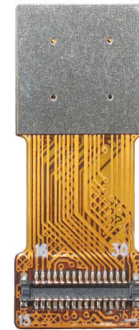


## YDS-MAA53-OV13B10 V1.0

### 13MP OmniVision OV13B10 MIPI Interface Auto Focus Camera Module



Front View



Back View

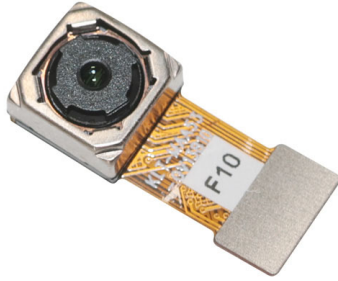
#### Specifications

<b>Camera Module No.</b>	<b>YDS-MAA53-OV13B10 V1.0</b>
<b>Resolution</b>	13MP
<b>Image Sensor</b>	OV13B10
<b>Sensor Type</b>	1/3.06"
<b>Pixel Size</b>	1.12 um x 1.12 um
<b>EFL</b>	3.85 mm
<b>F.NO</b>	2.20
<b>Pixel</b>	4208 x 3120
<b>View Angle</b>	74.4°(DFOV) 62.7°(HFOV) 48.7°(VFOV)
<b>Lens Dimensions</b>	8.50 x 8.50 x 5.37 mm
<b>Module Size</b>	20.85 x 8.50 mm
<b>Module Type</b>	Auto Focus
<b>Interface</b>	MIPI
<b>Auto Focus VCM Driver IC</b>	CN3927E
<b>Lens Type</b>	650nm IR Cut
<b>Operating Temperature</b>	-30°C to +85°C
<b>Mating Connector</b>	AXE530124



## YDS-MAA53-OV13B10 V1.0

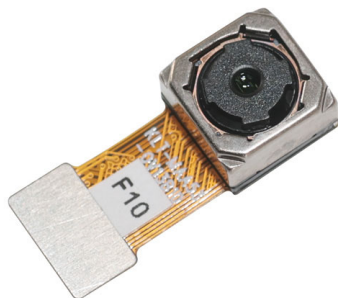
### 13MP OmniVision OV13B10 MIPI Interface Auto Focus Camera Module



