers to place 2 or more connectors side by side as there is no need to waste additional board space for a side latch.

2. Strengthened Flip-lock Actuator

The standard Flip-Lock requires only 2.0mm height above the board. A strengthened lock lever is available which only requires an additional 0.4mm.

3. Supports Thin FPC (0.18mm)

Hirose does not require double-sided FPC to have any additional strengthening plate or stiffener and can therefore support a thickness of as little as 0.18mm +/- 0.05.

4. Hirose Ensures Reliability

Hirose's patented half tuning fork contacts maintain the required normal force without relying on the connector housing. With our competitor's conventional products the housing walls support the contact force, which does not provide for long-term reliability.

5. Prevention of Solder Bridge

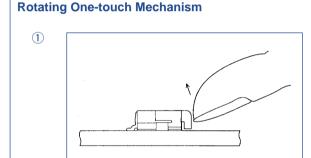
Excess solder cavity absorbs excessive solder and avoids solder bridging.

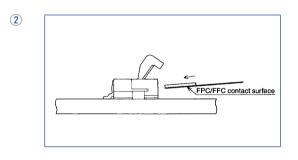
6. Three different assembly types

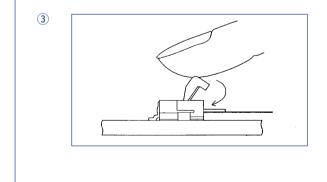
FH12 is offered in Top & Bottom Contact and Vertical Mount and offered in both a 0.5mm contact pitch as well as a 1.0mm contact pitch (bottom contact only).

■Applications

Notebook computers, printers, PDAs, digital cameras and other compact devices for interconnecting the main circuit board with the LCD, HDD or other device.







■Product Specifications

	Current rating: 0.5A DC(Note 1)	Operating Temperature Range:-40 to +70°C (Note 2)	Storage Temperature Range:-10 to +50℃ (Note 3)
Rating	Voltage rating: 50V AC	Operating Humidity Range:Relative humidity, 90% max.	Storage Humidity Range:Relative humidity, 90% max.
		(Not dewed)	(Not dewed)

Applicable FPC t=0.3±0.05 Gold plated		t =0.18 \pm 0.05 for FH12F- $*$ S-0.5SH
Item	Specification	Conditions
1. Insulation resistance	500M ohms minimum	100V DC
2. Withstanding voltage	No flashover or insulation breakdown.	150V AC/1 minute
3. Contact resistance	50m ohms maximum	1mA
4. Durability (Insertion/withdrawal)	Contact resistance: 50m ohms maximum No damage, cracks, or parts dislocation.	20 cycles
5. Vibration	No electrical discontinuity of $1\mu s$ or more Contact resistance: 50m ohms maximum. No damage, cracks, or parts dislocation.	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
6. Shock	No electrical discontinuity of $1\mu s$ or more Contact resistance: 50m ohms maximum. No damage, cracks, or parts dislocation.	Acceleration of 490 m/s², 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.
7. Humidity(Steady state)	Contact resistance: 50m ohms maximum. Insulation resistance: 50M ohms minimum. No damage, cracks, or parts dislocation.	96 hours at 40°C and humidity of 90% to 95%
8. Temperature Cycle	Contact resistance: 50m ohms maximum. Insulation resistance: 50M ohms minimum. No damage, cracks, or parts dislocation.	Temperature: $-40^{\circ}C \rightarrow 15$ to $35^{\circ}C \rightarrow 85^{\circ}C \rightarrow 15$ to $35^{\circ}C$, Time: $30 \rightarrow 5$ max. $\rightarrow 30 \rightarrow 5$ max.(minutes) 5 cycles
9.Resistance to Soldering heat	No deformation of	Reflow: At the recommended temperature profile

components affecting performance. Note 1: When passing the current through all of the contacts, use 70% of the current rating.

Note 2: Includes temperature rise caused by current flow.

Note 3: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers nonconducting condition of installed connectors in storage, shipment or during transportation.

