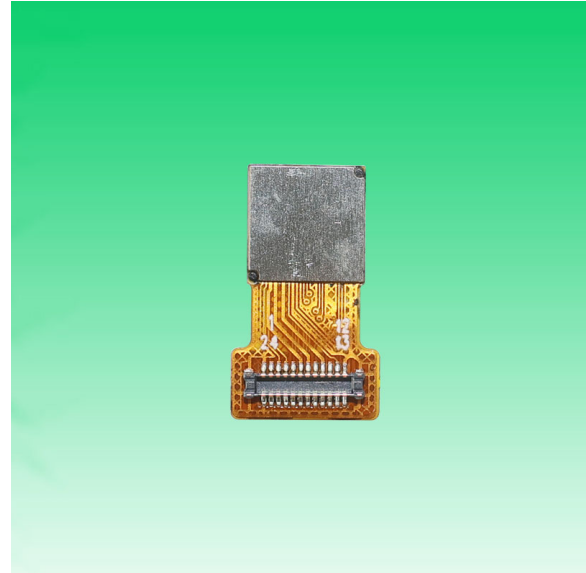


KLT-XB39F-GC5035 V1.0**5MP GalaxyCore GC5035 MIPI Interface Fixed Focus Camera Module**

Front View



Back View

Specifications

Camera Module No.	KLT-XB39F-GC5035 V1.0
Resolution	5MP
Image Sensor	GC5035
Sensor Type	1/5"
Pixel Size	1.12 μm x 1.12 μm
EFL	2.21 mm
F.NO	2.20
Pixel	2592 x 1944
View Angle	77.8°(DFOV) 65.9°(HFOV) 51.3°(VFOV)
Lens Dimensions	6.50 x 6.50 x 3.70 mm
Module Size	13.95 x 8.20 mm
Module Type	Fixed Focus
Interface	MIPI
Auto Focus VCM Driver IC	None
Lens Type	650nm IR Cut
Operating Temperature	-20°C to +70°C
Mating Connector	OK-14F024-04

KLT-XB39F-GC5035 V1.0**5MP GalaxyCore GC5035 MIPI Interface Fixed Focus Camera Module**

