



your BEST camera module partner

### KLT-J5K-OV2732 V1.0

# 2MP OmniVision OV2732 MIPI and DVP Parallel Interface M12 Fixed Focus Camera Module





Front View

Connections

**Back View** 

Specifications  www.Kail.anTech.com	yanay Kail an Taoh aam
Camera Module No.	Www.Kail.apTech.com
Resolution	2MP
Image Sensor	OV2732
Sensor Type	1/4"
Pixel Size	2.0 um x 2.0 um
EFL	2.10 mm
F.NO	2.20
Pixel	1920 x 1080
Wiew Angle i Lap Tech.com	95,0°(DF9Y)_83.0°(HFPY)ch.com
Lens Dimensions	13.10 x 13.10 x 15.06 mm
Module Size	40.00 x 22.00 mm
Module Type	Fixed Focus
Interface	MIPI and DVP Parallel
Auto Focus VCM Driver IC	None
Lens Model	KLT-LENS-ST-6108-A6
Lens Type	650nm IR Cut
Operating Temperature	-40°C to +85°C
Mating Connector	FH12-24S-0.5SH





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### KLT-J5K-OV2732 V1.0

# 2MP OmniVision OV2732 MIPI and DVP Parallel Interface M12 Fixed Focus Camera Module



Top View

# www.KaiLapTech.com



**Bottom View** 

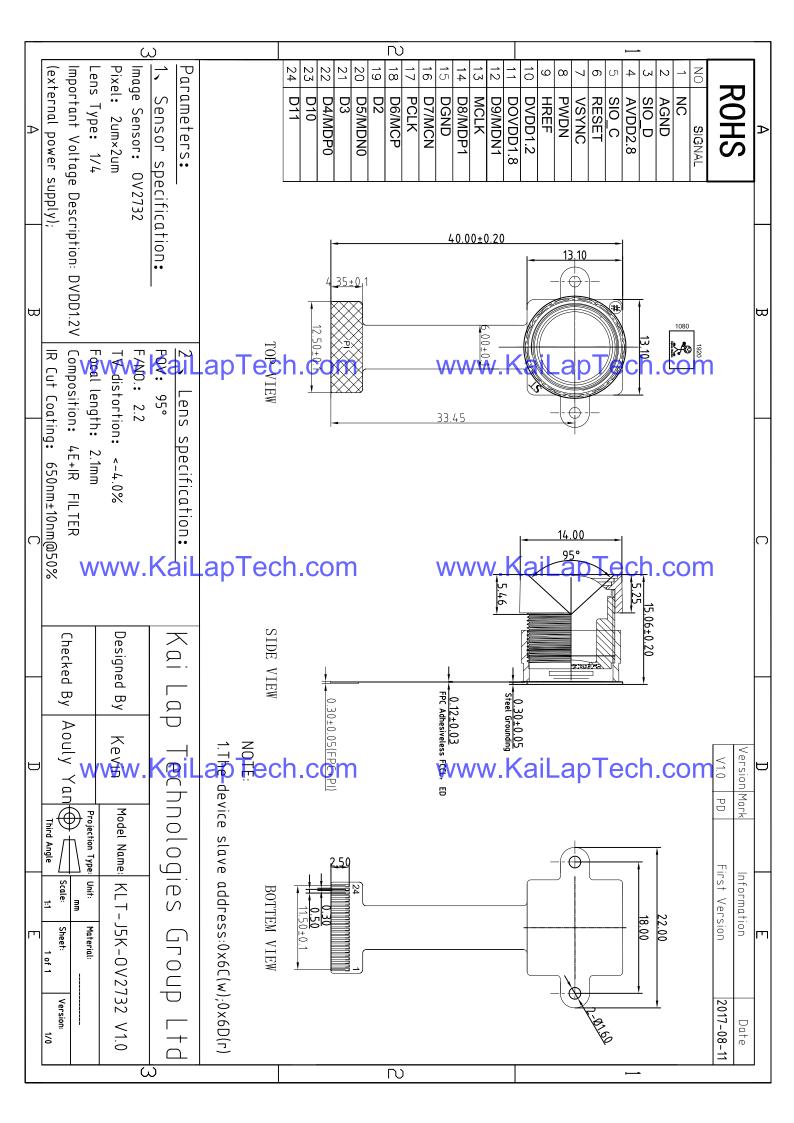


Side View

# www.KaiLapTech.com



**Mating Connector** 

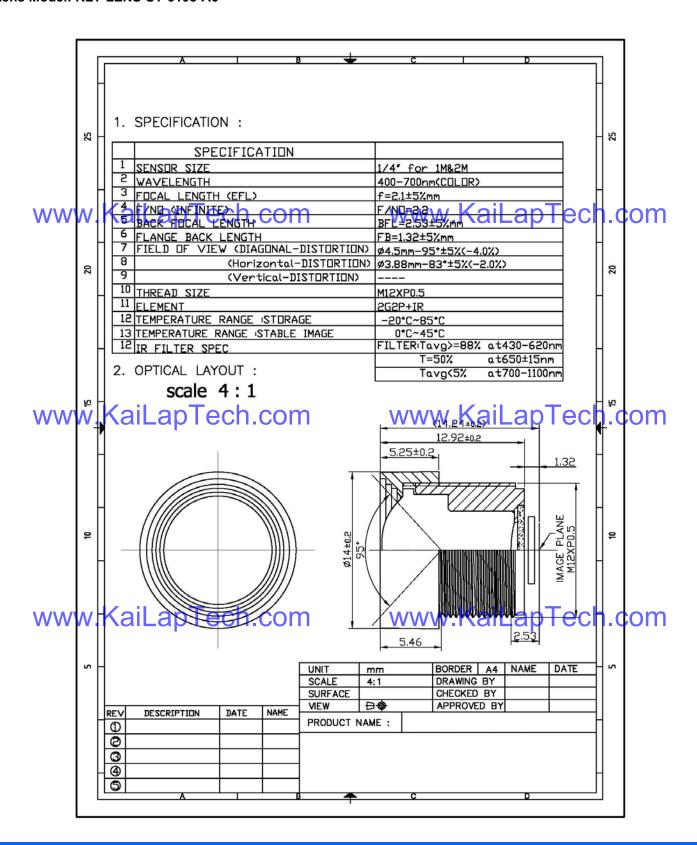






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Lens Model: KLT-LENS-ST-6108-A6



## 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

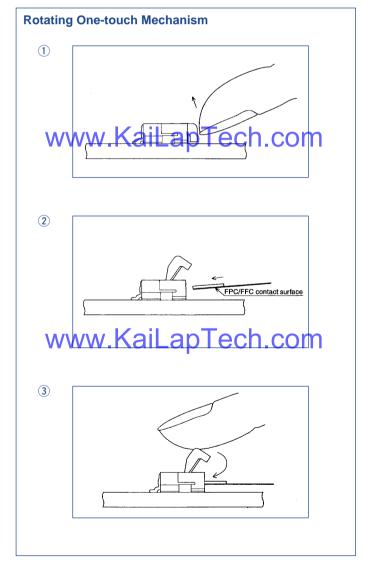
Excess solder cavity absorbs excessive solder and avoids solder bridging.