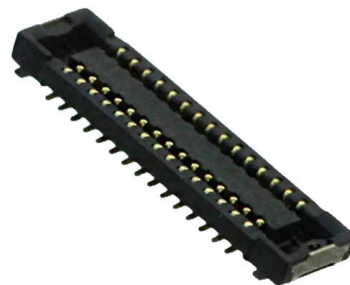
Top View



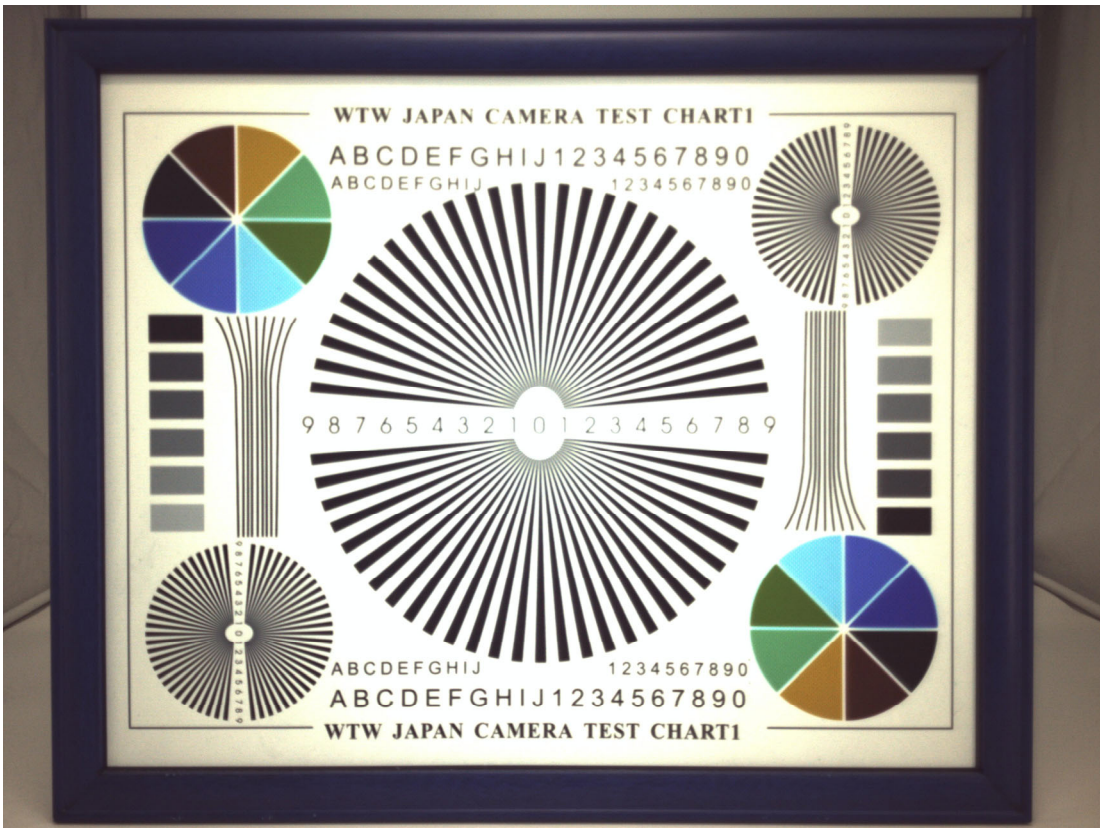
Side View



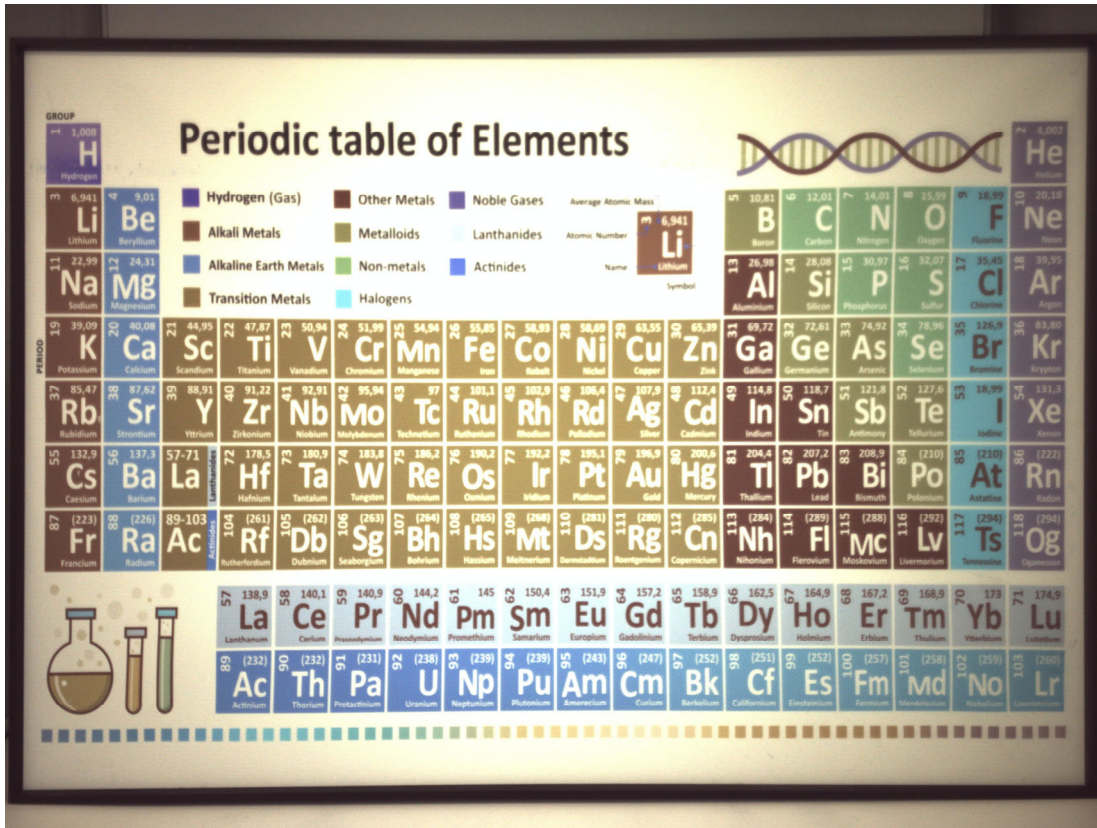
Bottom View



Mating Connector



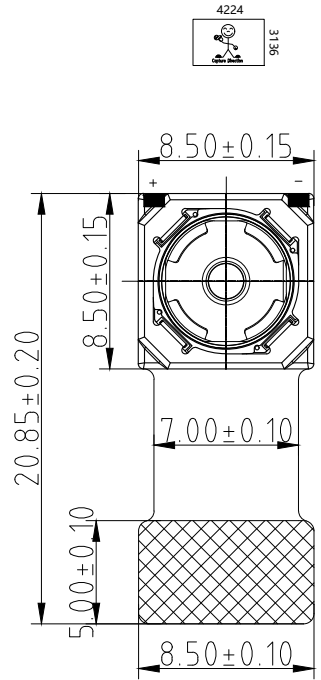




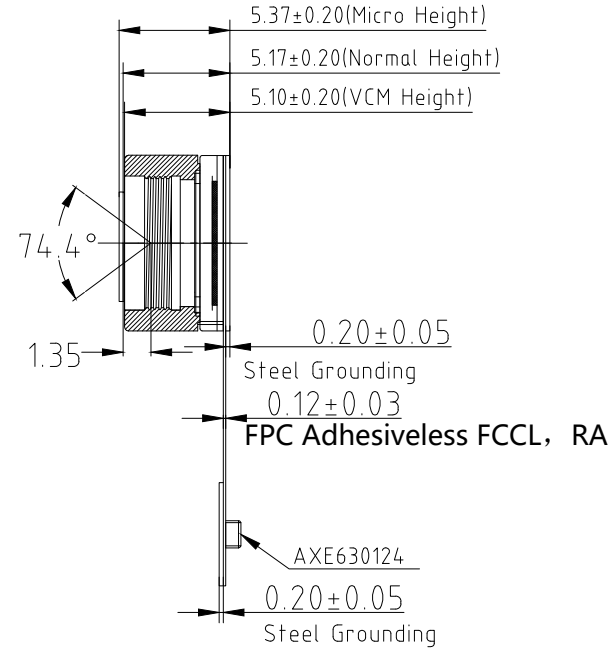
**RoHS**

1	AFVDD 2.8V
2	VSYNC
3	SDA
4	NC
5	DOVDD 1.8V
6	SCL
7	AGND
8	PWDN
9	AVDD 2.8V
10	DVDD 1.2V
11	FSIN
12	NC
13	DGND
14	XCLK
15	DGND
16	MDP3
17	MDN3
18	DGND
19	MDP2
20	MDN2
21	DGND
22	MDP0
23	MDN0
24	DGND
25	MCP
26	MCN
27	DGND
28	MDP1
29	MDN1
30	DGND

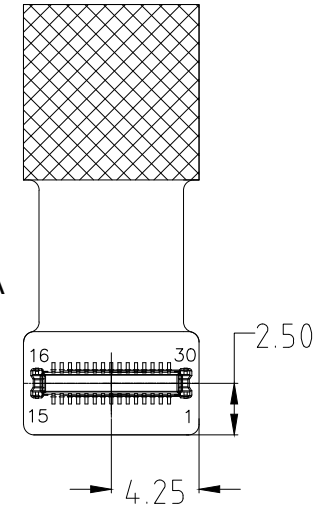
Version	Information
V1.0	First Version



TOP VIEW



SIDE VIEW



BOTTOM VIEW

NOTE:

1.The device slave address:0x6C(w);0x6D(r)

Parameters:

1、Sensor specification:

Image Sensor: OV13B10

Pixel: 1.12um×1.12um

Lens Type: 1/3.06

Important Voltage Description: DVDD1.2V (external power supply);

2、Lens specification:

FOV: 74.4°(D);62.7°(H);48.7°(V)

F/NO.: 2.2

TV distortion: <1.5%

Focal length: 3.85mm

Composition: 5P+IR FILTER

IR Cut Coating: 650nm±10nm@50%

[www.YDSCAM.com](http://www.YDSCAM.com)

Designed By

Kevin

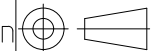
Model Name:

YDS-MAA53-OV13B10 V1.0

Checked By

Aouly Yan

Projection Type:



Third Angle

Unit:

mm

Scale:

1:1

Material:

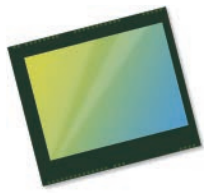
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Sheet:

1 of 1

Version:

1/0



# OV13B10 13MP product brief



## 1/3-inch 13MP Image Sensor for Mainstream and Entry-Level Smartphone Cameras



available in  
a lead-free  
package

The OmniVision OV13B image sensor is the latest addition of our widely deployed 13MP family, featuring a 1/3-inch optical format and ultra-low power consumption. Built with our PureCel®Plus pixel technology, the OV13B provides mainstream and entry-level smartphone designers with the industry's best 