Top View



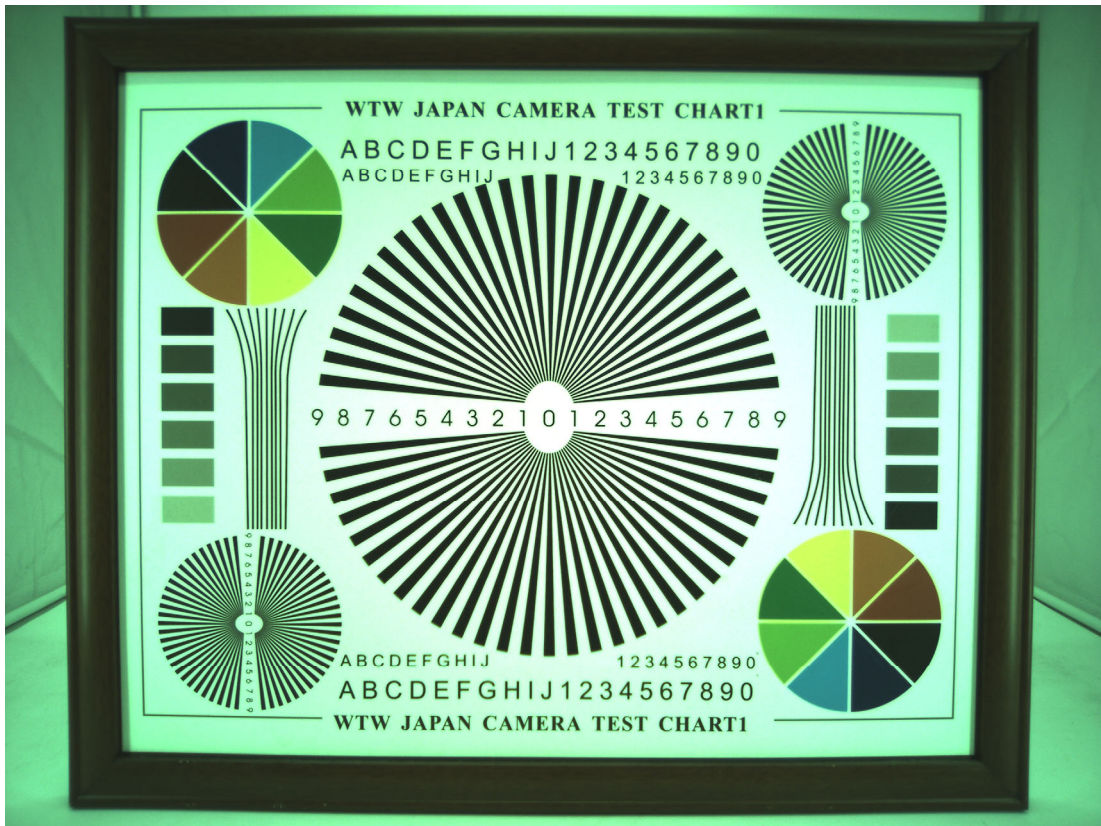
Side View



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

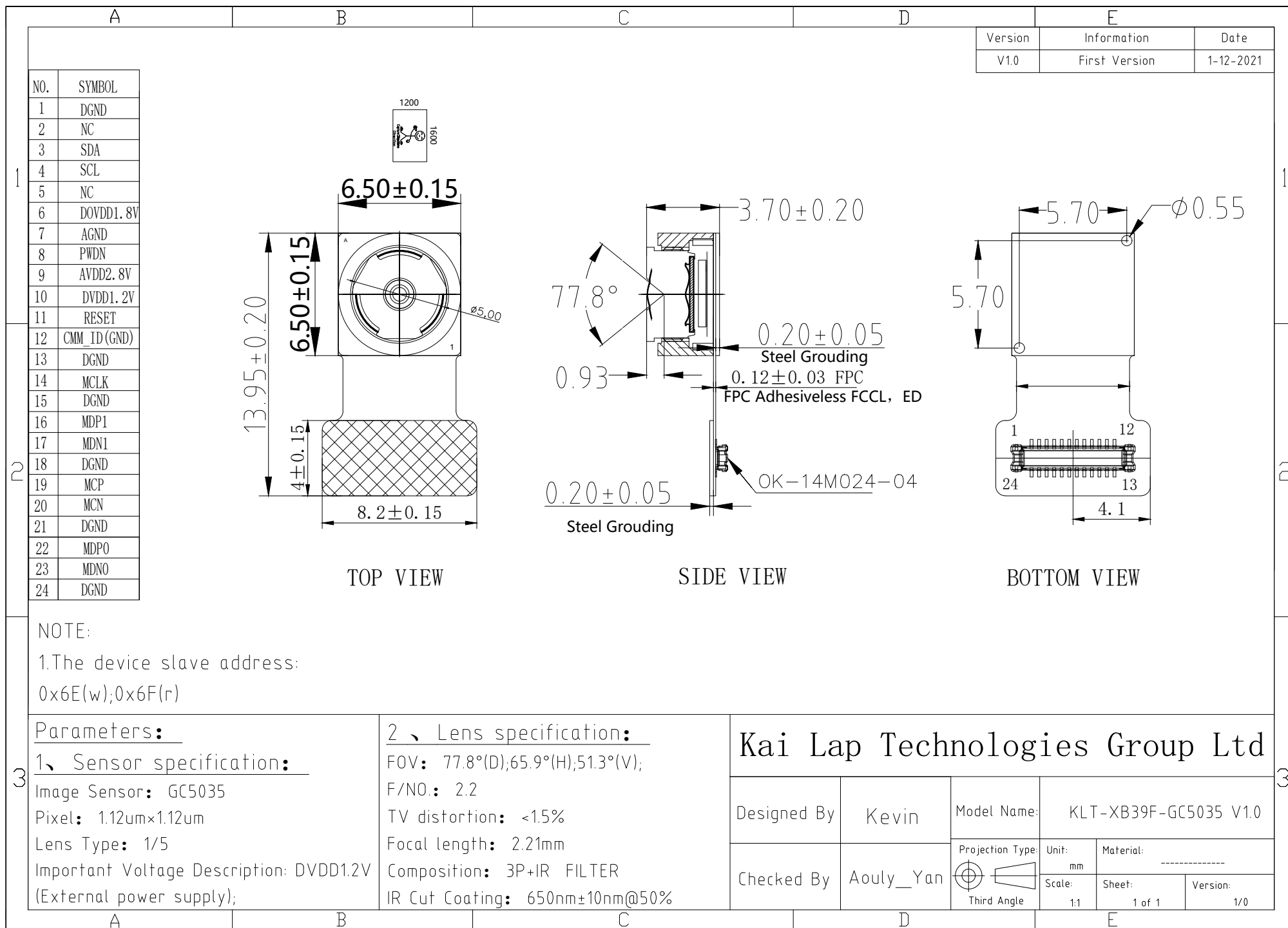
Atomic Number: 3

Name: Lithium

Symbol: Li

1	H	1.008	Hydrogen	2	He	4.002	Helium
3	Li	6.941	Lithium	4	Be	9.01	Beryllium
5	B	10.81	Boron	6	C	12.01	Carbon
7	N	14.01	Nitrogen	8	O	15.99	Oxygen
9	F	18.99	Fluorine	10	Ne	20.18	Neon
11	Na	22.99	Sodium	12	Mg	24.31	Magnesium
13	Al	26.98	Aluminum	14	Si	28.08	Silicon
15	P	30.97	Phosphorus	16	S	32.07	Sulfur
17	Cl	35.45	Chlorine	18	Ar	39.95	Argon
19	K	39.09	Potassium	20	Ca	40.08	Calcium
21	Sc	44.95	Scandium	22	Ti	47.87	Titanium
23	V	50.94	Vanadium	24	Cr	51.99	Chromium
25	Mn	54.94	Manganese	26	Fe	55.85	Iron
27	Co	58.93	Cobalt	28	Ni	58.69	Nickel
29	Cu	63.55	Copper	30	Zn	65.39	Zinc
31	Ga	69.72	Gallium	32	Ge	72.61	Germanium
33	As	74.92	Arsenic	34	Se	78.96	Selenium
35	Br	79.90	Bromine	36	Kr	83.80	Krypton
37	Rb	85.47	Rubidium	38	Sr	87.62	Strontium
39	Y	88.91	Yttrium	40	Zr	91.22	Zirconium
41	Nb	92.91	Niobium	42	Mo	95.94	Molybdenum
43	Tc	98.91	Technetium	44	Ru	101.1	Ruthenium
45	Rh	102.9	Rhodium	46	Pd	106.4	Palladium
47	Ag	107.9	Silver	48	Cd	112.4	Cadmium
49	In	114.8	Indium	50	Sn	118.7	Tin
51	Sb	121.8	Antimony	52	Te	127.6	Tellurium
53	I	126.9	Iodine	54	Xe	131.3	Xenon
55	Cs	132.9	Cesium	56	Ba	137.3	Barium