#### 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℃ (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	
A 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.

### ■Material

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

# **■Ordering Infoilmato** Tech.com www.KaiLapTech.com

Manual soldering: 350±5°C for 3 seconds

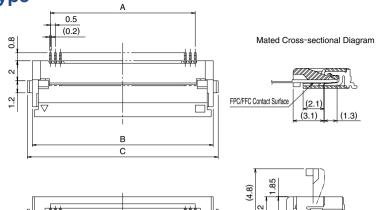
Series Name : FH12	Contact alignment: Single	
2 Blank : standard type	6 Eccentric direction:	
A : Top contact type	Blank : standard type	
S : Type with strengthed flip-lock actuator	A : Eccentric type	
F: Type with 0.18mm FPC End Thickness	Contacts Pitch : 0.5mm, 1mm	
3 Standard type : Number of contacts	Contact type	
Eccentric type : Number of contacts in 0.5mm housing	SH: SMT horizontal mounting type	
4 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
<b>W</b> 0.5mm	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	PPC conductive surface	FPC conductive surface (bottom side)
W	Type with Strengthened Lock Lever  FH12S- ** S-0.5SH  Number of contacts 30, 40, 45, 50, 53  Type with 0.18mm FPC End Thickness  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	WWW.Ka 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 P.16  Number of contacts 10, 12, 13, 15, 16, 17, 18, 20, 22, 24, 26, 30, 32, 33, 34, 36, 40, 45, 49, 50, 60
W 1mm	ww.kaiLaptech.c	om www.Ka	FPC conductive surface (bottom side)
	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 P.19  Number of contacts 6, 7, 8, 16, 20, 22, 24