1.12 micron pixel performance for rear- or front-facing cameras. This sensor will not only fulfill the tremendous demand in the mainstream market, but can also boost the performance of entry-level smartphones. Additionally, it is a perfect fit for both wide-angle and telephoto cameras in multi-camera configurations.

In comparison with its predecessors, the OV13B has significantly lower power consumption for extended battery life. It also has a smaller chip size, enabling an

8.5 mm x 8.5 mm autofocus module for main cameras, or a 6.4 mm x 7.2 mm fixed focus module for front-facing cameras with a Z height below 4 mm.

The OV13B image sensor supports phase detection autofocus (PDAF), while providing multiple resolution options to meet the needs of end users, including full-resolution 13MP image output at 30 frames per second (fps), 4K2K video at 30 fps, 1080p full high definition (HD) at 60 fps, or 720p HD at 120 fps.

Find out more at [www.ovt.com](http://www.ovt.com).



## Applications

- Smart Phones and Feature Phones
- Tablets
- PC multimedia
- Wearables

## Product Features

- 1.12  $\mu\text{m}$  x 1.12  $\mu\text{m}$  pixel
- optical size of 1/3.06"
- 33.25° CRA
- support for phase detection auto focus (PDAF)
- 13MP at 30 fps
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports images sizes:
  - 13MP (4208x3120)
  - 10MP (4208x2368)
  - 3MP (2104x1560)
  - 1080p, and more
- support for output formats:
  - 10-bit RAW RGB
- total embedded one-time programmable (OTP) memory: 512 bytes
- two-wire serial bus control (SCCB)
- MIPI serial output interface (1-lane, 2-lane, or 4-lane)
- two on-chip phase lock loops (PLLs)
- 2x binning support
- image quality controls:
  - defect pixel correction (DPC)
  - automatic black level calibration (ABLC)
- suitable for module size of 8.5 x 8.5 x <math>5\text{ mm}</math>

