

KLT-U7MF-OV7251 V1.0

0.3MP OmniVision OV7251 Global Shutter MIPI Interface Fixed Focus Camera Module



Front View



Back View

Specifications

Camera Module No.	KLT-U7MF-OV7251 V1.0
Resolution	0.3MP
Image Sensor	OV7251 Global Shutter
Sensor Type	1/7.5"
Pixel Size	3.0 um x 3.0 um
EFL	1.84 mm
F.NO	2.55
Pixel	640 x 480
View Angle	100.0°(DFOV) 84.0°(HFOV) 44.0°(VFOV)
Lens Dimensions	8.00 x 8.00 x 12.50 mm
Module Size	100.00 x 10.00 mm
Module Type	Fixed Focus
Interface	MIPI
Auto Focus VCM Driver IC	None
Lens Model	KLT-LENS-50202A1
Lens Type	650nm IR Cut
Operating Temperature	-30°C to +70°C
Mating Connector	AXT524124



KLT-U7MF-OV7251 V1.0

0.3MP OmniVision OV7251 Global Shutter MIPI Interface Fixed Focus Camera Module



Top View



Side View

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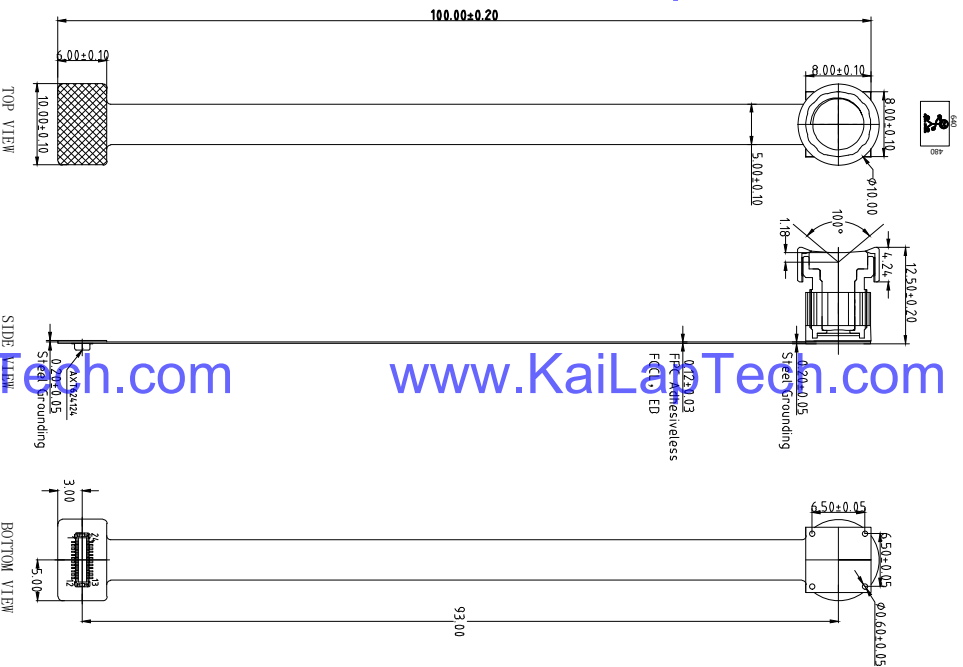


Bottom View



Mating Connector

1	SDA
2	SCL
3	DOVDD1.8V
4	MCP
5	MCN
6	GND
7	MDP
8	MDN
9	GND
10	STROBE
11	ULPM
12	GND
13	PWM
14	NC
15	GND
16	FSIN
17	NC
18	DVDD1.5V
19	XCLK
20	NC
21	RESET
22	AVDD2.8V
23	NC
24	GND



Parameters:

1、 Sensor specification:

Image Sensor: OV7251
 Pixel: 3umx3um
 Lens Type: 1/7.5
 Important Voltage Description: DVDD1.5V
 (external power supply);

2、 Lens specification:

FOV: 100°(D);84°(H);44°(V);
 F#NO.: 2.55
 TV distortion: <-13.5%
 Focal length: 1.84mm
 Composition: 5G+IR FILTER
 IR Cut Coating: 650nm±10nm@50%

Kai Lap Technologies Group Ltd

Designed By

Kevin

Model Name:

