

**KLT-USB-0815 V0****1.2MP OnSemi AR0134 Anti-Fog Heater Fixed Focus USB 2.0 Camera Module**

KLT-USB-0815 V0 is a 1.2MP Fixed Focus USB camera module based on 1/3.0" AR0134 image sensor. This camera is specially designed for the refrigerator and the mobile vehicles, embedded with the antifog ceramic heater. The anti-fog heater keeps the lens from fogging in the sudden low/high temperature change.

It delivers high-speed, good resolution ultra sharp image. The compact size lens holder enables fitting in small mobile devices. This camera module is ideal solution for refrigerator, electric box, vehicles, and outdoor monitoring applications.

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Key Features

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- 1.2 MP resolution (1280x960) OnSemi AR0134 sensor
- High speed USB 2.0 Plug and Play
- MJPG and YUV2 output format
- Anti-Fog ceramic heater keeps lens clear from fogging
- Fish-eye lens for wide view applications
- UVC compliant to Windows, Linux, OS with UVC driver
- USB OTG (On-The-Go) support



KLT-USB-0815 V0

1.2MP OnSemi AR0134 Anti-Fog Heater Fixed Focus USB 2.0 Camera Module

Camera Module No.	KLT-USB-0815 V0
Resolution	1.2MP
Image Sensor	AR0134
Sensor Type	1/3"
Pixel Size	3.75 um x 3.75 um
Lens Construction	2G4P + IR Cut (650m)
F.NO	2.00
Pixel	1288 x 968
View Angle	205°(DFOV) 205°(HFOV) 205°(VFOV)
Lens Dimensions	40.60 x 40.60 x 21.60 mm
Module Type	Fixed Focus
Lens Model	Fish Eye Lens
Interface	USB 2.0
Output Format	MJPEG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio (Optional)	Digital Microphone, Single, Dual Channel
USB Input Voltage	DC 5V
Working Current	Max 500mA
Overall Dimensions	62.98 x 40.60 x 19.70 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
Anti-Fog Ceramic Heater	Power Supply: DC 12V Max Current: 160mA Heating Time 15°C Increase In 45-seconds
Lens Type	650nm IR Cut
Operating Temperature	-30°C to +70°C
USB Cable	KLT-Cable-U0815

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





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Top View



Side View

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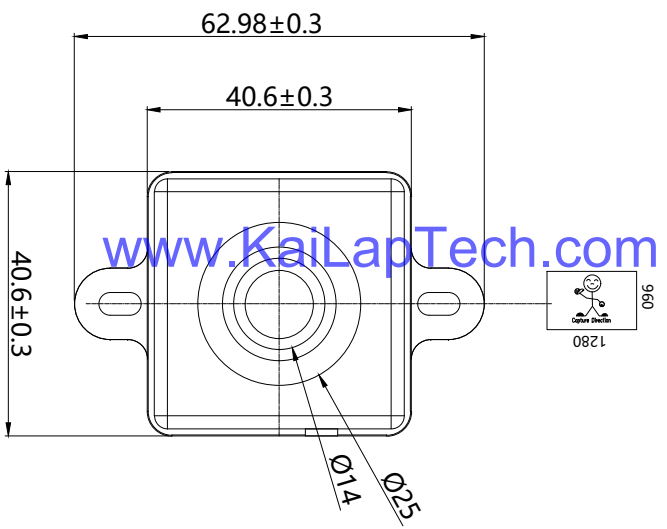