# OV13B10



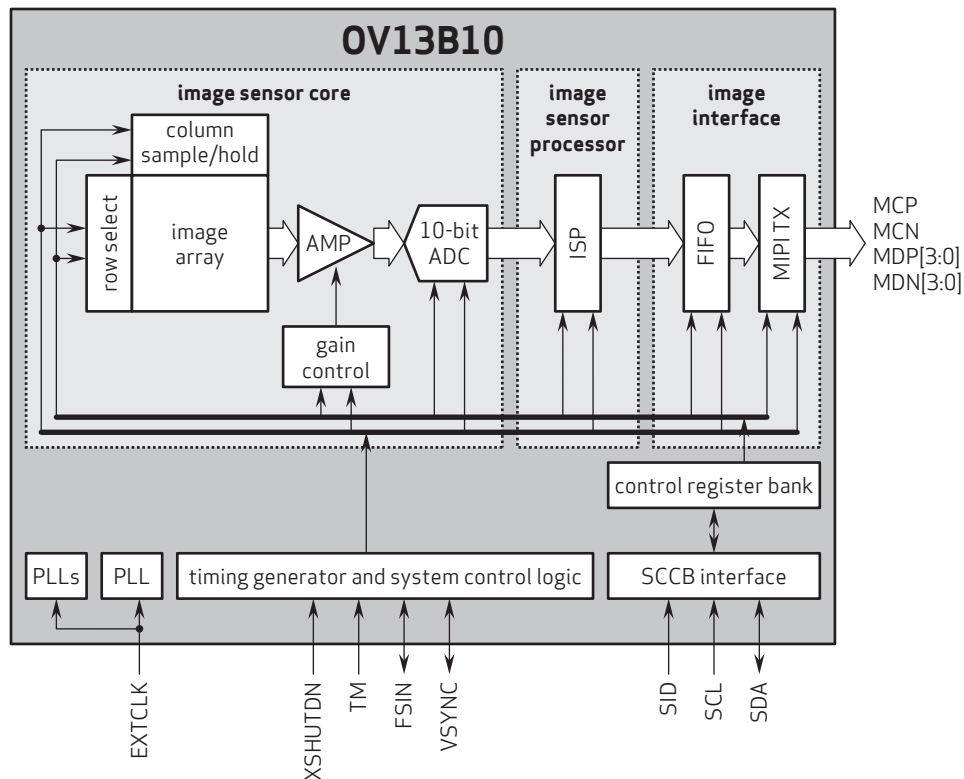
## Ordering Information

- OV13B10-GA5A**  
(color, chip probing, 150  $\mu\text{m}$  backgrinding, reconstructed wafer with good die)

## Technical Specifications

- active array size:** 4208 x 3120
- maximum image transfer rate:**
  - 13MP (4208x3120): 30 fps
  - 10MP (4208x2368): 30 fps
  - 3MP (2104x1560): 60 fps
  - 1080p (1920x1080): 60 fps
- power requirements:**
  - active: 194 mW
  - standby: 1 mW
  - XSHUTDOWN: 1  $\mu\text{W}$
- power supply:**
  - analog: 2.7 to 2.9V (2.8V nominal)
  - core: 1.14 to 1.26V (1.2V nominal)
  - I/O: 1.7 to 1.9V (1.8V nominal)
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- output interface:** 4-lane MIPI serial output
- output format:** 10-bit RGB RAW
- lens size:** 1/3.06"
- lens chief ray angle:** 33.25° non-linear
- pixel size:** 1.12  $\mu\text{m}$  x 1.12  $\mu\text{m}$
- image area:** 4713.984  $\mu\text{m}$  x 3499.776  $\mu\text{m}$

## Functional Block Diagram



4275 Burton Drive  
Santa Clara, CA 95054  
USA

Tel: + 1 408 567 3000  
Fax: + 1 408 567 3001  
www.ovt.com

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OmniVision

# CN3927E

## Low Cost Voice Coil Motor Driver with I2C interface

### 1. Description

The CN3927E is a low cost single 10-bit DAC with 120mA output current sink capability. Designed for linear control of voice coil motors, the CN3927E is capable of operating voltage from 2.3V to 5.5V. The DAC is controlled via a I2C serial interface that operates DAC by clock rates up to 400kHz.

The CN3927E incorporates with a UVLO reset circuit, power-down function, and exactly matched sense resistor. UVLO reset circuit ensure when supply power up, DAC output is to 0V until valid write-bit value takes place. It has a power down features that reduces the current consumption of the device to 1uA maximum.

The CN3927E is designed for auto focus and optical zoom camera phones, digital still cameras, and camcorders applications. The I2C address for the CN3927E is 0x18.

### Features

- WLCSP package for minimum footprint
- Ramp control circuit
- Fixed I<sup>2</sup>C logic thresholds
- 10-bit D-to-A converter
- 117μA *I<sub>out</sub>* resolution
- I2C serial interface (1.8V input available)
- Low current sleep mode
- 2.3 to 5.5 V power supply

### Applications

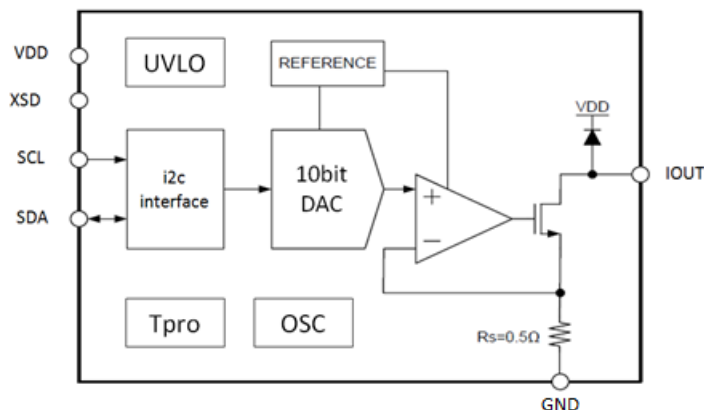
- Digital camera
- Cell phone
- Lens auto focus
- Web camera

