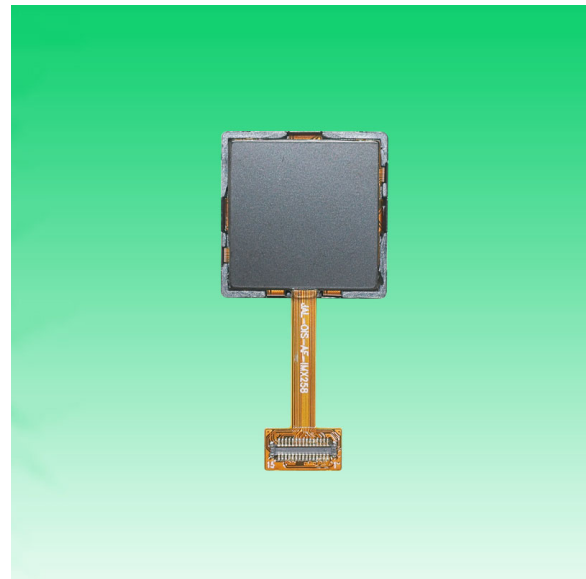
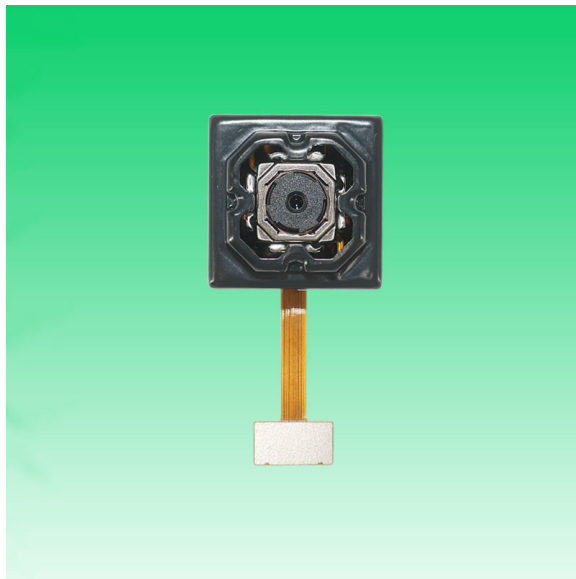
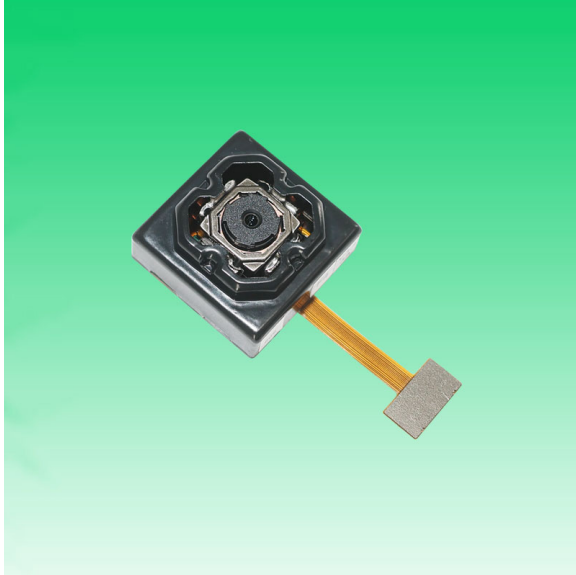


KLT-OIS-3A-AF-IMX258 V3.4

13MP Sony IMX258 OIS MGS MIPI Interface Auto Focus Camera Module



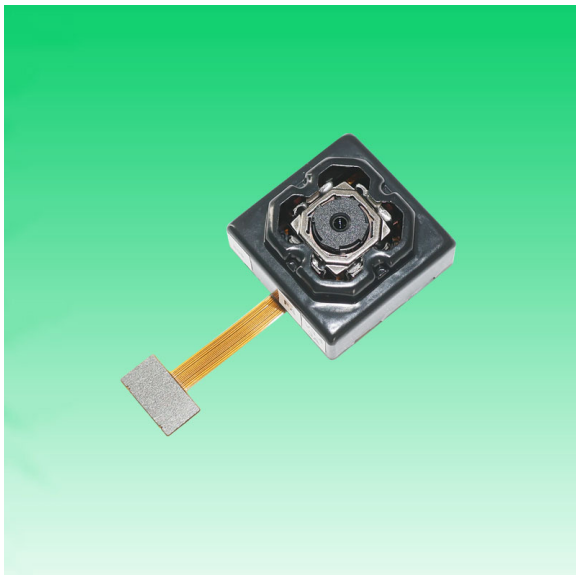
Camera Module No.	KLT-OIS-3A-AF-IMX258 V3.4
Resolution	13MP
Image Sensor	IMX258 w/ MGS OIS
Sensor Type	1/3.06"
Pixel Size	1.12 μm x 1.12 μm
EFL	2.80 mm
F.NO	1.90
Stabilization Method	Optical Image Stabilization (OIS)
Stabilizer Type	Micro Gimbal Stabilizer (MGS)
Stabilizer Axis No.	2 Axis (Pitch and Yaw)
Stabilizer Angle	Max. 3.0°
Stabilizer Power	180 mW
Pixel	4224 x 3136
View Angle	90.3°(DFOV) 77.4°(HFOV) 62.0°(VFOV)
Lens Dimensions	19.0 x 19.0 x 9.90 mm
Module Type	Auto Focus
Auto Focus VCM Driver IC	DW9763
Interface	MIPI
Lens Type	650nm IR Cut
Operating Temperature	-20°C to +70°C
Mating Connector	BAF04-30083-0500

KLT-OIS-3A-AF-IMX258 V3.4**13MP Sony IMX258 OIS MGS MIPI Interface Auto Focus Camera Module**