57	La	138.9	Lanthanum	58	Ce	140.1	Cerium
59	Pr	140.9	Praseodymium	60	Nd	144.2	Neodymium
61	Pm	145	Promethium	62	Sm	150.4	Samarium
63	Eu	151.9	Europium	64	Gd	157.2	Gadolinium
65	Tb	158.9	Terbium	66	Dy	162.5	Dysprosium
67	Ho	164.9	Holmium	68	Er	167.2	Erbium
69	Tm	168.9	Thulium	70	Yb	173	Ytterbium
71	Lu	174.9	Lutetium	72	Hf	178.5	Hafnium
73	Ta	180.9	Tantalum	74	W	183.8	Tungsten
75	Re	186.2	Rhenium	76	Os	190.2	Osmium
77	Ir	192.2	Iridium	78	Pt	195.1	Platinum
79	Au	196.9	Gold	80	Hg	200.6	Mercury
81	Tl	204.4	Thallium	82	Pb	207.2	Lead
83	Bi	208.9	Bismuth	84	Po	(209)	Polonium
85	At	(210)	Astatine	86	Rn	(222)	Radon
87	Fr	(223)	Francium	88	Ra	(226)	Radium
89	Ac	(227)	Actinium	90	Th	(232)	Thorium
91	Pa	(231)	Protactinium	92	U	(238)	Uranium
93	Np	(237)	Neptunium	94	Pu	(244)	Plutonium
95	Am	(243)	Americium	96	Cm	(247)	Curium
97	Bk	(247)	Berkelium	98	Cf	(251)	Californium
99	Es	(252)	Einsteinium	100	Fm	(257)	Fermium
101	Md	(258)	Mendelevium	102	No	(259)	Nobelium
103	Lr	(260)	Lavenderium	104	Rf	(261)	Rutherfordium
105	Db	(262)	Dubnium	106	Sg	(263)	Seaborgium
107	Bh	(264)	Bohrium	108	Hs	(265)	Hassium
109	Mt	(268)	Mitnerridium	110	Ds	(271)	Darmstadtium
111	Rg	(272)	Roentgenium	112	Cn	(285)	Copernicium
113	Nh	(284)	Nihonium	114	Fl	(289)	Flerovium
115	Mc	(290)	Moscovium	116	Lv	(293)	Livermorium
117	Ts	(294)	Tennessine	118	Og	(294)	Oganesson