### Package:

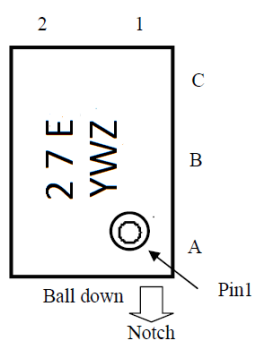
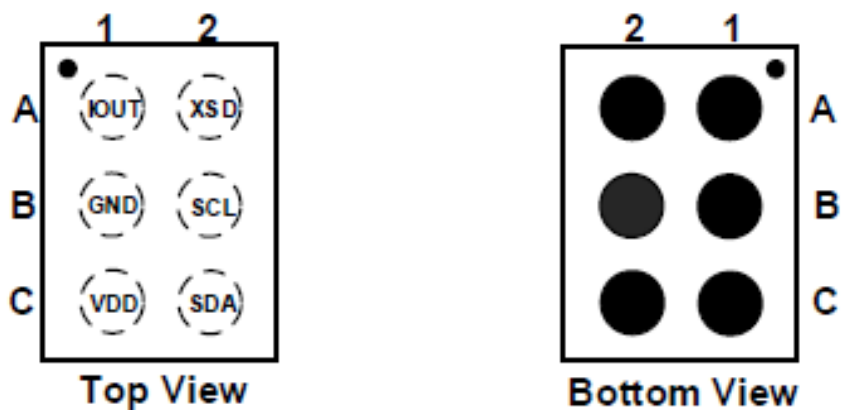
- 6-Bump Chip Scale Package
- 0.70mm(W) x1.10mm(H) x 0.28mm(T)
- 0.4mm Bump Pitch



### 2. Functional Block Diagram



### 3. Pin Assignments



### 4. Pin Description

Pin Name	Pin Number	Description
IOUT	A1	Sink Drive Output
XSD	A2	Standby Mode Control
GND	B1	Ground
SCL	B2	I <sup>2</sup> C clock
VDD	C1	Power Supply In
SDA	C2	I <sup>2</sup> C data

### 5. Ordering Information

Order Part Number	Top Marking	Pb-Free	T <sub>A</sub>	Package	
CN3927E	27E	Yes	-40 to +85°C	WLCSP6	Tape & Reel, 3K

## 6. Absolute Maximum Ratings

Stresses beyond those listed under “Absolute Maximum Rating” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Parameter		Conditions	Min.	Typ	Max.	Unit
Supply Voltage	VDD				6.5	V
Logic Input Voltage Range	Vin		-3		Vdd+0.3	V
Junction Temperature	Tj				150	°C
Storage Temperature Range	Ts		-40		150	°C
Operating Temperature Range			-40		85	°C
ESD (HBM)				6		KV
CN3927E	Rja	4 layer PCB			64	°C/W

## 7. Recommend Operating Conditions

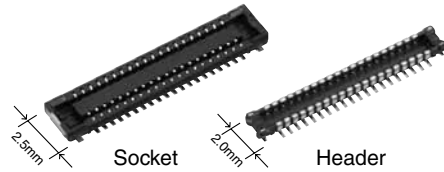
The Recommended Operating Conditions table defines the conditions for actual device operation to ensure optimal performance to the datasheet specifications. CHIPNEXT does not recommend exceeding them or designing to Absolute Maximum Ratings.

Parameter	Min.	Typ.	Max.	Unit
Supply Input Voltage	2.3	3	5.5	V
Junction Temperature Range	-40		125	V
Ambient Temperature Range	-40		85	°C

## 8. Electrical Characteristics

T<sub>A</sub> = 25°C, VDD=2.8V, (unless otherwise specified)

Characteristics	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max	Units
Supply Current	Ivdd	Code=0		0.2		mA
		Sleep Mode (XSD=Low),			1	uA
		Software PD Mode , PD=1,			1	uA
UVLO VDD threshold	Vth_uvlo	Iout<1uA, when VDD decrease to Vth_uvlo			2.15	V
UVLO hysteresis	Vhys_uvlo			100		mV



RoHS compliant

For board-to-FPC

## Narrow pitch connectors (0.4mm pitch)

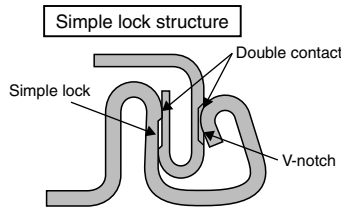
# A4S Series

### FEATURES

- 2.5 mm wide slim two-piece style connectors  
Compact and slim structure contributes overall miniaturization of product design. <Compared to F4S series (40 pin contacts, when mated)>
  - Width: 30% down
  - Footprint: 30% down



- "TOUGH CONTACT ADVANCED" ensures high resistance to various environments in lieu of slim and low profile body
- Simple lock structure provides tactile feedback to ensure excellent mating/unmating operation feel.