### **■**0.5mm Pitch Bottom Contact Type





<del>www.Ka</del>iLap¶e

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								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		
WW	FH12-159-0.5SH(55)	586-0523-6-55	n 15	<b>\\/</b> \\\\	106	a i 11.63 I	8.07	ch.c	om
	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	120	
	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	<u>14.</u> 57		
Note 2	VAH12-30S-0.5SH(55)	586-0525-1-55	<b>11</b> 30	<b>\\</b> 4\5\\	<b>V</b> 18/1	116.6	O15.5 <del>7</del>	cn.c	om
	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.

 $Note \boxed{2}$ : 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



# $0V2732_{1080p}$ product brief





# Low-Power 1080p High Definition PureCel® Sensor for Security Applications

PureCel image sensor designed for IoT-based residential and commercial monitoring systems. The OV2732 captures quality images and videos with staggered high dynamic range (HDR), ensuring excellent scene reproduction in all lighting environments. The sensor features frame sync for use in multi-camera or 360-degree camera systems and supports ultra-low power mode (ULPM) and an ambient light sensor (ALS), making it particularly well-suited for battery-powered security applications.

Ornni Yision's OY27B2 is a compact and power-efficient WBuilt on Orni Vision's Page Cell technology, the 1/4-inch OV2732 captures 1080p high definition (HD) video at residential and commercial monitoring systems. The OV2732 captures quality images and videos with staggered high dynamic range (HDR), ensuring excellent scene reproduction in all lighting environments. The

Find out more at www.ovt.com.





### **Applications**

- Internet of Things (IoT)
- High-end Video Conferencing
- Security

- Lifestyle Camera
- Home Monitoring

#### **Product Features**

- programmable controls:
  - gain exposure

  - image size horizontal mirror
  - vertical flip

  - cropping windowing
- automatic image control functions:
   black level calibration (BLC)
- serial camera control bus (SCCB)
- defective pixel correction (DPC)
- digital video port (DVP) parallel output

- support for two lane MIPI interface (up to 800 Mbps)
- support for image sizes:
- 1080p @ 60 fps 720p @ 90 fps
- · VGA @ 120 fps
- QVGA @ 240 fps, and more
- support for light sensing mode (LSM)

- support for black sun cancellation
- on-chip phase lock loop (PLL)

## **Product Specifications**

■ active array size: 1920 x 1080

(color, lead-free, 57-pin CSP4)

- power supply: - core: 1.2\
- analog: 2.8V I/O: 1.8V

■ 0V02732-H57A

- power requirements: active: 110 mW
- temperature range: operating: -40°C to +85°C junction
- temperature stable image: 0°C to +60°C junction temperature
- output interfaces: two-lane MIPI / DVP parallel
- output formats: 10/12-bit RAW RGB
- lens size: 1/4"
- lens chief ray angle: 12° linear