GC5035 CSP

1/5” 5Mega CMOS Image Sensor

Datasheet

V1.0

2018-11-08

1. Sensor Overview

1.1 General Description

GC5035 is a high quality 5Mega CMOS image sensor, for mobile phone camera applications and digital camera products. GC5035 incorporates a 2592H x 1944V pixel array, on-chip 10-bit ADC, and image signal processor.

The full-scale integration of high-performance and low-power functions makes the GC5035 fit the design, reduce implementation process, and extend the battery life of cell phones, PDAs, and a wide variety of mobile applications.

It provides RAW10 and RAW8 data formats with MIPI interface. It has a commonly used two-wire serial interface for host to control the operation of the whole sensor.

1.2 Features

- ◆ Standard optical format of 1/5 inch
- ◆ 1.12 μ m x 1.12 μ m BSI pixel
- ◆ Output formats: Raw Bayer 10bit/8bit
- ◆ Power supply requirement: AVDD28: 2.7~3.0V
DVDD: 1.15~1.3V
IOVDD: 1.7~3.0V
- ◆ PLL support
- ◆ Binning mode support
- ◆ MIPI(2_lane) interface support
- ◆ Horizontal/Vertical mirror
- ◆ Image processing module
- ◆ OTP support (4K for customers): Module information/WB
- ◆ Package: COB/CSP/COM

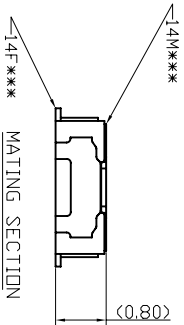
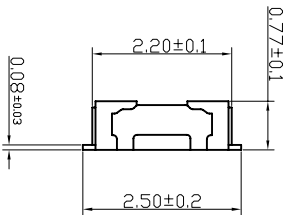
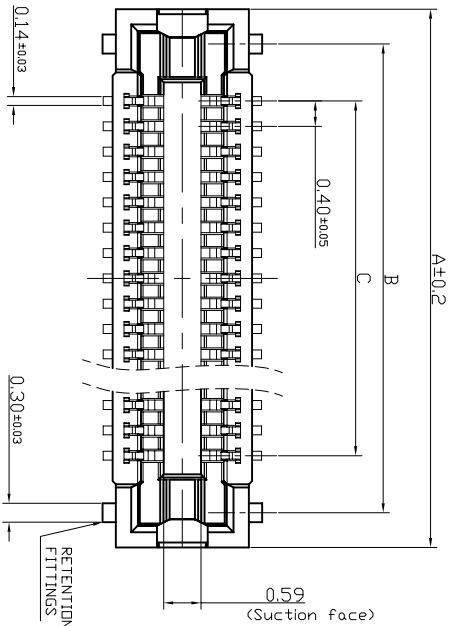
1.3 Application

- ◆ Cellular Phone Cameras
- ◆ Notebook and desktop PC cameras
- ◆ PDAs
- ◆ Toys
- ◆ Digital still cameras and camcorders
- ◆ Video telephony and conferencing equipment

1.4 Technical Specifications

Parameter	Typical value
Optical Format	1/5 inch
Pixel Size	1.12 μ m x 1.12 μ m(BSI)
Active pixel array	2592 x 1944
Shutter type	Electronic rolling shutter
ADC resolution	10-bit ADC
Max Frame rate	30fps@full size 876Mbps/lane
Power Supply	AVDD28: 2.8 V DVDD: 1.2V IOVDD: 1.8V
Power Consumption	100mW
SNR	37dB
Dark Current	3e-/s(60°C)
Sensitivity	2368 e-/lux*s
Dynamic range	64.7dB
Operating temperature:	-20 ~ 70°C
Stable Image temperature	0~60°C
Max Optimal lens chief ray angle(CRA)	31.90 °(non-linear)
Package type	COB/CSP/COM