Bottom View

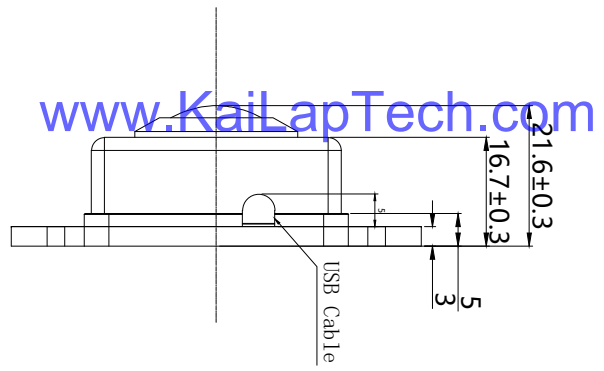


Mating Connector

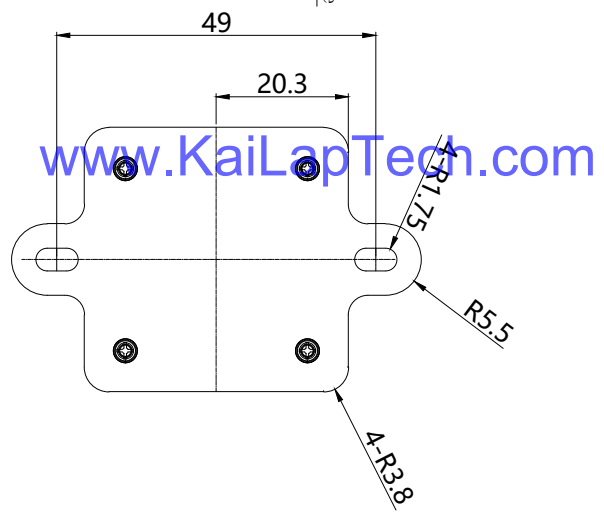
Version	Information	Date
V1.0	First Version	7-4-2022



TOP VIEW



SIDE VIEW



BOTTOM VIEW



Parameter:

1、Sensor specification:

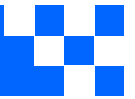
Image Sensor: AR0134
 Pixel: 3.75um×3.75um
 Lens Type: 1/3
 Important Voltage Description: USB 5V and Anti-fog power DC 12V;

2 Lens specification:

FOV: 205°(D);205°(H);205°(V)
 F/#: 2.0
 TVD: <-127%
 Focal length: 0.9mm
 Composition: 2G4P+IR FILTER
 IR Cut Coating: 650nm±10nm@50%

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Designed By	Keyan	Model Name:	KLT-USB-0815 V0	
Checked By	Aouly Yan	Projection Type:	Third Angle	Material:
		Unit:	mm	Scale:
		Sheet:	1 of 1	Version:
				1/0



1. SPECIFICATION:

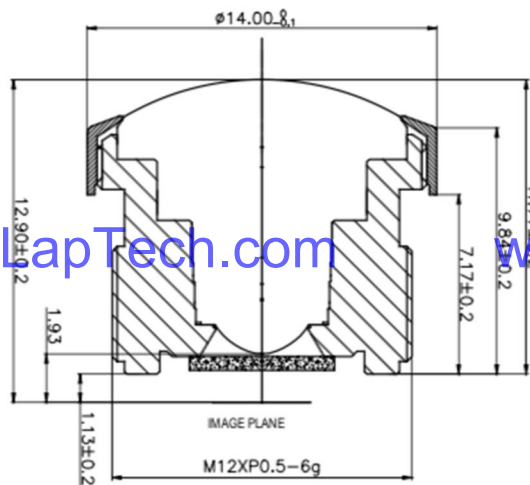
1. MAX IMAGE HEIGHT	φ3.9
2. FOCAL LENGTH (EFL)	f = 0.9±0.05
3. F/NO (INFINITE)	F / NO = 2.0±5%
4. BACK FOCAL LENGTH	BFL = 1.9±0.10
5. FLANGE BACK LENGTH	FB = 1.1±0.20
6. TOTAL TRACK LENGTH	TTL = 12.9±0.20
7. OPTICAL DISTORTION (Horizontal)	< -1.27.00%
8. RELATIVE ILLUMINATION	> 45%
9. Thread Size	M12 * 0.5P - 6g
10. Optical Axis Shift	< 1°
11. Lens Waterproot grade	IPX9K
12. Element	2GAP+1IR
13. Storage Temperature	-4.0° ~ +95°
14. Working Temperature	-4.0° ~ +80°
15. Resolution TV Line	≥ 600 @ 1 meter
16. IR FILTER SPEC. (Built-in, Others available)	
	Tavg ≥ -9.5% @ 430-630 nm
	T = 5.0% @ 650±10 nm
	Tavg ≤ -3% @ 700-1000 nm
	T < 5% @ 1050 nm

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Sensor	Field of View	CRA
PC1080D 648*488	(Diagonal/Horizontal/Vertical)	85°
	D=200±5° H=199±5° V=149.2±3°	

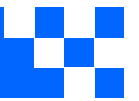
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FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	25 FPS
	1280 x 720 (720P)	25 FPS
YUY2	640 x 480 (VGA)	25 FPS
	1280 x 720 (720P)	10 FPS

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Product Overview

AR0134CS: 1.2 MP 1/3" GS CMOS Image Sensor

For complete documentation, see the data sheet.