Top View



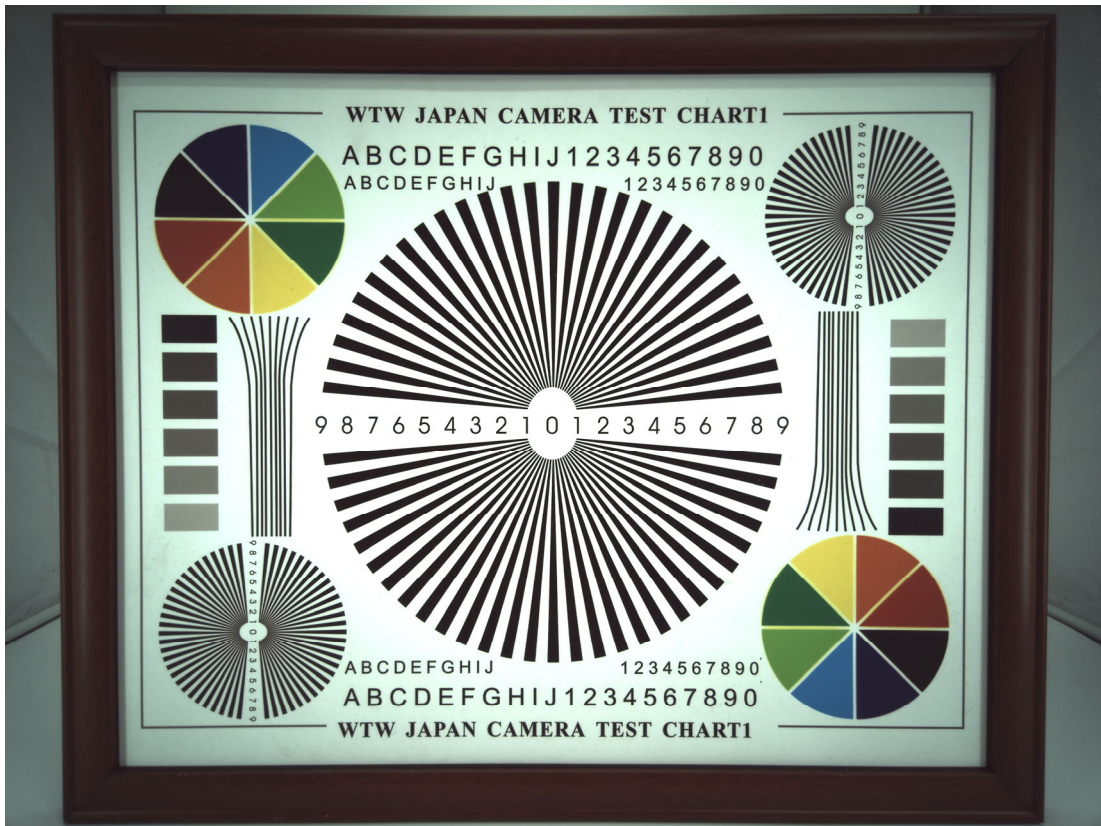
Side View



Bottom View



Mating Connector





Periodic table of Elements




Legend:

- Hydrogen (Gas)
- Alkali Metals
- Alkaline Earth Metals
- Transition Metals
- Other Metals
- Metalloids
- Non-metals
- Halogens
- Noble Gases
- Lanthanides
- Actinides

Average Atomic Mass: 6,941

Atomic Number: 6,941

Name: Lithium

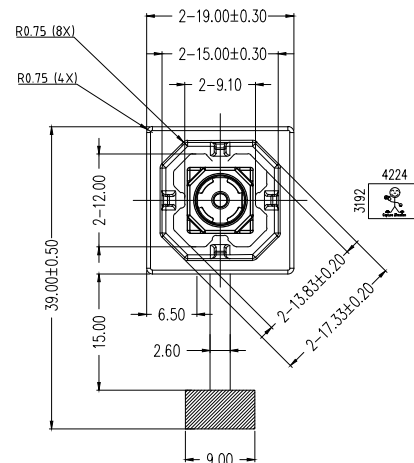
Symbol: Li

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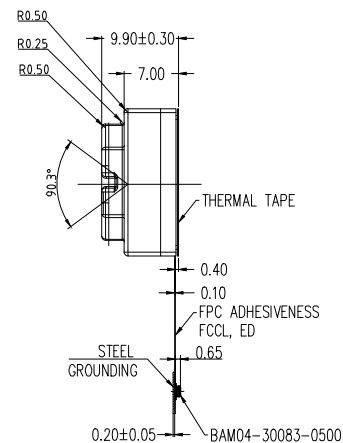
RoHS

PIN	SIGNAL
1	VCM_GND
2	VCM_GND
3	VCM_3.3V
4	SDA
5	SCL
6	MIPI_GND
7	MCN
8	MCP
9	MDN0
10	MDP0
11	MDN1
12	MDP1
13	Tool0(NC)
14	MDN2
15	MDP2
16	MDN3
17	MDP3
18	AGND
19	AVDD_2.8V
20	VCM_3.3V
21	DGND
22	MCLK
23	DGND
24	/RST(NC)
25	PWDN(XCLR)
26	DVDD_1.2V
27	VDDIO_1.8V
28	Reset_N(GPIO)
29	ID(NC)
30	DGND

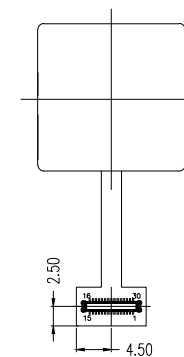
Version	Information	Date
V1.0	First Version	2018-11-22
V3.0	Second Version	2019-11-08
V3.4	Change lens	2022-3-12



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Remark:

1. Sensor I2C Slave Address: 0X34(W)/0X35(R)
MGS Driver I2C Slave Address: 0X52(W)/0X53(R)
3. AF Driver I2C Slave Address: 0X18(W)/0X19(R)
4. VCM_3.3V: 3.3V(+/-0.05V) during operation

5. AVDD_2.8V: 2.8V(+/-0.05V) during operation
6. Reset_N : To control MGS on and off. When the pin pull high, MGS on. When the pin active low, MGS off.
7. Tool0: NC, reserved

PARAMETERS PARAMETERS

Sensor Specification

Image Sensor: IMX258
Pixel: 1.12umx1.12um
Lens Type: 1/3.06"
Important Voltage Description:
VCM_3.3V: 3.3V
AVDD_2.8V: 2.8V
VDDIO_1.8V: 1.8V
DVDD_1.2V: 1.2V

