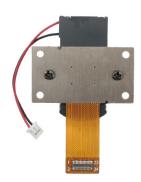


your best camera partner

YDS-IRSW-OS05A10 V3.0

5MP OmniVision OS05A10 IR Switch MIPI Interface Fixed Focus Camera Module





Camera Module No.	YDS-IRSW-OS05A10 V3.0	
Resolution	5MP	
Image Sensor	OS05A10	
Sensor Type	1/2.7"	
Pixel Size	2.0 um x 2.0 um	
EFL	2.02 mm	
F.NO	2.50	
Pixel	2688 x 1944	
View Angle	121.4°(DFOV) 107.6°(HFOV) 87.2°(VFOV)	
Lens Dimensions	16.50 x 16.50 x 21.20 mm	
Module Size	46.70 x 30.00 mm	
Module Type	Fixed Focus	
IR Switch Input Voltage	3.3V - 5.5V	
Lens Filter IR Frequency	645nm +/- 15nm	
Lens Filter AR Frequency	700nm - 1,000nm	
Operation (IR Day Time)	Red Line: Negative Black Line: Positive	
Operation (AR Night Time)	Red Line: Positive Black Line: Negative	
IR Switch Connector	962-10231-030005 (2 Pin)	
Interface	MIPI	
Operating Temperature	-30°C to +85°C	
Mating Connector	WP7A-S024VA1	



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YDS-IRSW-OS05A10 V3.0

5MP OmniVision OS05A10 IR Switch MIPI Interface Fixed Focus Camera Module

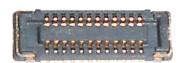




Top View

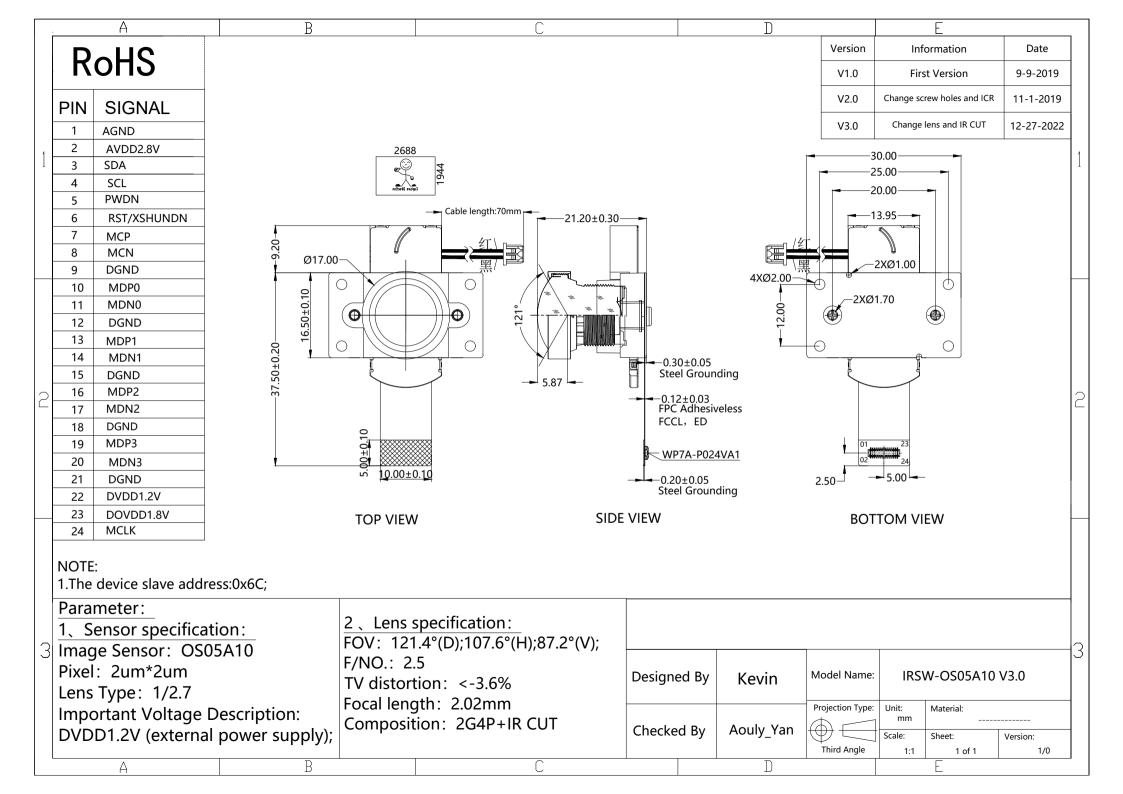
Side View





Bottom View

Mating Connector





$0505A10_{5-megapixel}$ product brief





Versatile 5-Megapixel PureCel® Sensor with High Dynamic Range for a Wide Range of Commercial Security and Consumer Applications

OmniVision's low-power OSO5A10 is a 5-megapixel image sensor that brings crisp 1080p high definition, 2K, and 5-megapixel video to a wide range of commercial security and consumer applications, including 360-degree full-view cameras. Built on OmniVision's advanced PureCel® pixel architecture, the OSO5A10 utilizes backside illumination (BSI) technology to deliver enhanced low-light sensitivity and wide field of view (FOV).