ON Semiconductor's focus on pixel performance excellence provides the foundation for this sensor's exceptional image quality with superior performance. The sensor integrates ON Semiconductor's smallest, high performance global shutter technology for high speed image capture into a 1/3-inch optical format high definition (HD) device. The 3.75-micron global shutter pixel with exceptional low light performance can stop action without the artifacts typically associated with conventional rolling shutter pixels.

Features

- ON Semiconductor's 3rd Generation Global Shutter Technology
- Superior low-light performance
- HD video (720p60)
- Video/Single Frame mode
- Flexible row-skip modes
- On-chip AE and statistics engine
- Parallel and serial output
- Support for external LED or flash
- Auto black level calibration
- Context switching

For more features, see the data sheet

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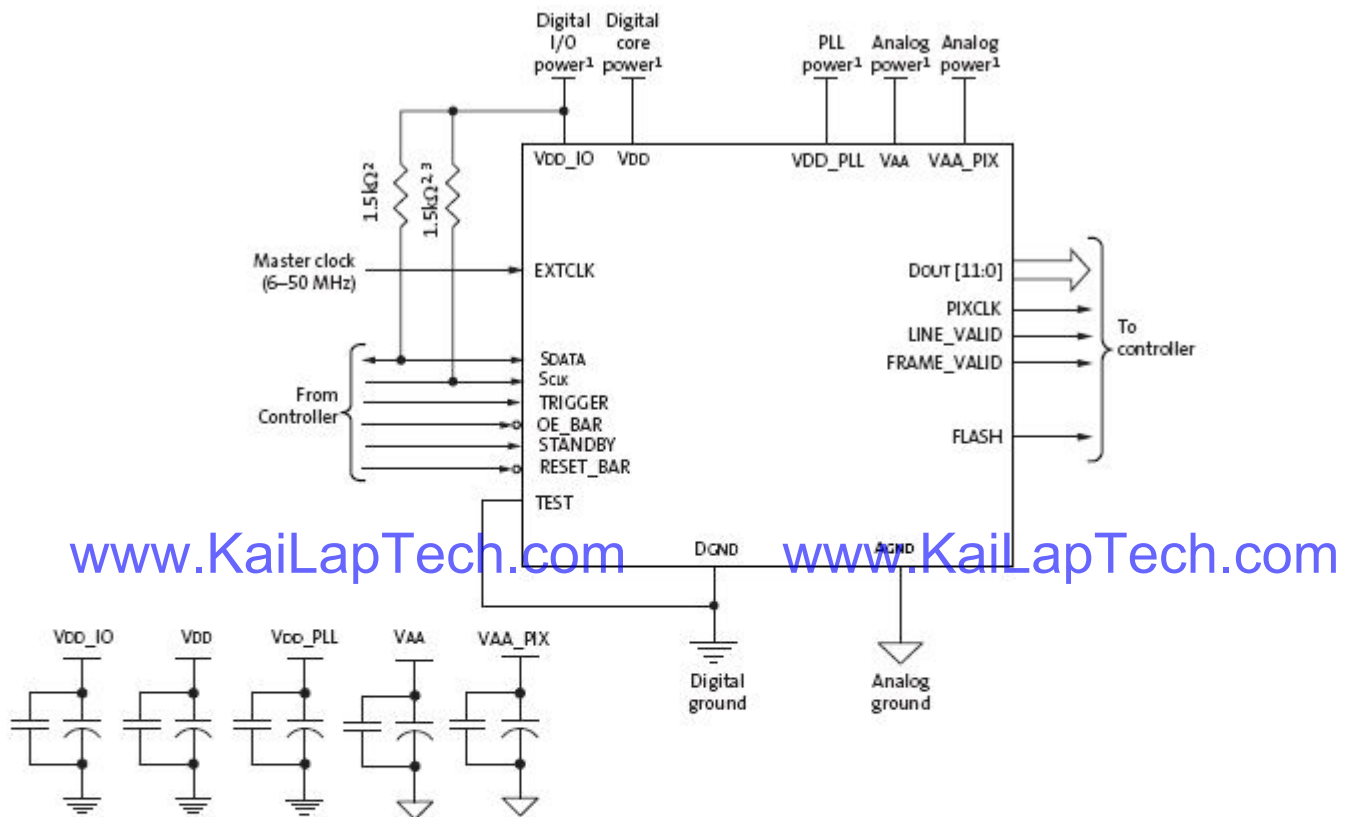
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Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
AR0134C5SC00SPCA0-DPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	RGB	ILCC-48
AR0134C5SC00SPCA0-DRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	RGB	ILCC-48
AR0134C5SC00SPCA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	RGB	ILCC-48
AR0134C5SC00SPCA0-TRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	RGB	ILCC-48
AR0134C5SM00SUEA0-DPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	RGB	IBGA-63
AR0134C5SM00SUEA0-DPBR1	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	RGB	IBGA-63
AR0134C5SM00SUEA0-DRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	RGB	IBGA-63
AR0134C5SM00SUEA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	RGB	IBGA-63
AR0134C5SM00SUEA0-TRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	RGB	IBGA-63
AR0134C5SM00SPCA0-DPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	Mono	ILCC-48
AR0134C5SM00SPCA0-DPBR1	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Rolling	3.75 x 3.75	Parallel HiSPi™	Mono	ILCC-48
AR0134C5SM00SPCA0-DRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	ILCC-48
AR0134C5SM00SPCA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	ILCC-48
AR0134C5SM00SPCA0-TRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	Mono	ILCC-48
AR0134C5SM00SUEA0-DPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	Mono	IBGA-63
AR0134C5SM00SUEA0-DPBR1	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Rolling	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM00SUEA0-DRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM00SUEA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM00SUEA0-TRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM25SPCA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	ILCC-48
AR0134C5SM25SUEA0-DPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM25SUEA0-DRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	Parallel HiSPi™	Mono	IBGA-63
AR0134C5SM25SUEA0-TPBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63
AR0134C5SM25SUEA0-TRBR	Pb-free Halide free	Active	CMOS	1.2	54	1/3 inch	Global Shutter	3.75 x 3.75	HiSPi™ Parallel	Mono	IBGA-63