REV	ECN NO	DRA	APPD	DATE
A	FIRST RELEASE	George Gao	Human Zhou	2013.09.18
B	SECOND VERSIONS	George Gao	Human Zhou	2015.10.22



- 3-6. Contact resistance: Max. 90mΩ
3-7. Ambient temperature: -55℃~+85℃
3-8. Storage temperature: -55℃~+85℃ (product only); -40℃~+50℃ (emboss packing)
3-9. Composite insertion force: Max. 0.981N/contacts X contacts (initial)
3-10. Composite removal force: Min. 0.165N/contacts X contacts
3-11. Post holding force: Min. 0.49N/contacts
3-12. Insertion and removal life: 50 times

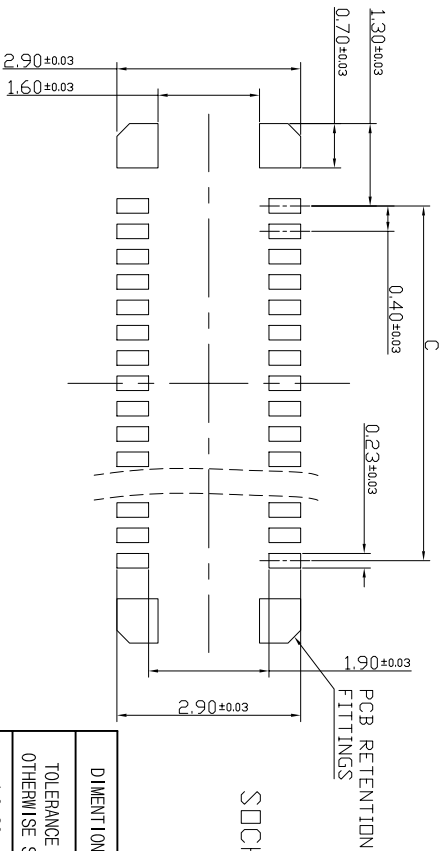
- 3-1. Rated voltage: 60V AC/DC
3-2. Rated current: 0.3A/contact (Max. 5A at total contact)
3-3. Insulation resistance: Min. 1000MΩ (initial)
3-4. Breakdown voltage: 150V AC for 1 min.
3-5. Saltwater spray resistance (header and socket mated): 24 hours, insulation resistance min. 100MΩ, contact resistance max. 90mΩ

Specifications:

- 1) Material:
1-1. Molded portion: LCP resin (UL94 V-0)
1-2. Contact and Post: Copper alloy.
2) Surface treatment:
2-1. Terminal portion: Base: Ni plating Surface: Au plating (except the terminal tips) ;
Exposed nickel portions.
2-2. Metal clips: Base: Ni plating Surface: Au flash plating (except the terminal tips) Or: Base: Ni plating Surface: Sn flash plating (except the terminal tips)

TABLE:

70	16.50	15.40	13.60
50	12.50	11.40	9.60
40	10.50	9.40	7.60
34	9.30	8.20	6.40
30	8.50	7.40	5.60
24	7.30	6.20	4.40
16	5.70	4.60	2.80
12	4.90	3.80	2.00
10	4.50	3.40	1.60
NUMBER DF CONTACTS	A	B	C



OK-14F***-04

PITCH-0.4MM
NUMBER DF CONTACTS

DIMENTION IN mm		OCN 奇科技 OCN TECHNOLOGY			
TOLERANCE UNLESS OTHERWISE SPECIFIED		APPR:	TITLE:	0.4MM BTB (MATING HEIGHT 0.8H)	
±0.20	±2°	CHKD:	DWG NO:	OK-14F***-04	
±0.10	±1°	DRA:	PROU	QTY	SIZE
±0.05	±0.5°	George Gao	2015.10.22	1/1	1/1
±0.03	±0.3°				