Manual soldering: 350±5℃ for 3 seconds

■Material

9. Resistance to Soldering heat

Part	Material	Finish	Remarks
Insulator	Polyamide, LCP(60 pos.)	Color : Beige	UL94V-0
Actuator	PPS	Color : Dark brown	0L94V-0
Contact	Phosphor bronze	Gold plated	
Metal Fittings	Brass	Tin plated	

■Ordering Information

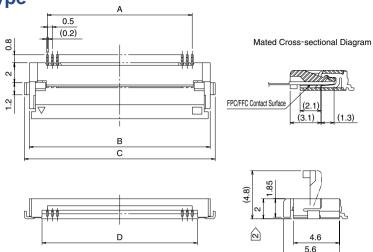
Series Name : FH12	Contact alignment: Single	
2 Blank : standard type	6 Eccentric direction:	
A : Top contact type	Blank : standard type	
S : Type with strengthed flip-lock actuator	A : Eccentric type	
F: Type with 0.18mm FPC End Thickness	Contacts Pitch : 0.5mm, 1mm	
3 Standard type : Number of contacts	Contact type	
Eccentric type : Number of contacts in 0.5mm housing	SH: SMT horizontal mounting type	
Standard type : Blank	SV : SMT vertical mounting type	
Eccentric type : Number of contacts	Plating specification	
	(55) : Gold plated	

◆ Series Configuration

Pitch	Bottom Contact Type	Top Contact Type	Vertical mounting Type
		sion porti	FPC conductive surface (bottom side)
0.5mm	FH12- ** S-0.5SH Number of contacts 6, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 40, 45, 50, 53	FPC insertion no.	
	Type with Strengthened Lock Lever		
	FH12S- ** S-0.5SH P.13 Number of contacts 30, 40, 45, 50, 53		
	Type with 0.18mm FPC End Thickness	EU424 *** C 0 5 C U D 4 F	FH12- ** S-0.5SV P.16
	FH12F- ** S-0.5SH Number of contacts 6, 8, 10, 12, 13, 14, 15, 16, 18, 20, 22, 24, 25, 26, 28, 30, 32, 34, 36, 40	FH12A- ** S-0.5SH P.15 Number of contacts 10, 12,15, 16, 18, 20, 22, 24, 26, 28, 29, 30, 32, 33, 34, 36, 40, 42, 45, 50	FH12- ** S-0.5SV Number of contacts 10, 12, 13, 15, 16, 17, 18, 20, 22, 24, 26, 30, 32, 33, 34, 36, 40, 45, 49, 50, 60
1mm			FPC conductive surface (bottom side)
1mm	Standard FH12- ** S-1SH P.18 Eccentric FH12- ** (**) SA-1SH Standard		
	Number of contacts 5, 6, 7, 8, 9, 11, 12,16,17,22,26 Eccentric Number of contacts 4, 6, 8, 10, 11, 14, 19, 24		FH12- ** S-1SV Number of contacts 6, 7, 8, 16, 20, 22, 24