Application Diagram



- Notes:
1. All power supplies must be adequately decoupled.
 2. ON Semiconductor recommends a resistor value of 1.5kΩ, but it may be greater for slower two-wire speed.
 3. This pull-up resistor is not required if the controller drives a valid logic level on SCLK at all times.
 4. The serial interface output pads can be left unconnected if the parallel output interface is used.
 5. ON Semiconductor recommends that 0.1μF and 10μF decoupling capacitors for each power supply are mounted as close as possible to the pad. Actual values and results may vary depending on layout and design considerations. Refer to the AR0134 demo headboard schematics for circuit recommendations.
 6. ON Semiconductor recommends that analog power planes be placed in a manner such that coupling with the digital power planes is minimized.

For more information please contact your local sales support at www.onsemi.com.

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Cameras Applications



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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



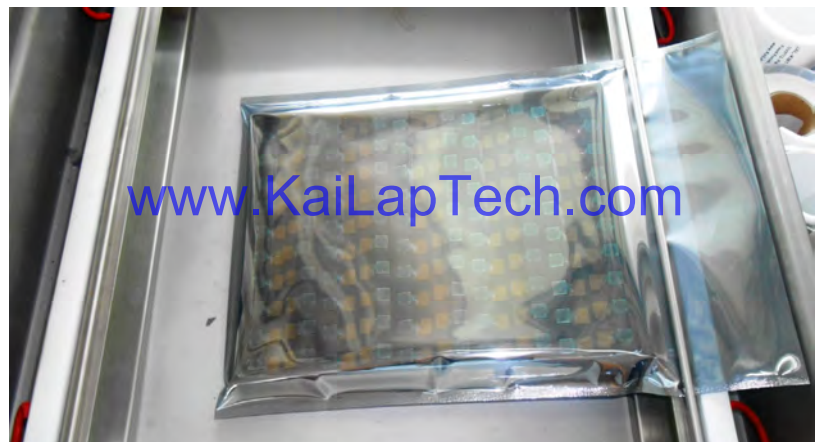
Cover Tray with Lid



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





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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



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