REV	ECN NO	DRA	APPD	DATE
A	FIRST RELEASE	George Gao	Human Zhou	2013.09.12

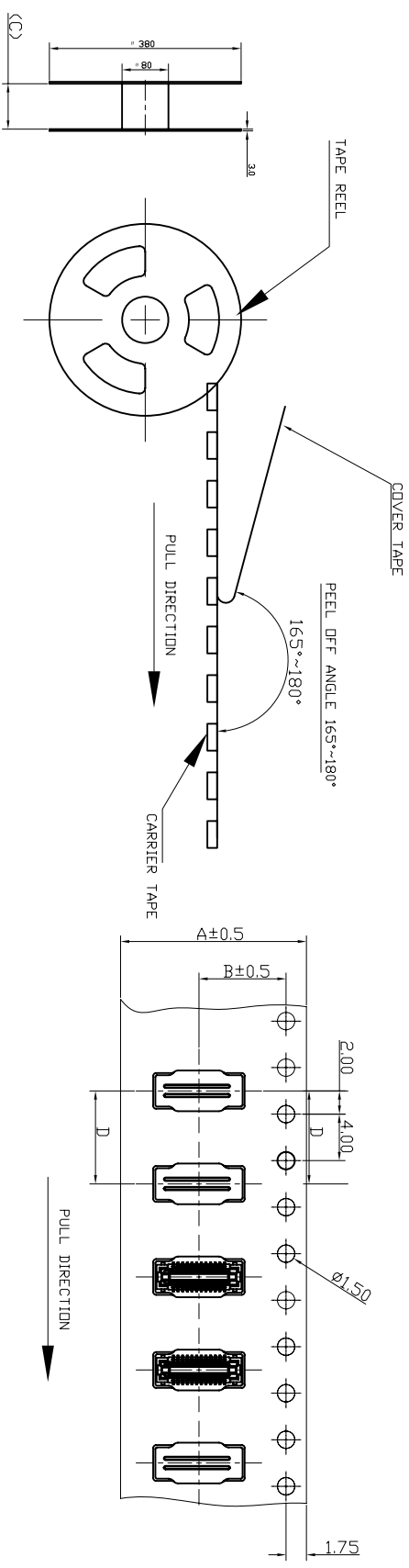


TABLE:

70	24.00	11.50	25.4	8.00	10000
50				8.00	10000
40				4.00	20000
34				4.00	20000
30	16.00	7.50	17.4	8.00	10000
24					
16					
12					
10	A	B	C	D	QTY/REEL
NUMBER Df CONTACTS					

DIMENTION IN mm		 OCN 正奇科技 OCN TECHNOLOGY					
TOLERANCE UNLESS OTHERWISE SPECIFIED		APPRO:		TITLE:		0.4MM BTB (MATING HEIGHT 0.8H)	
. ± 0.20	. ± 2°	DRAO:		DWG NO:		OK-14F***-04	
.0 ± 0.10	.0 ± 1°	PROU		QTY		SIZE	
.00 ± 0.05	.00 ± 0.5°	George Gao		SHEET		SCALE	
.000 ± 0.03	.000 ± 0.3°	2013.09.18		1/1		1:1	
				REV		A	