2、Lens specification:

FOV: 90.3°(D);77.4°(H);62°(V)
F/N0: 1.9
TV distortion: <1.0%
Focal length: 2.8mm
Composition: 5P+IR FILTER
IR Cut Coating: 650nm±10nm@50%

Kai Lap Technologies Group Ltd

DESIGNED BY

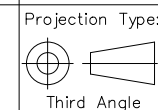
Kevin

MODEL
NAME

KLT-OIS-3A-AF-IMX258 V3.4

CHECKED BY

Aouly Yan



Projection Type:

Unit:

Scale:

1:1

Material:

Sheet:

1 of 1

Version:

1.0

[Product Brief]

Ver.1.0

IMX258

Diagonal 5.867 mm (Type 1/3.06) 13Mega-Pixel CMOS Image Sensor with Square Pixel for Color Cameras

Description

IMX258 is a diagonal 5.867mm (Type 1/3.06) 13 Mega-pixel CMOS active pixel type stacked image sensor with a square pixel array. It adopts Exmor RS™ technology to achieve high speed image capturing by column parallel A/D converter circuits and high sensitivity and low noise image (comparing with conventional CMOS image sensor) through the backside illuminated imaging pixel structure. R, G, and B pigment primary color mosaic filter is employed. By introducing spatially multiplexed exposure technology, high dynamic range still pictures and movies are achievable. It

equips an electronic shutter with variable integration time. It operates with three power supply voltages: analog 2.7 V, digital 1.2 V and 1.8 V for input/output interface and achieves low power consumption.

In addition, this product is designed for use in cellular phone and tablet pc. When using this for another application, Sony does not guarantee the quality and reliability of product. Therefore, don't use this for applications other than cellular phone and tablet pc. Consult your Sony sales representative if you have any questions.

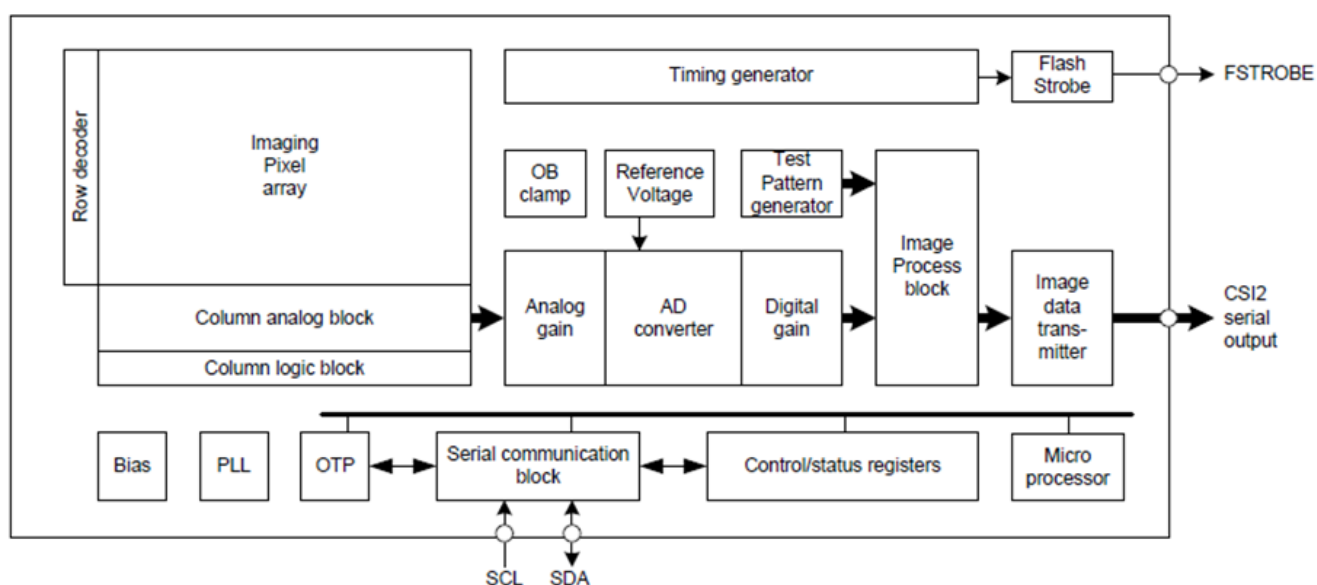
Functions and Features

- ◆ Back-illuminated and stacked CMOS image sensor Exmor RSTM
- ◆ Phase Detection pixel data output for Phase Detection Auto Focus
- ◆ High Dynamic Range (HDR) mode with raw data output.
- ◆ High signal to noise ratio (SNR).
- ◆ Full resolution @30fps (Normal / HDR). 4K2K @30fps (Normal / HDR) 1080p @60fps (Normal)
- ◆ Output video format of RAW10/8.
- ◆ Pixel binning readout and V sub-sampling function.
- ◆ Independent flipping and mirroring.
- ◆ CSI-2 serial data output (MIPI 2lane/4lane, Max. 1.3Gbps/lane, D-PHY spec. ver. 1.1 compliant)
- ◆ 2-wire serial communication.
- ◆ Two PLLs for independent clock generation for pixel control and data output interface.
- ◆ Dynamic Defect Pixel Correction.
- ◆ Fast mode transition. (on the fly)
- ◆ Dual sensor synchronization operation.
- ◆ 4K bit of OTP ROM for users.
- ◆ Built-in temperature sensor.

Device Structure

- ◆ CMOS image sensor
- ◆ Image size : Diagonal 5.867 mm (Type 1/3.06)
- ◆ Total number of pixels : 4224 (H) × 3192 (V) approx. 13.48 M pixels
- ◆ Number of effective pixels : 4224 (H) × 3144 (V) approx. 13.28 M pixels
- ◆ Number of active pixels : 4208 (H) × 3120 (V) approx. 13.13 M pixels
- ◆ Chip size : 5.990 mm (H) × 3.908 mm (V)
- ◆ Unit cell size : 1.12 μm (H) × 1.12 μm (V)
- ◆ Substrate material : Silicon

System block diagram



Exmor RS

* Exmor RS is a trademark of Sony Corporation. The Exmor RS is a Sony's CMOS image sensor with high-resolution, high-performance and compact size by replacing a supporting substrate in Exmor R™ which changed fundamental structure of Exmor™ pixel adopted column parallel A/D converter to back-illuminated type, with layered chips formed signal processing circuits.