KLT-U7MF-0V7251 V1.0

Checked By

Aouly

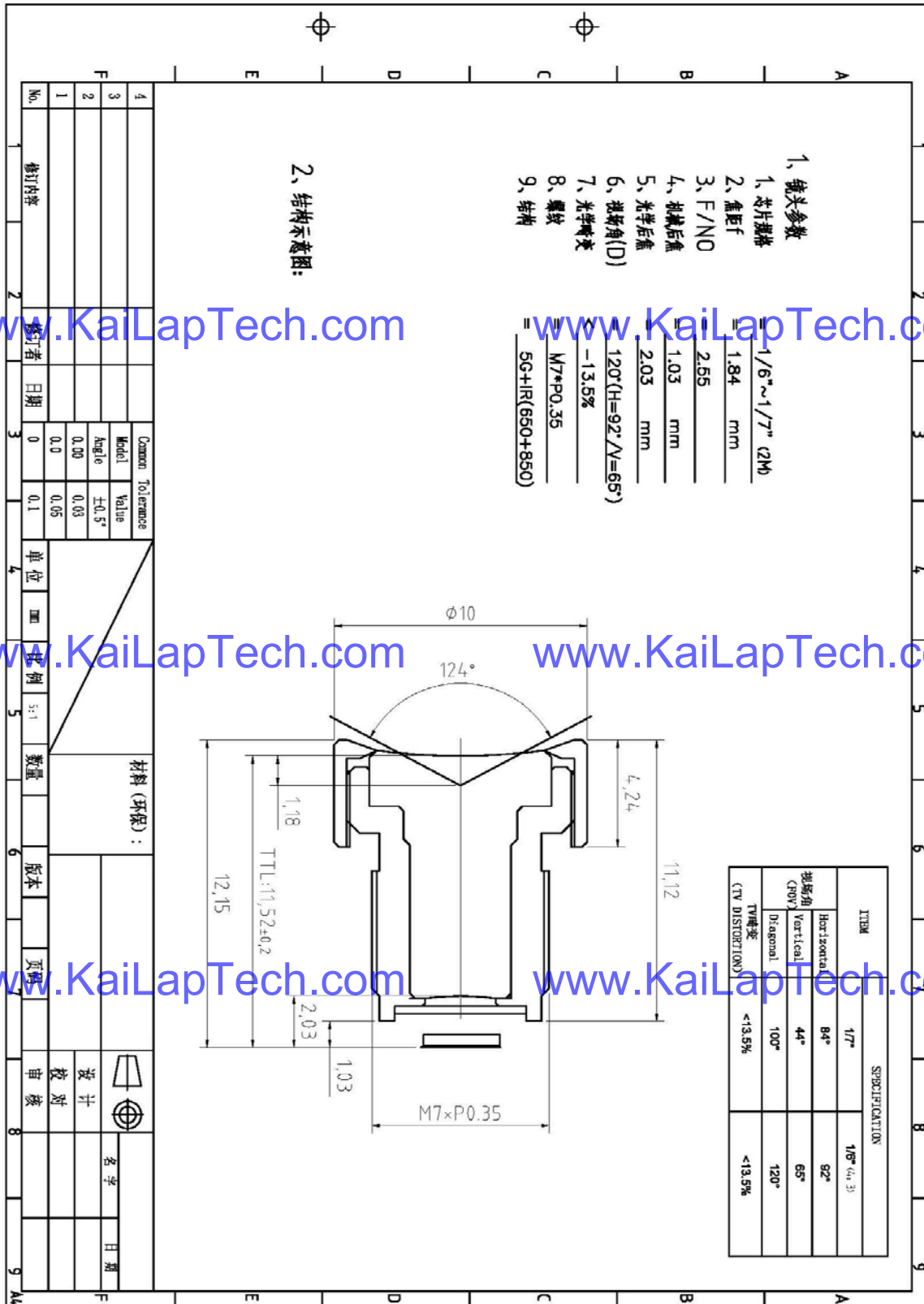


Unit: mm
 Scale: 1:1
 Sheet: 1 of 1
 Version: 1/0

Version	Information	Date
V1.0	First Version	08-14-2020



Lens Model: KLT-LENS-50202A1



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NARROW-PITCH, THIN AND SLIM CONNECTOR FOR BOARD-TO-FPC CONNECTION

NARROW PITCH (0.4 mm) CONNECTORS F4S SERIES



Socket



Header

Compliance with RoHS Directive

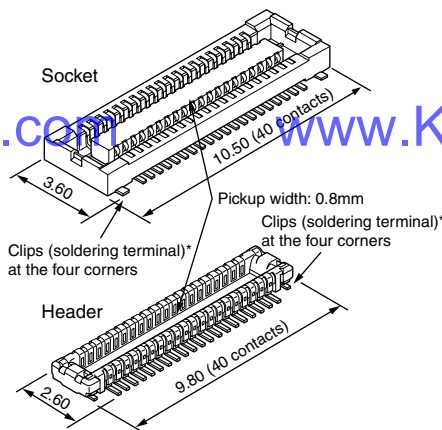
FEATURES

1. Space-saving (3.6 mm widthwise)
The required space is smaller than our F4 series (40-contact type):

Socket — 27% smaller,

Header — 38% smaller

The small size contributes to the miniaturization of target equipment.

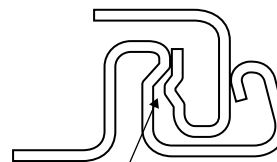


* Clips for preventing the solder joints from being removed

2. Highly reliable
TOUGH CONTACT has strong **resistance to adverse environments.**
(See Page 6 for details of the structure)

Note: If extra resistance to shock caused by dropping is required, we recommend using our previous F4 Series.

3. The simple lock structure gives tactile feedback that ensures a superior mating/unmating operation feel.



Simple lock structure

4. Gull-wing type terminals

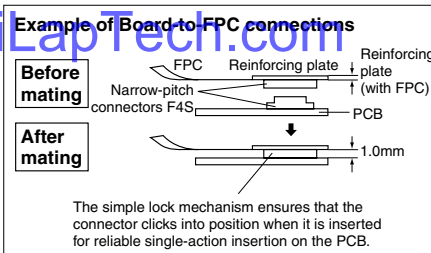
The gull-wing type terminals facilitate automatic mounting inspections.

5. Connectors for inspection available

Connectors for inspection are available that are ideal for modular unit inspection and inspection in device assembly processes.

APPLICATIONS

Compact portable devices “Cellular phones, DVC, Digital cameras, etc”



The simple lock mechanism ensures that the connector clicks into position when it is inserted for reliable single-action insertion on the PCB.