The connector gives the tactile feedback when inserted, allowing reliable mating.

- Mated heights of 0.8 and 1.0 mm are available for the same foot pattern.
- Connectors for inspection available

### APPLICATIONS

Recommended for board-to-FPC connections of mobile equipment, such as cellular phones, smart phones, laptops, and portable music players

## ORDERING INFORMATION

	AXE				2	4
5: Narrow Pitch Connector A4S (0.4 mm pitch) Socket						
6: Narrow Pitch Connector A4S (0.4 mm pitch) Header						
Number of pins (2 digits)						
Mated height						
<Socket>						
1: For mated height 0.8/1.0 mm						
<Header>						
1: For mated height 0.8 mm						
2: For mated height 1.0 mm						
Functions						
2: Without positioning bosses						
Surface treatment (Contact portion / Terminal portion)						
<Socket>						
4: Ni plating on base, Au plating on surface (for Ni barrier available)						
<Header>						
4: Ni plating on base, Au plating on surface						

**PRODUCT TYPES**

Mated height	Number of pins	Part number		Packing	
		Socket	Header	Inner carton (1-reel)	Outer carton
0.8mm	10	AXE510124	AXE610124	5,000 pieces	10,000 pieces
	12	AXE512124	AXE612124		
	14	AXE514124	AXE614124		
	16	AXE516124	AXE616124		
	18	AXE518124	AXE618124		
	20	AXE520124	AXE620124		
	22	AXE522124	AXE622124		
	24	AXE524124	AXE624124		
	26	AXE526124	AXE626124		
	28	AXE528124	AXE628124		
	30	AXE530124	AXE630124		
	32	AXE532124	AXE632124		
	34	AXE534124	AXE634124		
	36	AXE536124	AXE636124		
	38	AXE538124	AXE638124		
	40	AXE540124	AXE640124		
	44	AXE544124	AXE644124		
	50	AXE550124	AXE650124		
	54	AXE554124	AXE654124		
	1.0mm	56	AXE556124		
60		AXE560124	AXE660124		
64		AXE564124	AXE664124		
70		AXE570124	AXE670124		
80		AXE580124	AXE680124		
10		AXE510124	AXE610224		
12		AXE512124	AXE612224		
14		AXE514124	AXE614224		
20		AXE520124	AXE620224		
24		AXE524124	AXE624224		
26		AXE526124	AXE626224		
30		AXE530124	AXE630224		
32		AXE532124	AXE632224		
40		AXE540124	AXE640224		
44		AXE544124	AXE644224		
50		AXE550124	AXE650224		
54	AXE554124	AXE654224			
60	AXE560124	AXE660224			
70	AXE570124	AXE670224			
80	AXE580124	AXE680224			

Notes: 1. Order unit:

For volume production: 1-inner carton (1-reel) units

Samples for mounting check: 50-connector units. Please contact our sales office.

Samples: Small lot orders are possible. Please contact our sales office.

- The above part numbers are for connectors without positioning bosses, which are standard. When ordering connectors with positioning bosses, please contact our sales office.
- Please contact us for connectors having a number of pins other than those listed above.

# AXE5, 6

## SPECIFICATIONS

### ■ Characteristics

	Item	Specifications	Conditions
Electrical characteristics	Rated current	0.3A/pin contact (Max. 5 A at total pin 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. 1.200N/pin contacts × pin contacts (initial)	
	Composite removal force	Min. 0.165N/pin contacts × pin contacts	
Environmental characteristics	Contact holding force (Socket contact)	Min. 0.20N/pin 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 <sup>±3</sup> °C, 30 minutes 2. ~, Max. 5 minutes 3. 85 <sup>±3</sup> °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 <sub>2</sub> 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	30 times	Repeated insertion and removal speed of max. 200 times/hours
Unit weight		20 pin contact type: Socket: 0.02 g Header: 0.01 g	

### ■ Material and surface treatment

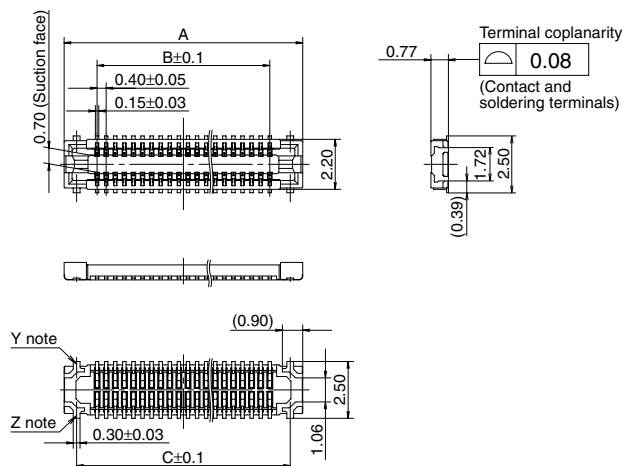
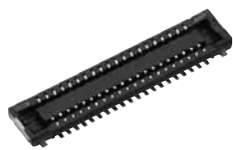
Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
Contact and Post	Copper alloy	Contact portion: Base: Ni plating Surface: Au plating Terminal portion: Base: Ni plating Surface: Au plating (except the terminal tips) The socket terminals close to the portion to be soldered have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