Cameras Applications



Automotive Driver Pilot



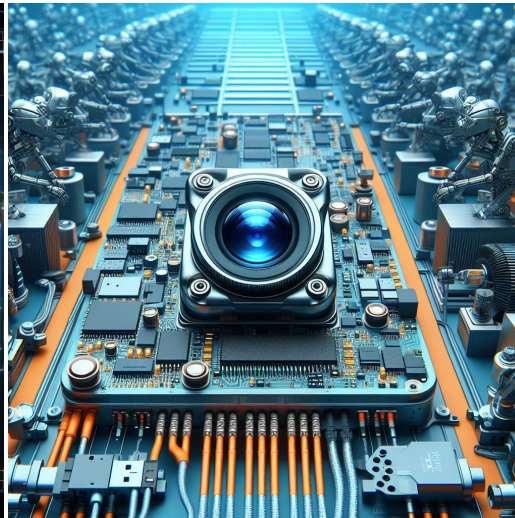
Live Streaming



Video Conference



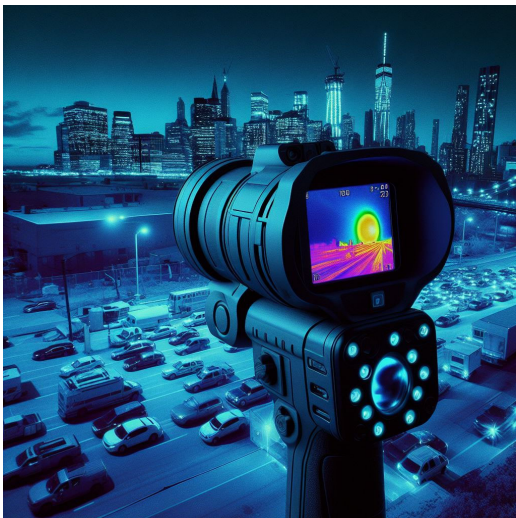
Eye Tracker Biometric Detection



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

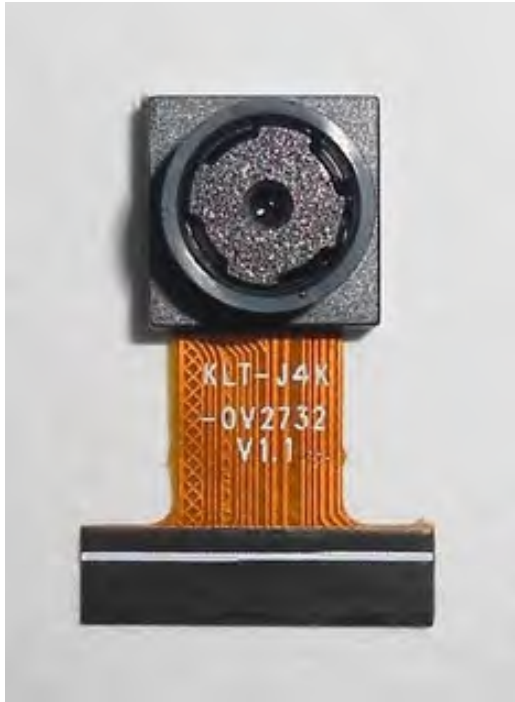
Reliability Inspection Item			Testing Method	Acceptance Criteria
Category		Item		
Environmental	Storage Temperature	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature	High 60°C 24 Hours	Temperature Chamber	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	Major Difference is Not Allowed.
		Be Torn/Chopped	Copper Crack Exposure is Not Allowed.
		Marking	Clear, Recognizable (Within 30cm Distance)
	Holder	Scratches	The Inside Crack Exposure is Not Allowed
		Gap	Meet the Height Standard
		Screw	Make Sure Screws Are Presented (If Any)
		Damage	The Inside Crack Exposure is Not Allowed
	Lens	Scratch	No Effect On Resolution Standard
		Contamination	No Effect On Resolution Standard
		Oil Film	No Effect On Resolution Standard
		Cover Tape	No Issue On Appearance.
Function	Image	No Communication	Test Board
		Bright Pixel	Black Board
		Dark Pixel	White board
		Blurry	The Naked Eye
		No Image	The Naked Eye
		Vertical Line	The Naked Eye
		Horizontal Line	The Naked Eye
		Light Leakage	The Naked Eye
		Blinking Image	The Naked Eye
		Bruise	Inspection Jig
		Resolution	Chart
		Color	The Naked Eye
		Noise	The Naked Eye
		Corner Dark	The Naked Eye
		Color Resolution	The Naked Eye
Dimension		Height	The Naked Eye
		Width	The Naked Eye
		Length	The Naked Eye
		Overall	The Naked Eye