ORDERING INFORMATION

AXT **4**

5: Narrow Pitch Connector F4S (0.4 mm pitch) Socket
6: Narrow Pitch Connector F4S (0.4 mm pitch) Header

Number of contacts (2 digits)

Mated height

<Socket>

1: For mated height 1.0 mm

2: For mated height 1.2 mm

<Header>

1: For mated height 1.0 mm

2: For mated height 1.2 mm

Functions

<Socket, Header>

2: Without positioning bosses

Surface treatment (Contact portion / Terminal portion)

<Socket>

4: Base: Ni plating Surface: Au plating (for Ni barrier available)

<Header>

4: Base: Ni plating Surface: Au plating

Note: Please note that models with a mated height of 1.0 mm (7th digit of part number is “1”) and 1.2 mm (7th digit of part number is “2”) are not compatible.

AXT5, 6

PRODUCT TYPES

Mated height	Number of contacts	Part number		Packing	
		Socket	Header	Inner carton	Outer carton
1.0mm	10	AXT510124	AXT610124	3,000 pieces	6,000 pieces
	12	AXT512124	AXT612124		
	14	AXT514124	AXT614124		
	16	AXT516124	AXT616124		
	18	AXT518124	AXT618124		
	20	AXT520124	AXT620124		
	22	AXT522124	AXT622124		
	24	AXT524124	AXT624124		
	26	AXT526124	AXT626124		
	28	AXT528124	AXT628124		
	30	AXT530124	AXT630124		
	32	AXT532124	AXT632124		
	34	AXT534124	AXT634124		
	36	AXT536124	AXT636124		
	38	AXT538124	AXT638124		
	40	AXT540124	AXT640124		
	42	AXT542124	AXT642124		
	44	AXT544124	AXT644124		
	46	AXT546124	AXT646124		
	48	AXT548124	AXT648124		
50	AXT550124	AXT650124			
54	AXT554124	AXT654124			
60	AXT560124	AXT660124			
64	AXT564124	AXT664124			
70	AXT570124	AXT670124			
80	AXT580124	AXT680124			
1.2mm	10	AXT510224	AXT610224	3,000 pieces	6,000 pieces
	30	AXT530224	AXT630224		
	40	AXT540224	AXT640224		
	50	AXT550224	AXT650224		
	80	AXT580224	AXT680224		