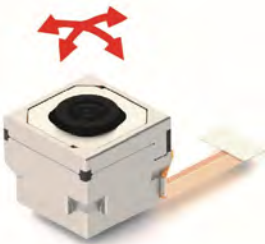
Micro Gimbal Stabilizer (MGS) OIS Camera Modules

Micro Gimbal Stabilizer (MGS) is the patented mechanical optical image stabilizer (OIS) for camera modules. The MGS technology is tilting the image sensor and lens together, enabling anti-shaking performance for moving devices to take a sharp and clear image, even in the low light environment.



Features

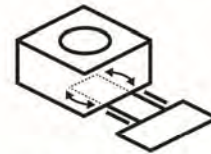
2-Axis Compensation
Small, Light Weight
18.80x18.80x15.80mm



Smallest
Gimbal



Multi-Axis
Compensation



Embedded
Moving FPC



One-stop
Solution



Stabilizer



Max. View Angle



Integrated
Design



Patents

Applications



**5G Smart
Helmet**



**Sport
Camera**



Drones



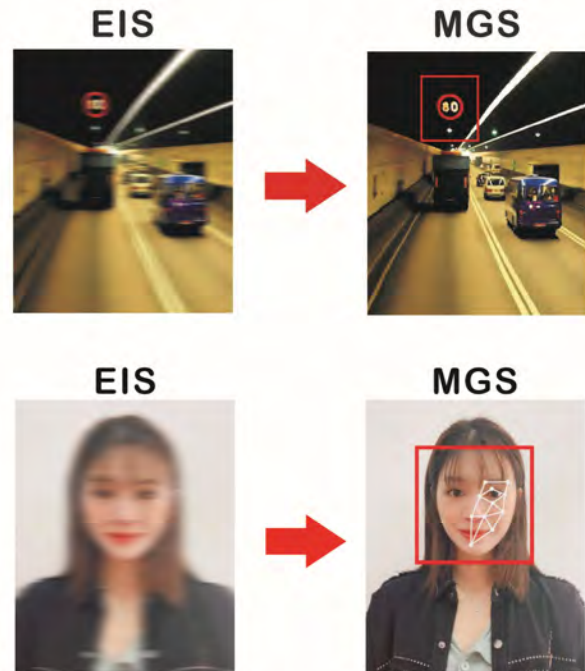
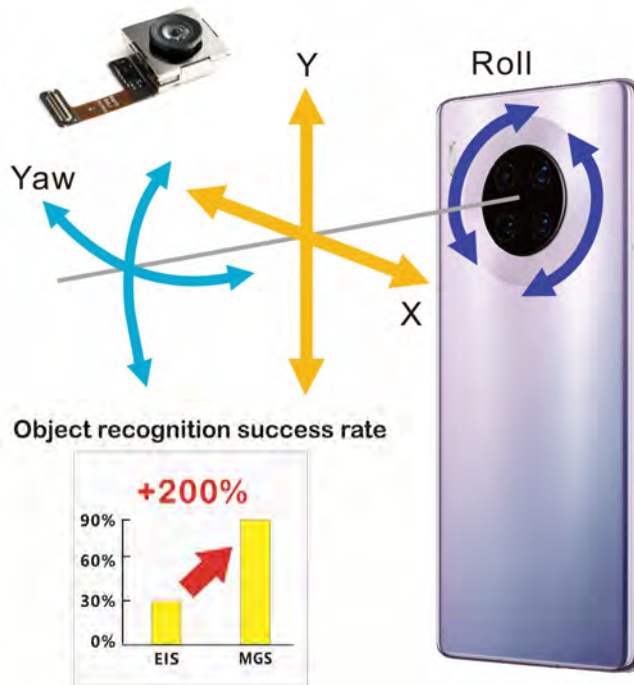
Robots



**Wearable
Cameras**

Micro Gimbal Stabilizer (MGS) for Mobile Phones

Micro Gimbal Stabilizer (MGS) is fitting in the compact size, enabling the smartphones and tablet PC to take clear images in the moving environment.



1. General Description

The DW9763 is a single 10-bit DAC with 100mA output current sinking capability and embedded 8KByte eFlash memory. Designed for linear control of voice coil motors, the DW9763 is capable of operating voltage up to 3.3V.

The SAC (Smart Actuator Control) mode is applied to minimize the mechanical vibration. The SAC mode highly improves the actuator's settling time and tolerance coverage compared with conventional LSC (Linear Slope Control) mode. The DAC and eFlash are controlled via an I2C compatible serial interface.

The DW9763 incorporates with a POR (Power On Reset) circuit, power down mode. POR circuit gets to operate when VDD (supply power) turns on. The output current keeps 0mA until valid register value takes place. During the power down mode, it consumes current max.1uA.

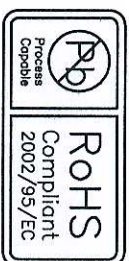
The DW9763 is designed for auto focus and optical zoom for mobile camera, digital still camera, camcorders and other nano actuator applications.