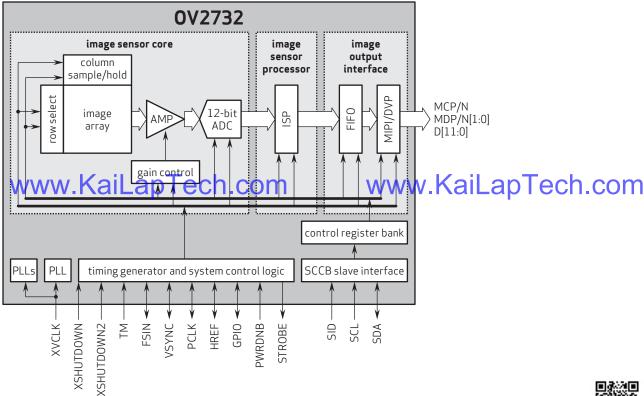
■ input clock frequency: 6 - 27 MHz

OV2732

- scan mode: progressive
- maximum image transfer rate:
- 1080p. 60 fps **2720**p. 90 fps **Ch.COM**
- QVGA: 240 fps
- shutter: rolling shutter
- maximum exposure interval:  $1184 \times t_{ROW}$
- pixel size: 2 µm x 2 µm
- image area: 3868 µm x 2190 µm
- package dimensions: 5174 µm x 3680 µm

## Fwww!KatPapTech.com

# www.KaiLapTech.com



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#### **Camera Module Pinout Definition Reference Chart**

	ina 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
VSYNC XVS FSYNC	DVP VSYNC output
MREAVXHS allap Lech.com	DVP HREF AUTOUT NO. CONT.
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
APPIW.KaiLap Lech.com	CEN chip enable active high on CM driver Q . CON
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   CCII.COIII	www.KaiLap i ech.con
D0 D00 Y0	DVP data output port 0
D1 D01 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 D07 Y7	DVP data output port 7
D8 D08 Y8	DVP data output port 8
D9 DO9 Y9	DVP data output port 9
D10 DO10 Y10	DVP data output port 10
D11 D011 Y11	DVP data output port 11





**Cameras Applications** 

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#### **Camera Reliability Test**

Reliability Inspection Item			Tanting Mathad	A cooptoned Critoria	
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	
www.	KaiLapTe Thermal Shock	High 60°C 0.5 Hours Low -20°C 0.5 Hours	www.KaiLap	Tech.com  No Abnormal Situation	
	Thermal Check	Cycling in 24 Hours	Tomporatare Griamoor	Tre Albridania Gradulari	
	Drop Test	Without Package 60cm	10 Times on Wood Floor	Electrically Functional	
	(Free Falling)	With Package 60cm	10 Times on Wood Floor	Electrically Functional	
		50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional	
Physical	Vibration Test	50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional	
	l/oil on To	50Hz Z-Axis 2mm 30min	Vibration Table	Electrically Functional	
WWW.	Cable Tensile Strength Test	Loading Weight 4 kg 60 Seconds Cycling in 24 Hours	Tensile Testing Machine	Electrically Functional	
	ESD Test	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	
WWW.	USB Connector C On/Off 250 Times		W Plug and Unplugap	Electrically Functional	













#### **Camera Inspection Standard**

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Inspection Item  Category Item			Oten dead of large estima	
		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
	Holden	Gap	The Naked Eye	Meet the Height Standard
Appearance	Holder	Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)
WW	w.KaiL	ap Temp.con	↑ The Naked <b>Fye</b> //\	The Inside Crack Exposure is Not Allowed
		Scratch	The Naked Eye	No Effect On Resolution Standard
	Lens	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
	/ww.KaiL	Bright Pixel	Black Board	Not Allowed In the Image Center
14040		Dark Pixel	White board	Not Allowed In the Image Center
VVVV		ap recn.com	The Naked Eye	Not Allowed ap Lech.com
		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
WW	w.KaiL	ap Resolution con	Chart WW\	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	nsion	Width	The Naked Eye	Follows Approval Data Sheet
2		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** 



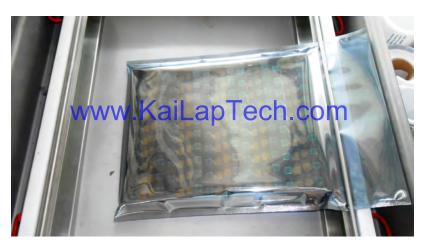
Put Tray into Anti-Static Bag



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





www.KaiLapTech.com

Place Foam Sheets and Trays into Box

www.KaiLapTech.com

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



www.KaiLapTech.com

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





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

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







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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, <a href="www.KaiLapTech.com">www.KaiLapTech.com</a>. 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 of workmanship during the Warranty Reriod, 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**