**DIMENSIONS** (Unit: mm)

The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://industrial.panasonic.com/ac/e>

■ **Socket (Mated height: 0.8 mm/1.0 mm)**

**CAD Data**



General tolerance: ±0.2

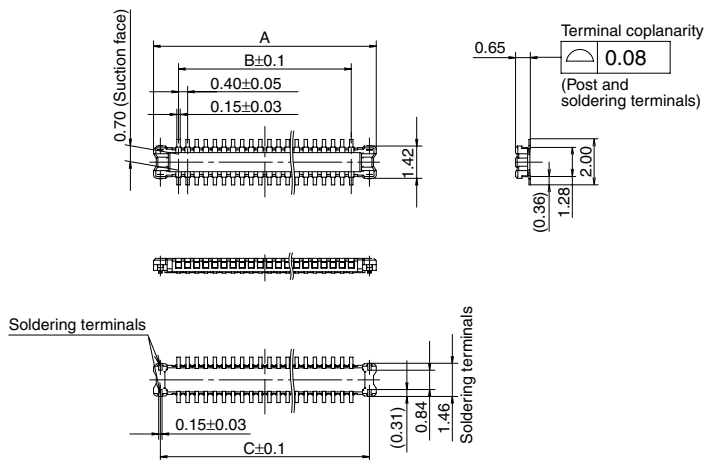
Note: Since the soldering terminals has a single-piece construction, sections Y and Z are electrically connected.

Dimension table (mm)

Number of pins/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
44	11.3	8.4	10.2
50	12.5	9.6	11.4
54	13.3	10.4	12.2
56	13.7	10.8	12.6
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

■ **Header (Mated height: 0.8 mm)**

**CAD Data**



General tolerance: ±0.2

Dimension table (mm)

Number of pins/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
44	10.6	8.4	10.0
50	11.8	9.6	11.2
54	12.6	10.4	12.0
56	13.0	10.8	12.4
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

## Cameras Applications



Automotive Driver Pilot



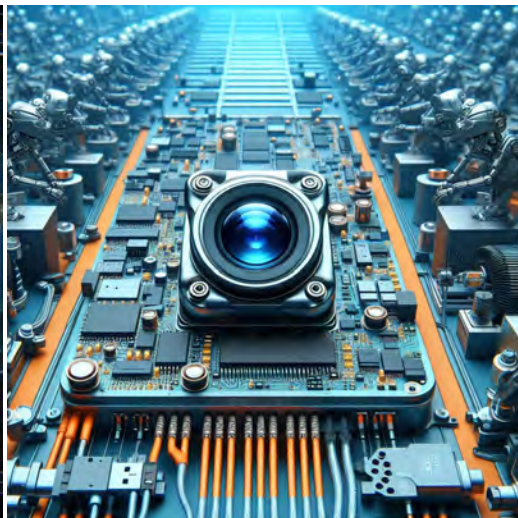
Live Streaming



Video Conference



Eye Tracker Biometric Detection



Machine Vision



Agricultural Monitor



Night Vision Security



Drone and Sports Eagle Eyes



Interactive Pet Camera



# YDS CAMERA MODULE

*your best camera partner*

## 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
<b>MIPI Interface</b>									
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
<b>DVP Parallel Interface</b>									
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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## 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



## Camera Inspection Standard

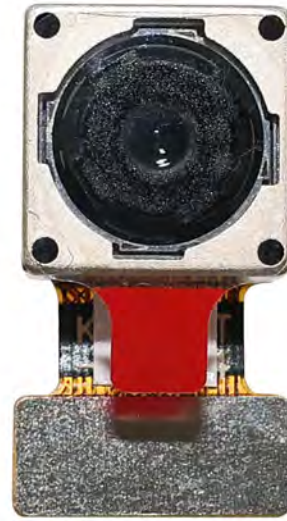
Inspection Item		Inspection Method	Standard of Inspection		
Category	Item				
Appearance	FPC/ PCB	Color	The Naked Eye	Major Difference is Not Allowed.	
		Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.	
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)	
	Holder	Scratches	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		