■ Features

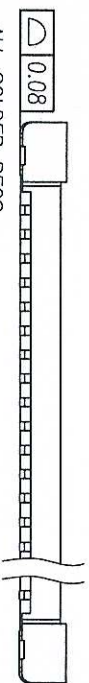
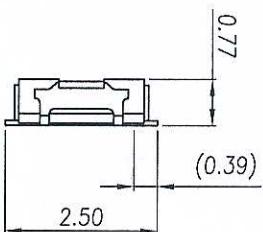
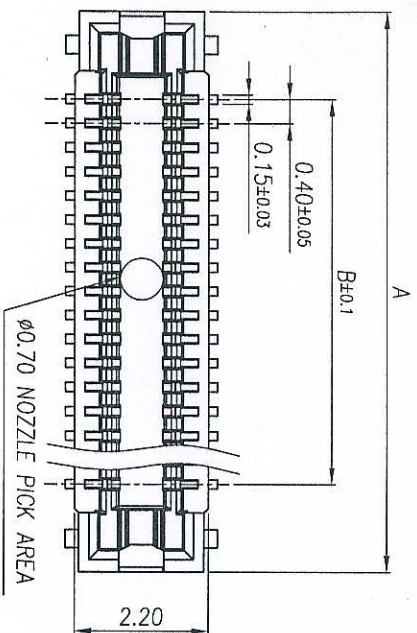
- 10 bit resolution current sinking of 100mA for VCM
- SAC (Smart Actuator Control) mode
- Supply voltage range (VDD) : 2.3V to 3.3V
- Fast mode I2C interface compatible (1.8V interface available)
- Power down mode
- Power on reset (POR)
- Embedded 8KByte eFlash memory
- Package : 8 pin WLCSP
- Package Size : 0.77mm X 1.75mm X 0.3mm

■ Applications

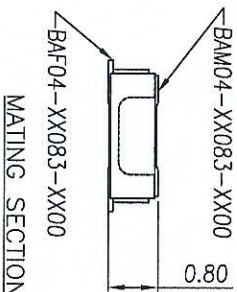
- Mobile camera
- Digital still camera
- Camcorder
- Web camera
- Nano actuator



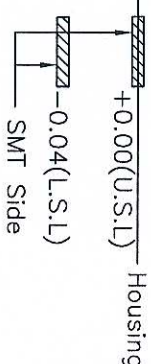
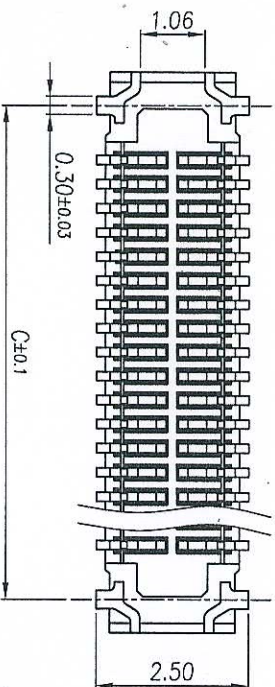
REV.	Q'TY	ECN. NO.	APR.	DATE
A	--	RC-12-2-019	Joson Su	2012.08.07



ALL SOLDER PEGS
& CONTACT TAILS



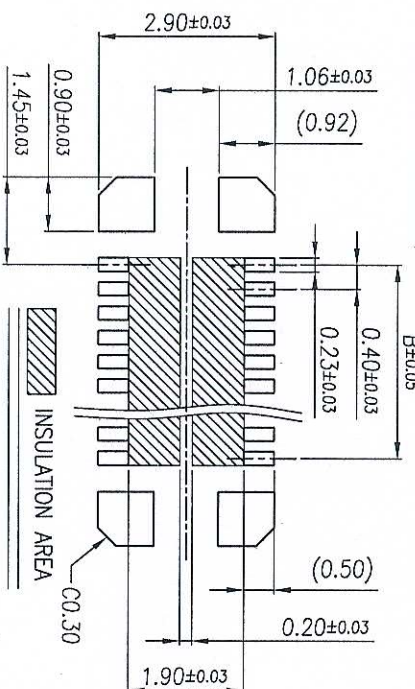
MATING SECTION



STAND OFF

TABLE:

60	14.50	11.60	13.40
50	12.50	9.60	11.40
40	10.50	7.60	9.40
34	9.30	6.40	8.20
30	8.50	5.60	7.40
26	7.70	4.80	6.60
24	7.30	4.40	6.20
20	6.50	3.60	5.40
16	5.70	2.80	4.60
10	4.50	1.60	3.40
Pos No:	A	B	C
			Available



RECOMMENDED PCB LAYOUT

NOTES:

1.) MATERIAL:

1-1.HOUSING: THERMOPLASTIC,UL94 V-0,BLACK;

1-2.CONTACT: COPPER ALLOY, T=0.08mm

2.) FINISH:

2-1.CONTACT: Au 5u" MIN PLATING ON CONTACT AREA,

Au 1u" MIN. PLATING ON SOLDER TAIL,

50u" MIN. NICKEL UNDERPLATING OVER ALL

3.) PRODUCT SPECIFICATIONS:

3-1.VOLTAGE RATING: 60V AC/DC

3-2.CURRENT RATING: 0.3A/CONTACT(MAX. 5A AT TOTAL CONTACT)

3-3.INSULATION RESISTANCE: 100MEG.OHM MIN(INITIAL)

3-4.WITHSTANDING VOLTAGE: 150V AC FOR 1 MINUTE

3-5.CONTACT RESISTANCE: 70 MILL.OHM MAX PER PIN INITIAL,

AFTER CONDITION ΔR=20 MILL.OHM Max.

3-6.OPERATION TEMPERATURE: -55° TO +85°

3-7.MATING FORCE: 120g Max./POS.

3-8.UNMATING FORCE: 15g Min./POS.

3-9.DURABILITY: 30 CYCLES

4.) PART NO:

BAF04-XX083-0500

BTB SERIES

FINISHED PRODUCT

FEMALE

PITCH 0.4

POS.

PRODUCT ORDER

CONTACT AREA PLATING

05 : Au 5u" Min.

WITHOUT POST TYPE

08 HEIGHT 0.8mm

LCN Shenzhen Linkconn
Electronics Co.,Ltd.

DIMENSION IN mm
TOLERANCE UNLESS
OTHERWISE SPECIFIED

.X±0.35

.XX±0.25

.XXX±0.15

APR.

CHK.

DRA

Kevin Wong

2012.08.07

TITLE: 0.4mm PITCH BTB FEMALE

MATING HEIGHT 0.8mm

DWG NO. BAF04-24083-0500

PROJ.