■0.5mm Pitch Bottom Contact Type





Unit:mm

	Part Number	CL No.	Number of Contacts	Α	В	С	D	RoHS
	FH12- 6S-0.5SH(55)	586-0582-5-55	6	2.5	6.1	7.1	3.57	
	FH12- 8S-0.5SH(55)	586-0744-5-55	8	3.5	7.1	8.1	4.57	
	FH12-10S-0.5SH(55)	586-0522-3-55	10	4.5	8.1	9.1	5.57	
	FH12-11S-0.5SH(55)	586-0600-5-55	11	5	8.6	9.6	6.07	
	FH12-12S-0.5SH(55)	586-0704-0-55	12	5.5	9.1	10.1	6.57	
	FH12-13S-0.5SH(55)	586-0549-0-55	13	6	9.6	10.6	7.07	
	FH12-14S-0.5SH(55)	586-0533-0-55	14	6.5	10.1	11.1	7.57	
	FH12-15S-0.5SH(55)	586-0523-6-55	15	7	10.6	11.6	8.07	
	FH12-16S-0.5SH(55)	586-0531-4-55	16	7.5	11.1	12.1	8.57	
	FH12-17S-0.5SH(55)	586-0606-1-55	17	8	11.6	12.6	9.07	
	FH12-18S-0.5SH(55)	586-0530-1-55	18	8.5	12.1	13.1	9.57	
	FH12-19S-0.5SH(55)	586-0534-2-55	19	9	12.6	13.6	10.07	
	FH12-20S-0.5SH(55)	586-0524-9-55	20	9.5	13.1	14.1	10.57	
	FH12-22S-0.5SH(55)	586-0532-7-55	22	10.5	14.1	15.1	11.57	YES
	FH12-24S-0.5SH(55)	586-0521-0-55	24	11.5	15.1	16.1	12.57	IES
	FH12-25S-0.5SH(55)	586-0692-3-55	25	12	15.6	16.6	13.07	
	FH12-26S-0.5SH(55)	586-0576-2-55	26	12.5	16.1	17.1	13.57	
	FH12-28S-0.5SH(55)	586-0612-4-55	28	13.5	17.1	18.1	14.57	
Note 2	FH12-30S-0.5SH(55)	586-0525-1-55	30	14.5	18.1	19.1	15.57	
	FH12-32S-0.5SH(55)	586-0681-7-55	32	15.5	19.1	20.1	16.57	
	FH12-33S-0.5SH(55)	586-0520-8-55	33	16	19.6	20.6	17.07	
	FH12-34S-0.5SH(55)	586-0617-8-55	34	16.5	20.1	21.1	17.57	
	FH12-35S-0.5SH(55)	586-0740-4-55	35	17.0	20.6	21.6	18.07	
	FH12-36S-0.5SH(55)	586-0526-4-55	36	17.5	21.1	22.1	18.57	
Note 2	FH12-40S-0.5SH(55)	586-0527-7-55	40	19.5	23.1	24.1	20.57	
Note 2	FH12-45S-0.5SH(55)	586-0528-0-55	45	22	25.6	26.6	23.07	
Note 2	FH12-50S-0.5SH(55)	586-0529-2-55	50	24.5	28.1	29.1	25.57	
Note 2	FH12-53S-0.5SH(55)	586-0595-7-55	53	26	29.6	30.6	27.07	

Note 1 : Embossed tape reel packaging (2,000 pieces/reel). Order by number of reels.

Note 2: If there is no problem with the connector height, we recommend the type with the strengthened Flip-lock actuator (FH12S-*S-0.5SH).

Standard type connector height: 2 mm

Connector height of type with strengthened Flip-lock actuator: 2.4 mm





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Cameras Applications





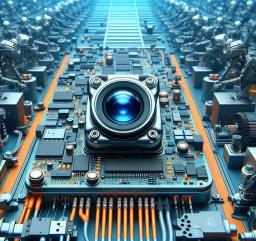


Automotive Driver Pilot

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

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Camera Module Pinout Definition Reference Chart

ina Himax GalaxyCore PixArt SmartSens Sensors
Description
ground for digital circuit
ground for analog circuit
DVP PCLK output
power down active high with internal pull-down resistor
system input clock
reset active low with internal pull-up resistor
no connect
SCCB data
SCCB input clock
DVP VSYNC output
DVP HREF output
power for I/O circuit
power for VCM circuit
power for analog circuit
power for digital circuit
strobe output
synchronize the VSYNC signal from the other sensor
SCCB last bit ID input
mechanical shutter output indicator
frame exposure / mechanical shutter
general purpose inputs
I2C slave address select
CEN chip enable active high on VCM driver IC
3
MIPI 1st data lane negative output
MIPI 1st data lane positive output
MIPI 2nd data lane negative output
MIPI 2nd data lane positive output
MIPI 3rd data lane negative output
MIPI 3rd data lane positive output
MIPI 4th data lane negative output
MIPI 4th data lane positive output
MIPI clock negative output
MIPI clock positive output
,
DVP data output port 0
DVP data output port 1
DVP data output port 2
DVP data output port 3
DVP data output port 4
DVP data output port 5
DVP data output port 6
DVP data output port 7
DVP data output port 8
DVP data output port 9
DVP data output port 10
DVP data output port 11