- Notes: 1. Order unit: For mass production: in 1 inner-box (1-reel) units.
 Samples for mounting check: in 50-connector units. Please contact our sales office.
 Samples: Small lot orders are possible. Please contact our sales office.
2. The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.
3. Please contact us for connectors having a number of contacts other than those listed above.

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SPECIFICATIONS

1. Characteristics

Item		Specifications	Conditions
Electrical characteristics	Rated current	0.3A/contact (Max. 5 A at total contacts)	
	Rated voltage	60V AC/DC	
	Breakdown voltage	150V AC for 1 min.	No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for one minute.
	Insulation resistance	Min. 1,000MΩ (initial)	Using 250V DC megger (applied for 1 min.)
	Contact resistance	Max. 90mΩ	Based on the contact resistance measurement method specified by JIS C 5402.
Mechanical characteristics	Composite insertion force	Max. 0.981N/contacts × contacts (initial)	
	Composite removal force	Min. 0.165N/contacts × contacts	
Environmental characteristics	Contact holding force (Socket contact)	Min. 0.49N/contacts	Measuring the maximum force. As the contact is axially pull out.
	Ambient temperature	-55°C to +85°C	No freezing at low temperatures. No dew condensation.
	Soldering heat resistance	Peak temperature: 260°C or less (on the surface of the PC board around the connector terminals) 300°C within 5 sec. 350°C within 3 sec.	Infrared reflow soldering Soldering iron
	Storage temperature	-55°C to +85°C (product only) -40°C to +50°C (emboss packing)	No freezing at low temperatures. No dew condensation.
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	Sequence 1. -55±2°C, 30 minutes 2. ~, Max. 5 minutes 3. 85±2°C, 30 minutes 4. ~, Max. 5 minutes
	Humidity resistance (header and socket mated)	120 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	Bath temperature 40±2°C, humidity 90 to 95% R.H.
	Saltwater spray resistance (header and socket mated)	24 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ	Bath temperature 35±2°C, saltwater concentration 5±1%
	H ₂ S resistance (header and socket mated)	48 hours, contact resistance max. 90mΩ	Bath temperature 40±2°C, gas concentration 3±1 ppm, humidity 75 to 80% R.H.
Lifetime characteristics	Insertion and removal life	50 times	Repeated insertion and removal speed of max. 200 times/hours
Unit weight		20-contact type: Socket: 0.03 g Header: 0.01 g	

2. Material and surface treatment

Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
Contact and Post	Copper alloy	Contact portion: Base: Ni plating Surface: Au plating Terminal portion: Base: Ni plating Surface: Au plating (except the terminal tips) The socket terminals close to the portion to be soldered have nickel barriers (exposed nickel portions). Metal clips: Sockets: Base: Ni plating Surface: Pd+Au flash plating (except the terminal tips) Headers: Base: Ni plating Surface: Au plating (except the terminal tips)

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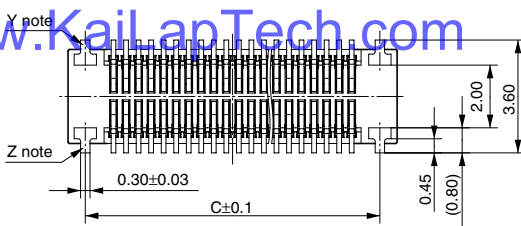
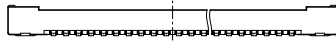
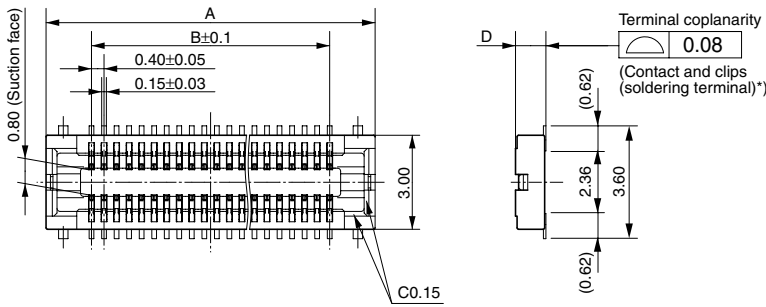
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AXT5, 6