SIZE A4

SCALE N/A

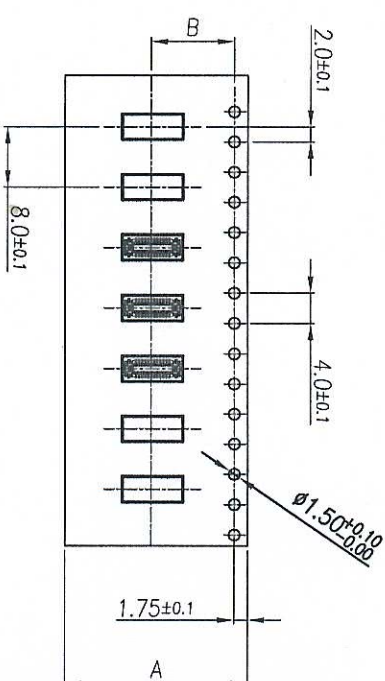
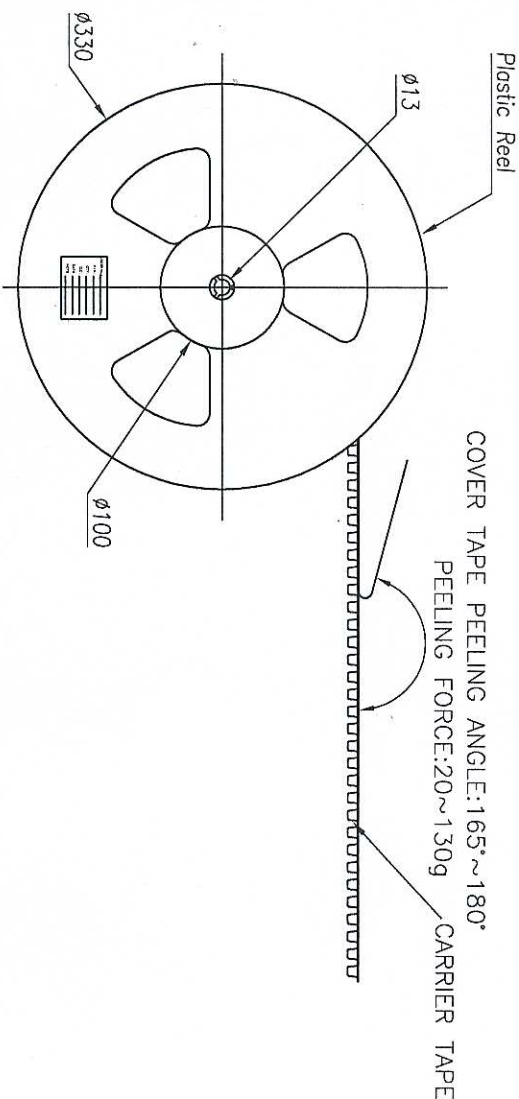
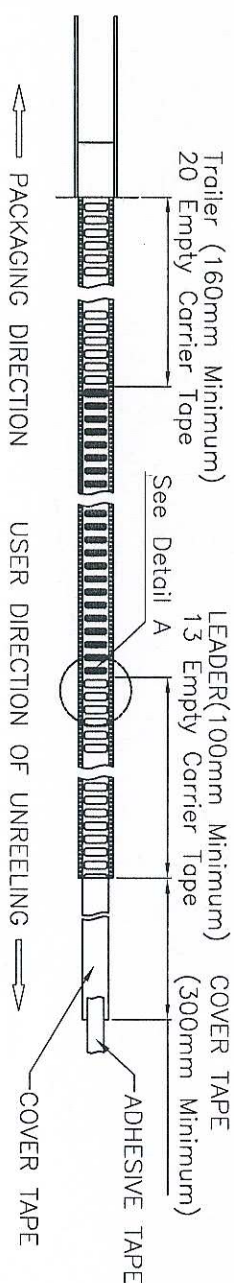
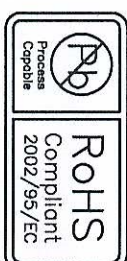
SHEET 1/2

CUSTOMER DRAWING

REV. A

F-18A

REV.	Q'TY	ECN. NO.	APR.	DATE
A	--	RC-12-2-019	Jason Su	2012.08.07



60						
50						
40	24.00	11.50	3000	10	30000	340*340*330
30						
26						
24						
20						
16	16.00	7.50	3000	14	42000	340*340*330
10						
POS NO	DIM A	DIM B	QTY/REEL	REEL/CARTON	QTY/CARTON	CARTON SIZE

DIMENSION IN mm		LCN Shenzhen Linkconn Electronics Co., Ltd.			
TOLERANCE UNLESS OTHERWISE SPECIFIED					
$.X \pm 0.35$	$X \pm 1.5^{\circ}$		APR		
$.XX \pm 0.25$	$X \pm 1.0^{\circ}$		CHK.		
$.XXX \pm 0.15$	$.XX \pm 0.5^{\circ}$		DRG Kevin Wang 2012.08.07		
TITLE: 0.4mm PITCH BTB FEMALE MATING HEIGHT 0.8mm DWG NO. BAF04-24083-0500		PROD. 		CUSTOMER DRAWING	
SIZE A4	SCALE N/A	SHEET 2 / 2	REV. A		