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Camera Reliability Test

Reliability Inspection Item		Tanting Mathad	A countain as Cuitaria	
Cat	egory	Item	Testing Method	Acceptance Criteria
	Storage	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Temperature	Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
Environmental	Temperature	Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation
Environmental	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
	Drop Test	Without Package 60cm	10 Times on Wood Floor	Electrically Functional
	(Free Falling)	With Package 60cm	10 Times on Wood Floor	Electrically Functional
	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
Physical		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
Titysical		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
	Contact Discharge 2 KV		ESD Testing Machine	Electrically Functional
	ESD Test	Air Discharge 4 KV	ESD Testing Machine	Electrically Functional
Electrical	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













Camera Inspection Standard

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	Inspection Item		Lanca Cara Madha d	Oten level of leave of the
Cate	gory	Item	Inspection Method	Standard of Inspection
		Color	The Naked Eye	Major Difference is Not Allowed.
	FPC/ PCB	Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)
		Scratches	The Naked Eye	The Inside Crack Exposure is Not Allowed
	Holder	Gap	The Naked Eye	Meet the Height Standard
Appearance	Holdel	Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)
		Damage	The Naked Eye	The Inside Crack Exposure is Not Allowed
		Scratch	The Naked Eye	No Effect On Resolution Standard
	Long	Contamination	The Naked Eye	No Effect On Resolution Standard
	Lens	Oil Film	The Naked Eye	No Effect On Resolution Standard
		Cover Tape	The Naked Eye	No Issue On Appearance.
		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
Function	Image	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
		Height	The Naked Eye	Follows Approval Data Sheet
Dimer	neion	Width	The Naked Eye	Follows Approval Data Sheet
Dilliel	131011	Length	The Naked Eye	Follows Approval Data Sheet
		Overall	The Naked Eye	Follows Approval Data Sheet

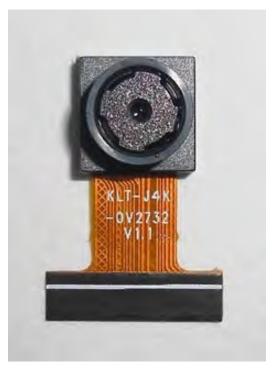




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KLT Package Solutions

KLT Camera Module



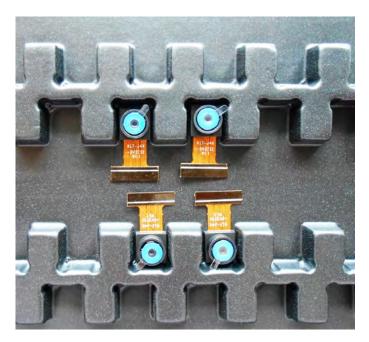
Tray with Grid and Space



Complete with Lens Protection Film



Place Cameras on the Tray







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Camera Modules Package Solution

Full Tray of Cameras



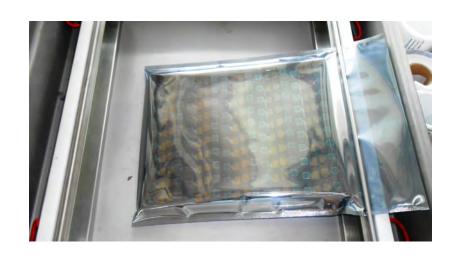
Put Tray into Anti-Static Bag



Cover Tray with Lid



Vacuum the Anti-Static Bag







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Camera Modules Package Solution

Sealed Vacuum Bag with Labels 1. Model and Description 2. Quantity 3. Shipping Date 4. Caution







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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









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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









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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



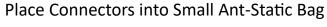




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Sample Order Package Solution

Place Sample into Small Anti-Static Bag









Sample Labels on the Small Bag 1. Camera Module or Connector Model 2. Shipping Date and Quantity 3. Caution







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Connectors Large Order Package Solution

Connectors in a Wheel







The Wheel is Perfectly Fitting the Box

Connectors Box Ready for Shipment









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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 subsequential events.

















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KLT Strength

Powerful Factory





Professional Service







Promised Delivery