Available in the popular 1/2.7-inch optical format, the OS05A10 enables video applications in widely used 4:3 and 16:9 aspect ratios. The sensor can capture 1080p full high definition slow-motion video at 120 frames per second (fps) and 2688 x 1944 resolution at 60 fps.

Additionally, the OS05A10 features a 11-degree chief ray angle (CRA) and a dual-exposure staggered high dynamic range (HDR) mode to enable excellent scene reproduction in difficult high-contrast lighting conditions.

The OSO5A10 is compatible with MIPI and LVDS interfaces and comes in a chip scale package (CSP).

Find out more at www.ovt.com.





Applications

- Security Cameras
- Action Cameras

■ High Resolution Consumer Cameras

Product Features

- 2 µm x 2 µm pixel
- optical size of 1/2.7"
- programmable controls for: frame rate

 - mirror and flip
 - cropping windowing
- supports output formats: 12-/10-bit RAW RGB
- supports image sizes: 5MP (2688x1944)

 - 1080p (1920x1080) 720p (1280x720)
- supports 2x2 binning

- standard serial SCCB interface
- 12/10-bit ADC
- up to 4-lane MIPI/LVDS serial output interface (supports maximum speed up to 1500 Mbps/lane)
- 2-exposure staggered HDR support
- programmable I/O drive capability
- light sensing mode (LSM)
- PLL with SCC support
- support for frame sync

OS05A10



■ OSO5A10-H73A-1B (color, lead-free)

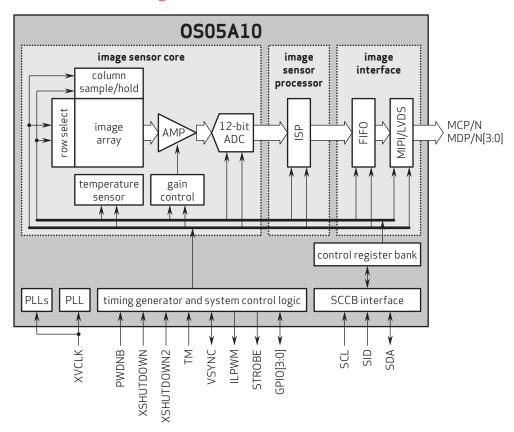
Product Specifications

- active array size: 2688 x 1944
- maximum image transfer rate: 2688x1944: 60 fps
- **2688x1520:** 60 fps
- power supply: core: 1.2V analog: 2.8V

- I/O: 1.8V
- power requirements: active: 210 mW
- standby: 2 mA XSHUTDOWN: 2 µA

- temperature range:
 operating: -30°C to +85°C junction temperature
- stable image: 0°C to +60°C junction temperature
- output formats: 10/12-bit RGB RAW
- lens size: 1/2.7"
- lens chief ray angle: 11° linear
- scan mode: progressive
- **pixel size:** 2.0 μm x 2.0 μm
- image area: 5434.56 µm x 3948.05 µm

Functional Block Diagram





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

OmniVision reserves the right to make changes to their products or to discontinue any product or service without further notice. OmniVision, the OmniVision logo and PureCell are registered trademarks of OmniVision Technologies, Inc. All other trademarks are the property of their respective owners.





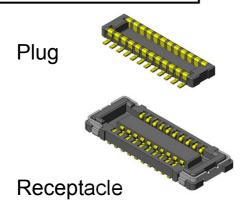


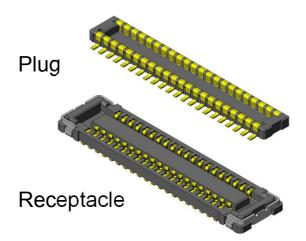
0.4mm Pitch, Stacking Type Board-to-Board (FPC) Connector

WP7 Series

CONNECTOR
MB-0228-3
September 2017

RoHS Compliant





The WP7 Series is a low-profile board-to-board (FPC) connector with 0.4mm pitch spacing that is ideal for high-density mounting in slim information communication devices like mobile phones, smartphones, LCD, and notebook PC.

To satisfy different product function requirements, a low pin count type and a high pin count type (WP7A / WP7B) are available with the same mounting pattern.