DIMENSIONS (Unit: mm) The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://panasonic-electric-works.net/ac>

Socket (Mated height: 1.0 mm and 1.2 mm)

CAD Data



General tolerance: ±0.2

Mated height/ dimension	D
1.0mm	0.97
1.2mm	1.17

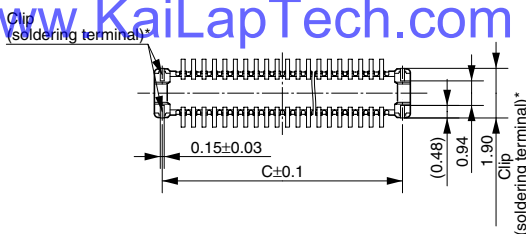
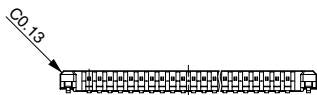
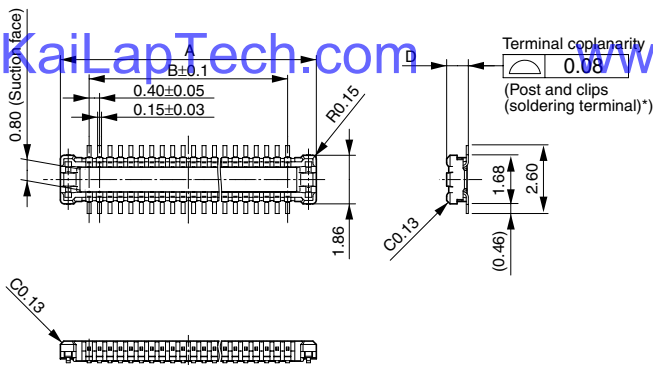
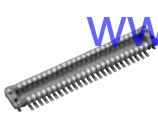
Dimension table (mm)

Number of contacts/ dimension	A	B	C
10	4.5	1.6	3.4
12	4.9	2.0	3.8
14	5.3	2.4	4.2
16	5.7	2.8	4.6
18	6.1	3.2	5.0
20	6.5	3.6	5.4
22	6.9	4.0	5.8
24	7.3	4.4	6.2
26	7.7	4.8	6.6
28	8.1	5.2	7.0
30	8.5	5.6	7.4
32	8.9	6.0	7.8
34	9.3	6.4	8.2
36	9.7	6.8	8.6
38	10.1	7.2	9.0
40	10.5	7.6	9.4
42	10.9	8.0	9.8
44	11.3	8.4	10.2
46	11.7	8.8	10.6
48	12.1	9.2	11.0
50	12.5	9.6	11.4
54	13.3	10.4	12.2
60	14.5	11.6	13.4
64	15.3	12.4	14.2
70	16.5	13.6	15.4
80	18.5	15.6	17.4

Note: Since the clip (soldering terminal)* has a single-piece construction, sections Y and Z are electrically connected.

Header (Mated height: 1.0 mm and 1.2 mm)

CAD Data



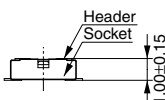
General tolerance: ±0.2

Mated height/ dimension	D
1.0mm	0.83
1.2mm	1.01

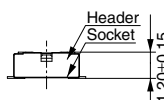
Dimension table (mm)

Number of contacts/ dimension	A	B	C
10	3.8	1.6	3.2
12	4.2	2.0	3.6
14	4.6	2.4	4.0
16	5.0	2.8	4.4
18	5.4	3.2	4.8
20	5.8	3.6	5.2
22	6.2	4.0	5.6
24	6.6	4.4	6.0
26	7.0	4.8	6.4
28	7.4	5.2	6.8
30	7.8	5.6	7.2
32	8.2	6.0	7.6
34	8.6	6.4	8.0
36	9.0	6.8	8.4
38	9.4	7.2	8.8
40	9.8	7.6	9.2
42	10.2	8.0	9.6
44	10.6	8.4	10.0
46	11.0	8.8	10.4
48	11.4	9.2	10.8
50	11.8	9.6	11.2
54	12.6	10.4	12.0
60	13.8	11.6	13.2
64	14.6	12.4	14.0
70	15.8	13.6	15.2
80	17.8	15.6	17.2