KLT Package Solutions

KLT Camera Module



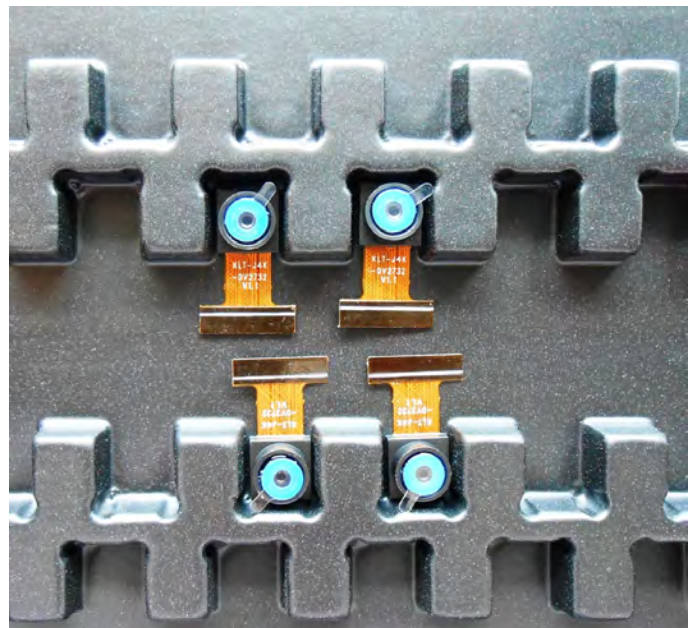
Complete with Lens Protection Film



Tray with Grid and Space

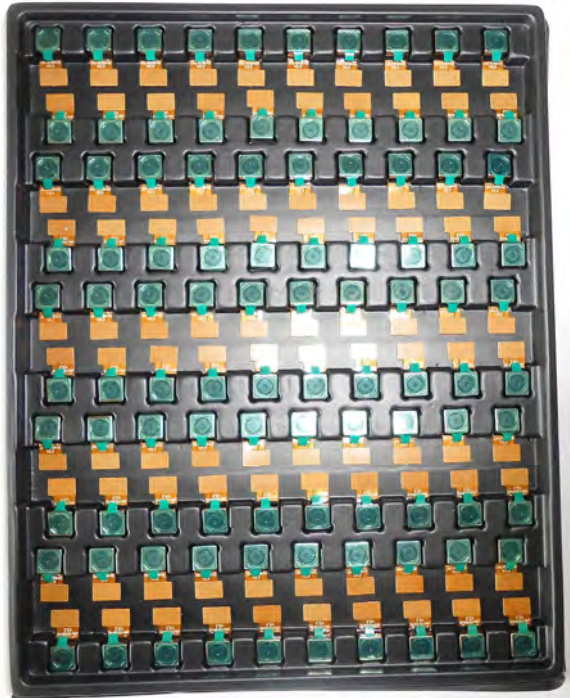


Place Cameras on the Tray



Camera Modules Package Solution

Full Tray of Cameras



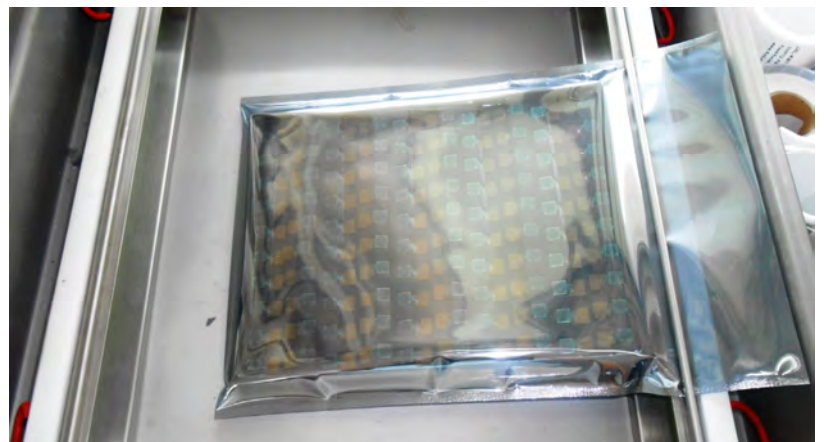
Cover Tray with Lid



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

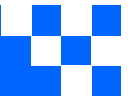


Connectors Box Ready for Shipment





CMOS CAMERA MODULES



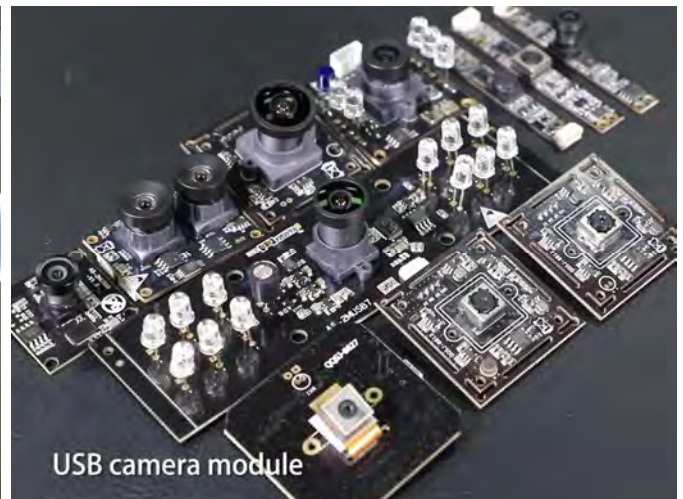
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Company Kai Lap Technologies (KLT)

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

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

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



Limited Warranty

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

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

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



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