Cameras Applications



Automotive Driver Pilot



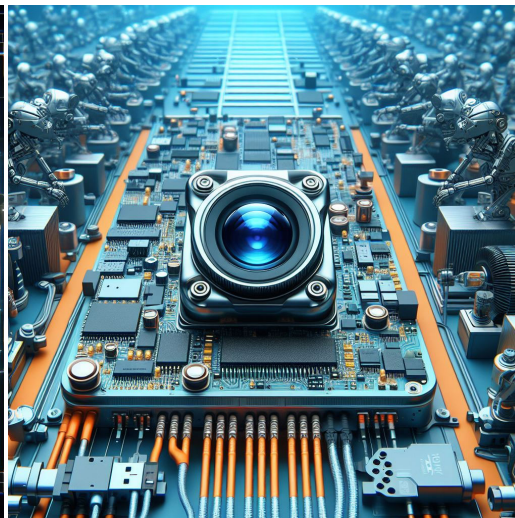
Live Streaming



Video Conference



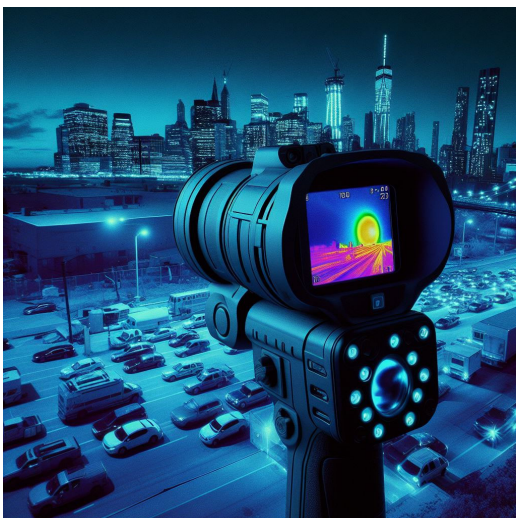
Eye Tracker Biometric Detection



Machine Vision



Agricultural Monitor



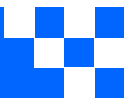
Night Vision Security



Drone and Sports Eagle Eyes



Interactive Pet Camera



Cameras Applications

your BEST camera module partner



IMAGING DEVICES



Camera Module Pinout Definition Reference Chart

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

Camera Reliability Test

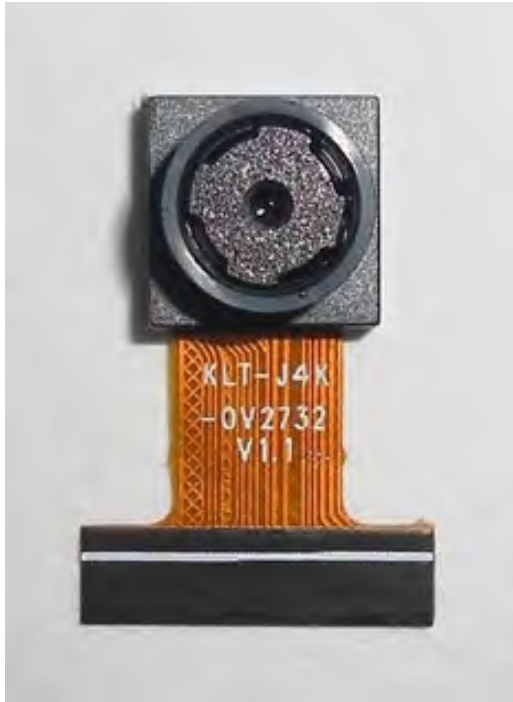
Reliability Inspection Item			Testing Method	Acceptance Criteria
Category		Item		
Environmental	Storage Temperature	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation
	Humidity	60°C 80% 24 Hours	Temperature Chamber	No Abnormal Situation
	Thermal Shock	High 60°C 0.5 Hours Low -20°C 0.5 Hours Cycling in 24 Hours	Temperature Chamber	No Abnormal Situation
Physical	Drop Test (Free Falling)	Without Package 60cm	10 Times on Wood Floor	Electrically Functional
		With Package 60cm	10 Times on Wood Floor	Electrically Functional
	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Z-Axis 2mm 30min	Vibration Table	Electrically Functional
	Cable Tensile Strength Test	Loading Weight 4 kg 60 Seconds Cycling in 24 Hours	Tensile Testing Machine	Electrically Functional
Electrical	ESD Test	Contact Discharge 2 KV	ESD Testing Machine	Electrically Functional
		Air Discharge 4 KV	ESD Testing Machine	Electrically Functional
	Aging Test	On/Off 30 Seconds Cycling in 24 Hours	Power Switch	Electrically Functional
	USB Connector	On/Off 250 Times	Plug and Unplug	Electrically Functional



Inspection Item		Inspection Method	Standard of Inspection		
Category					
Item					
Appearance	FPC/ PCB	Color	The Naked Eye	Major Difference is Not Allowed.	
		Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.	
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)	
	Holder	Scratches	The Naked Eye	The Inside Crack Exposure is Not Allowed	
		Gap	The Naked Eye	Meet the Height Standard	
		Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)	
		Damage	The Naked Eye	The Inside Crack Exposure is Not Allowed	
	Lens	Scratch	The Naked Eye	No Effect On Resolution Standard	
		Contamination	The Naked Eye	No Effect On Resolution Standard	
		Oil Film	The Naked Eye	No Effect On Resolution Standard	
		Cover Tape	The Naked Eye	No Issue On Appearance.	
	Function	Image	No Communication	Test Board	Not Allowed
			Bright Pixel	Black Board	Not Allowed In the Image Center
Dark Pixel			White board	Not Allowed In the Image Center	
Blurry			The Naked Eye	Not Allowed	
No Image			The Naked Eye	Not Allowed	
Vertical Line			The Naked Eye	Not Allowed	
Horizontal Line			The Naked Eye	Not Allowed	
Light Leakage			The Naked Eye	Not Allowed	
Blinking Image			The Naked Eye	Not Allowed	
Bruise			Inspection Jig	Not Allowed	
Resolution			Chart	Follows Outgoing Inspection Chart Standard	
Color			The Naked Eye	No Issue	
Noise			The Naked Eye	Not Allowed	
Corner Dark			The Naked Eye	Less Than 100px By 100px	
Color Resolution			The Naked Eye	No Issue	
Dimension			Height	The Naked Eye	Follows Approval Data Sheet
	Width	The Naked Eye	Follows Approval Data Sheet		
	Length	The Naked Eye	Follows Approval Data Sheet		
	Overall	The Naked Eye	Follows Approval Data Sheet		