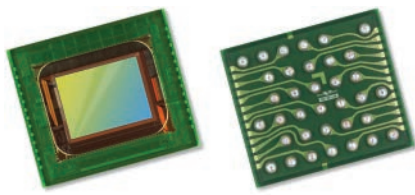
• Socket and Header are mated



Mated height: 1.0 mm



Mated height: 1.2 mm



OV7251 VGA product brief



Low Power and Compact CameraChip™ Sensor with Industry's Smallest Global Shutter Pixel



available in a lead-free package

The OV7251 is a small form factor, low power CameraChip™ sensor that uses a global shutter to reduce or eliminate unwanted image artifacts, which occur with traditional rolling shutter image sensors as a result of motion during image capture. The sensor's global shutter and excellent low-light sensitivity allow it to be used for any application that has a need for gesture detection, head and eye tracking, and depth and motion detection.

The OV7251's compact form factor makes it a highly attractive camera solution for space-constrained applications such as head-mounted displays, smartphones, tablets, notebooks and Ultrabooks. Likewise, the sensor's low-power consumption makes it an ideal dedicated gesture sensor for similar application areas.

Leveraging the industry's smallest global shutter pixel, the black and white OV7251 is capable of capturing VGA (640x480) resolution video at 120 frames per

second (fps), QVGA (320x240) at 180 fps with binning, and QQVGA (160x120) at 360 fps with binning and skipping. The OV7251's high frame rates make it an ideal solution for low-latency machine vision applications.

The 1/7.5-inch OV7251 features multiple low-power modes, including light sensing mode and ultra-low power standby mode. In light sensing mode, the OV7251 behaves like an Ambient Light Sensor (ALS), which wakes the sensor up from "sleep mode" only when a change in light has been detected. Similarly, in ultra-low power mode, the sensor can reduce the resolution and frame rates to further reduce power consumption.

Find out more at www.ovt.com.



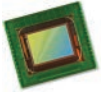
Applications

- Computer Vision
- Gesture Recognition
- 3D Systems
- Feature Tracking

Product Features

- improved shutter efficiency for machine vision applications
- integral 850 nm bandpass filter
- 3 $\mu\text{m} \times 3 \mu\text{m}$ pixel with OmniPixel[®]3-GS technology
- automatic black level calibration (ABLC)
- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- support output formats: 8/10-bit RAW
- support for image sizes:
 - 640 x 480
 - 320 x 240
 - 160 x 120
- fast mode switching
- supports horizontal and vertical 2:1 and 4:1 monochrome subsampling
- supports 2x2 monochrome binning
- one-lane MIPI serial output interface
- one-lane LVDS serial output interface
- embedded 256 bits of one-time programmable (OTP) memory for part identification
- two on-chip phase lock loops (PLLs)
- built-in 1.5V regulator for core
- PWM
- built-in strobe control