## YDSCAM Package Solutions

YDS Camera Module



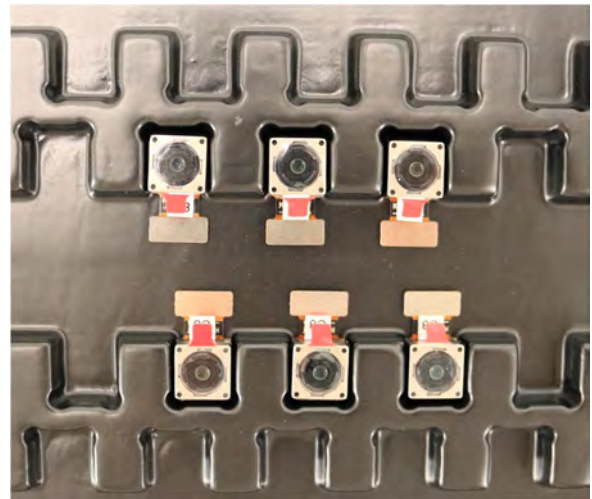
Complete with Lens Protection Film



Tray with Grid and Space

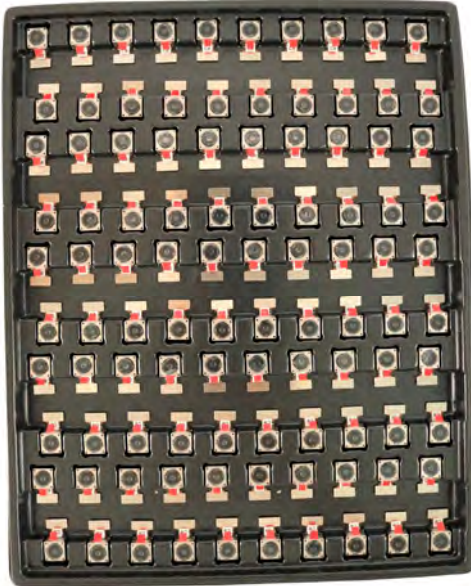


Place Cameras on the Tray

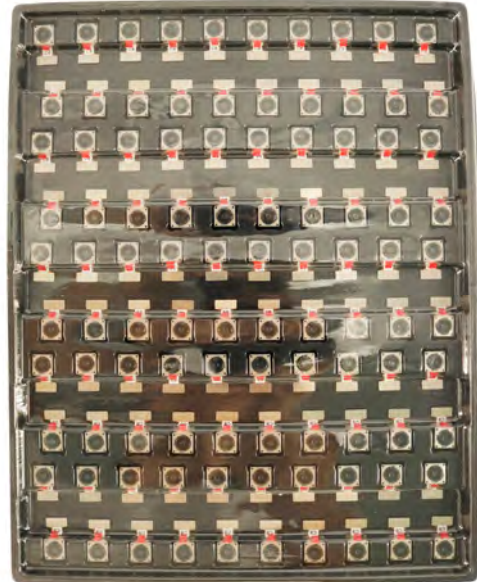


## YDSCAM Package Solutions

Full Tray of Cameras



Cover Tray with Lid



Place Tray into Anti-Static Bag



Vacuum the Anti-Static Bag



## YDSCAM Package Solutions

### Sealed Vacuum Anti-Static Bag with Labels

1. Model and Description 2. Quantity 3. Manufacturing Date Code 4. Caution



## YDSCAM Package Solutions

Place Foam Sheets Between Tray Bags



Foam Sheets are Larger Than Trays



Place Foam Sheets and Trays into Box



Foam Sheets are Tightly Fitting in Box



Seal the Carbon Box



Label the Carbon Shipping Box

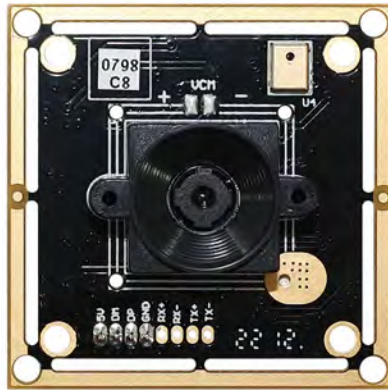




## YDSCAM Package Solutions

USB Camera Module

Complete with Lens Protection Film



Place Camera Sample into Anti-Static Bag

Place USB Cameras into Tray



Seal the Tray with Anti-Static Bag

Label the Carbon Shipping Box



## YDSCAM Package Solutions

Place Camera Sample into Anti-Static Bag



Place Connectors into Anti-Static Bag



Label the Sample Bags



Place Connectors into Reel



Place Samples into the Carbon Box



Place Connectors into the Carbon Box





# YDS CAMERA MODULE

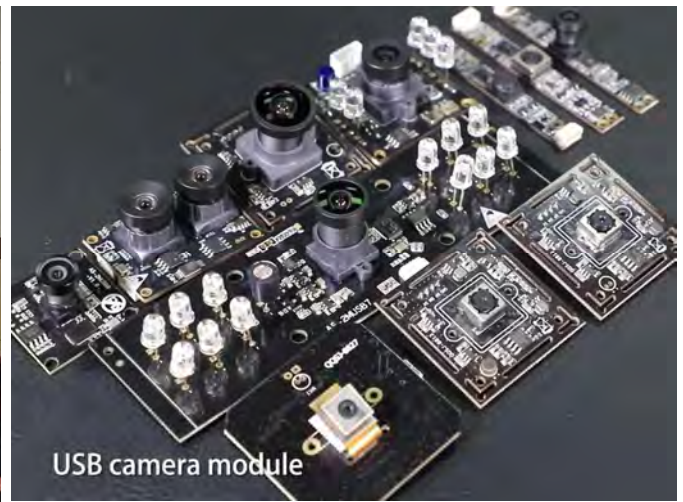
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## Company YDSCAM

YingDeShun Co. Ltd. (YDS) was established in 2017, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. YDS is occupying 20,000 square feet automated plants with 100 employees of annual throughput 30,000,000 units cameras.

YDS 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. YDS 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

YDS provides the following limited warranty if you purchased the Product(s) directly from YDS company or from YDS's website [www.YDSCAM.com](http://www.YDSCAM.com). Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. YDS 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, YDS 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 YDS is solely limited to repair and/or replacement on the terms set forth above. YDS is not reliable or responsible for any subsequent events.



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# YDS CAMERA MODULE

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## YDS Strength

### Powerful Factory



### Professional Service



### Promised Delivery



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