KLT Package Solutions

KLT Camera Module



Complete with Lens Protection Film



Tray with Grid and Space

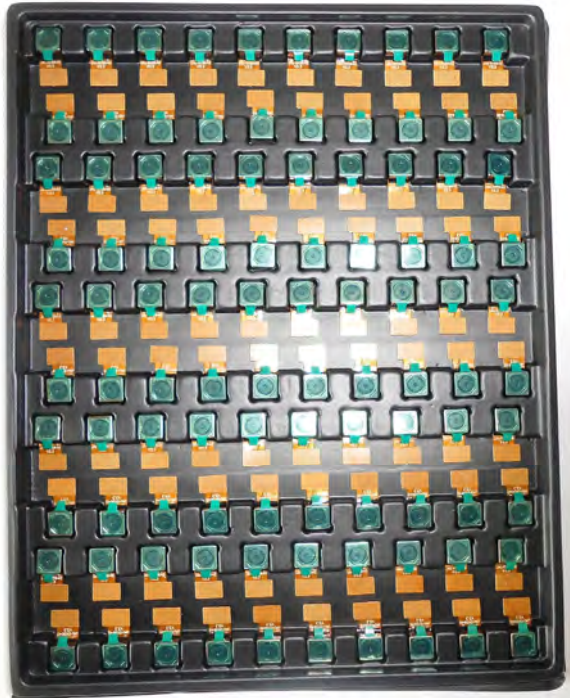


Place Cameras on the Tray



Camera Modules Package Solution

Full Tray of Cameras



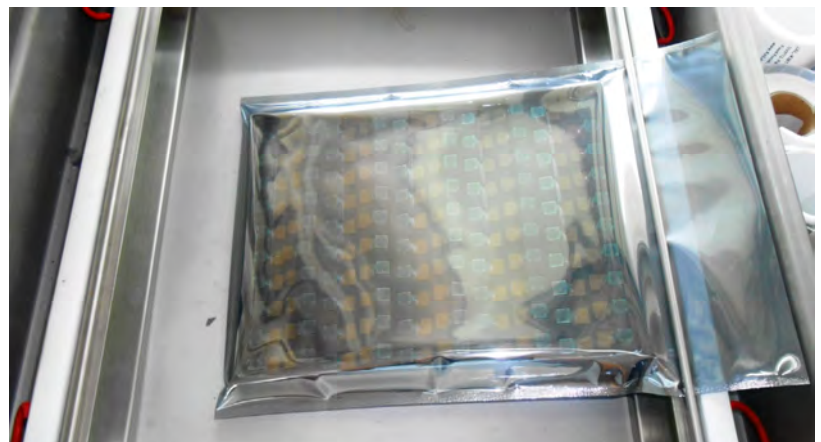
Cover Tray with Lid



Put Tray into Anti-Static Bag



Vacuum the Anti-Static Bag



Camera Modules Package Solution

Sealed Vacuum Bag with Labels

1. Model and Description 2. Quantity 3. Shipping Date 4. Caution



Large Order Package Solution

Place Foam Sheets Between Trays



Foam Sheets are Slightly Larger than Trays



Place Foam Sheets and Trays into Box



Foam Sheets are Tightly Fitting Box



Small Order Package Solution

Place Foam Sheets and Trays into Small Box



Foam Sheets are Nicely Fitting the Small Box



Package in Small Box for Shipment



Place Small Boxes into Larger Box



Carbon Box Package Solution

Seal the Carbon Box

Final Package Labelled Box



Carbon Box Ready for Shipment

1. Delivery Address and Phone No. 2. Box No. and Ship Date 3. Fragile Caution



Sample Order Package Solution

Place Sample into Small Anti-Static Bag



Place Connectors into Small Ant-Static Bag



Sample Labels on the Small Bag

1. Camera Module or Connector Model 2. Shipping Date and Quantity 3. Caution



Connectors Large Order Package Solution

Connectors in a Wheel



Label Connectors in the Wheel



The Wheel is Perfectly Fitting the Box

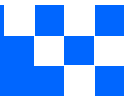


Connectors Box Ready for Shipment





CMOS CAMERA MODULES



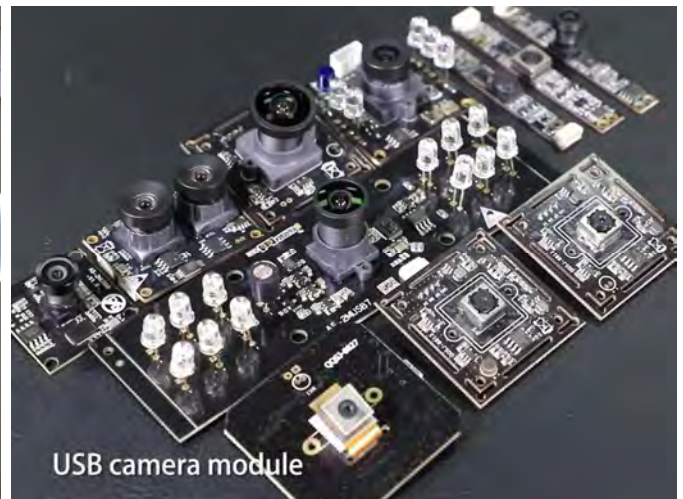
your BEST camera module partner

Company Kai Lap Technologies (KLT)

Kai Lap Technologies Group Limited. (KLT) was established in 2009, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. KLT is occupying 20,000 square feet automated plants with 100 employees of annual throughput 30,000,000 units cameras.

KLT provides OEM, ODM design, contract manufacturing, and builds the camera products. You may provide the requirements to us, even with a hand draft, our sales and engineering work together to meet your needs. We consider ourselves your last-term partner in developing practical and innovative solutions.

Our team covers everything from initial concept development to mass produced product. KLT specializes in customized camera design, raw material, electronic engineering, firmware/software development, product testing, and packing design. Our experienced strategic supply systems offer a robust and dependable manufacturing capacity for orders of various sizes.



Limited Warranty

KLT provides the following limited warranty if you purchased the Product(s) directly from KLT company or from KLT's website, www.KaiLapTech.com. Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. KLT guarantees that the Product(s) will be free from defects in materials and workmanship under normal use for a period of one (1) year from the date you receive the product ("Warranty Period").

For all Product(s) that contain or develop material defects in materials or workmanship during the Warranty Period, KLT will, at its sole option, either: (i) repair the Product(s); (ii) replace the Product(s) with a new or refurbished Product(s) (replacement Product(s) being of identical model or functional equivalent); or (iii) provide you a refund of the price you paid for the Product(s).

This Limited Warranty of KLT is solely limited to repair and/or replacement on the terms set forth above. KLT is not reliable or responsible for any subsequent events.



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



CMOS CAMERA MODULES



your BEST camera module partner

KLT Strength

Powerful Factory



Professional Service



Promised Delivery



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

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