OV7251



Ordering Information

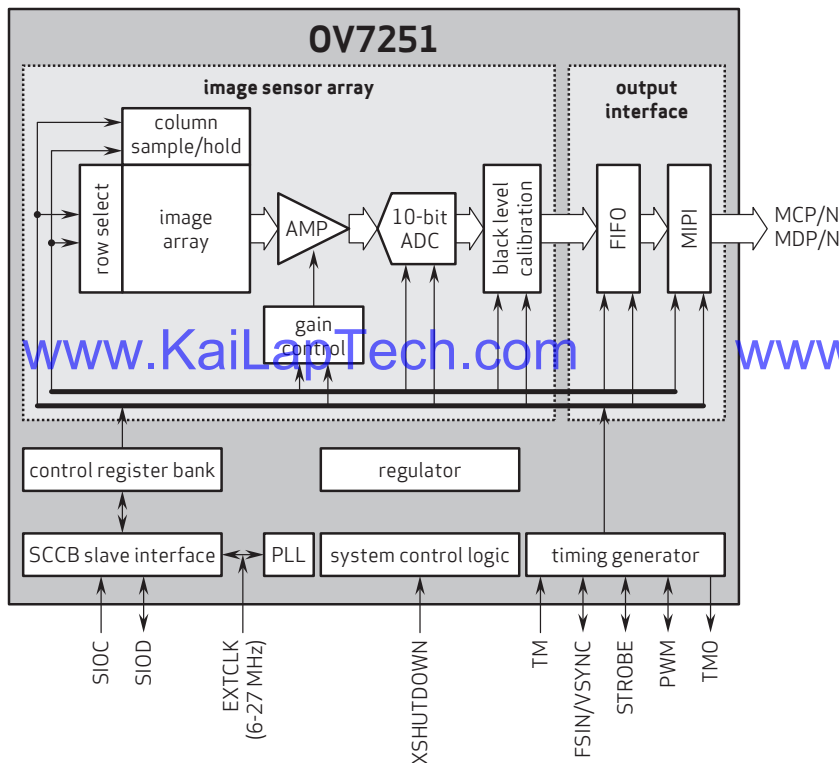
- OV7251-A35A-1G (b&w, lead-free, 35-pin CSP)
- OV7251-A35A-2B (b&w, improved PLS, lead-free, 35-pin CSP)
- OV7251-G04A-1G (b&w, reconstructed wafer with good die)
- OV7251-G04A-2B (b&w, improved PLS, reconstructed wafer with good die)
- OV7251-A35A-1J (b&w, lead-free, 35-pin CSP, black mask)

Technical Specifications

- active array size: 640 x 480
- maximum image transfer rate:
 - 640 x 480: 120 fps
- power supply:
 - analog: 2.8V (nominal)
 - core: 1.5V (optional)
 - I/O: 1.8V (nominal)
- power requirements:
 - active: 119 mW @ 120 fps, VGA output
 - standby: 15 μA for AVDD, 40 μA for DOVDD without input clock, 700 μA for DOVDD with input clock
 - XSHUTDOWN: 5 μA for AVDD, 5 μA for DOVDD
- output formats: 10-bit B&W RAW
- temperature range:
 - operating: -30°C to +70°C junction temperature
 - stable image: 0°C to +50°C junction temperature
- output interface: 1-lane MIPI/LVDS serial output
- lens size: 1/7.5"
- lens chief ray angle: 29° non-linear
- scan mode: progressive
- pixel size: 3 $\mu\text{m} \times 3 \mu\text{m}$
- image area: 1968 $\mu\text{m} \times 1488 \mu\text{m}$

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Functional Block Diagram

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OmniVision



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							
VSYNC XVS FSYNC		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							
FREQ		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							



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Cameras Applications



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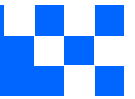




Camera Reliability Test

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



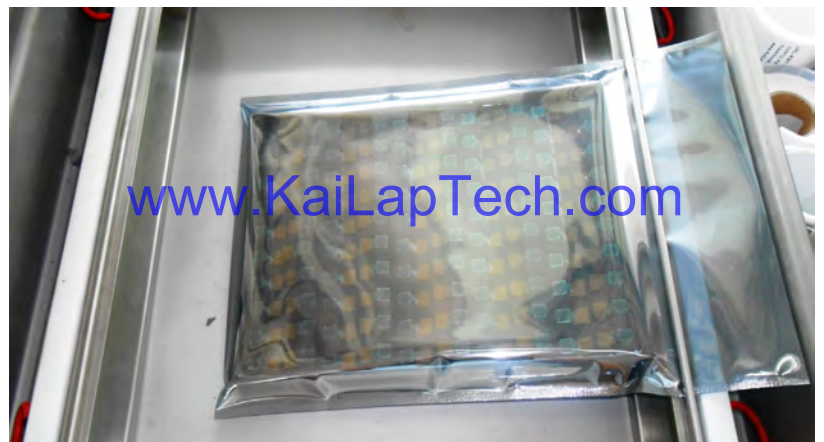
Cover Tray with Lid



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



your BEST camera module partner

Large Order Package Solution

Place Foam Sheets Between Trays

Foam Sheets are Slightly Larger than Trays



www.KaiLapTech.com

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Place Foam Sheets and Trays into Box

Foam Sheets are Tightly Fitting Box



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CMOS CAMERA MODULES



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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





your BEST camera module partner

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.





CMOS CAMERA MODULES



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KLT Strength

Powerful Factory



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Professional Service



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Promised Delivery



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