Features

- 0.4mm pitch, 2 rows, 0.7mm stacking height.
- Contact structure ensures high wear-resistance and high contact reliability.
- Secure hold-downs prevent insulator breakage and peeling from FPC.
- 2-point contact design to resist twisting stress.
- Pb-free (Ni barrier on contact prevents solder wicking.)
- Receptacle contacts adopt an optimal configuration according to the pin counts.
 High removal force WP7A (low pin count: 10-32 pos.)
 Low insertion force WP7B (high pin count 34-70 pos.)
- Signal contact supports 10 Gbps transmission rate.
- Supports MIPI, USB3.1 Gen2, and PCIe Gen3 transmission.

General Specifications

- ■(WP7A) No. of Contacts: 10, 16, 20, 22, 24, 26, 28, 30, 32 pos.
- ■(WP7B) No. of Contacts: 34, 40, 50, 60, 70 pos.
- ■Pitch: 0.4mm, 2 rows
- ■Operating Temperature: -40 Deg. C to +85 Deg. C
- ■Contact Resistance:

 $70m\Omega$ max. (initial)

■Life Time: 30 mating cycles

- ■Rated Current: AC, DC 0.3A each per terminal
- ■Rated Voltage: AC, DC 50V
- ■Insulation Resistance: 100MΩ min. (initial)
- ■Dielectric Withstanding Voltage:

AC250Vr.m.s for 1 minute

■(WP7A) total insertion force:

1.50N x n max. (n: No. of pos.)

■(WP7A) total removal force:

0.15N x n min. (n: No. of pos.)

■(WP7B) total insertion force:

1.00N x n max. (n: No. of pos.)

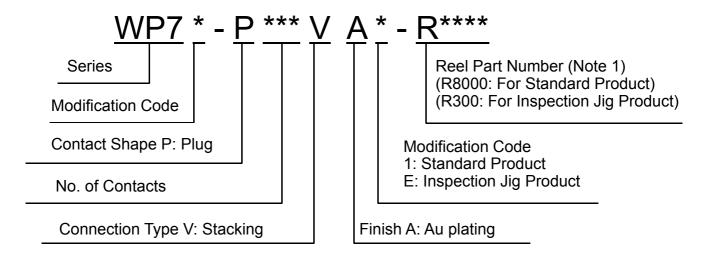
■(WP7B) total removal force:

0.10N x n min. (n: No. of pos.)

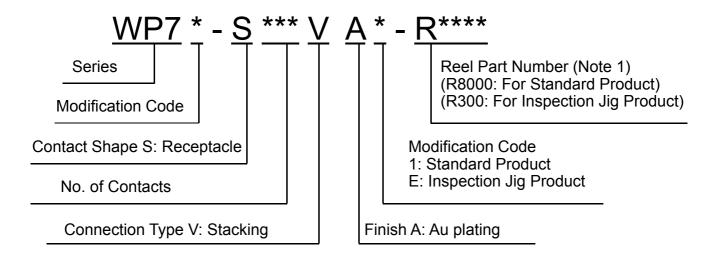
Materials and Finishes

Component	Material / Finish	
Contact	Cu alloy / Au plating	
Insulator	Heat-resistant plastic	
Hold-Down	Plug: Cu alloy / Au plating Receptacle: Cu alloy / Sn plating	

Ordering Information (Plug)



Ordering Information (Receptacle)

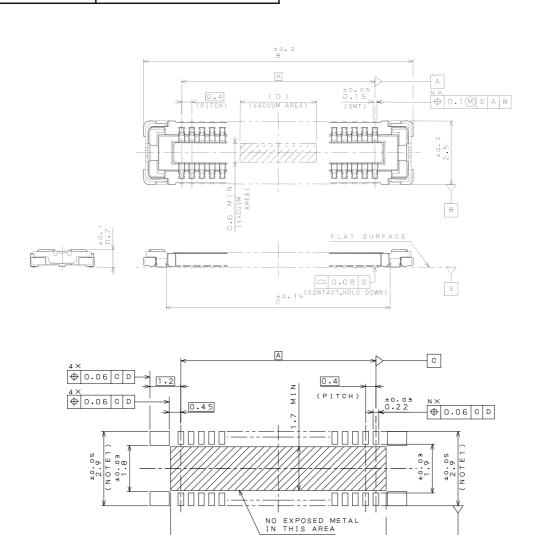


Note 1) An embossed tape reel contains 8,000 pieces of standard product, or 300 pieces of inspection jig product.

Please contact us for details on embossed tape specifications.

Part Number	WP7A-S***VA1
SJ Drawing	SJ111877

WP7A Receptacle



APPLICABLE P+C+B+ DIMENSION(REF+) 適合基板寸法(参考)

DIMENSIONS 寸法 NUMBER OF CONTACT 芯数	A	В	С	D
10	1.6	4.6	2.8	2.0
16	2.8	5.8	4.0	2.0
20	3.6	6.6	4.8	2.0
22	4.0	7.0	5.2	2.0
24	4.4	7.4	5.6	2.0
26	4.8	7.8	6.0	5.0
28	5.2	8.2	6.4	5.0
30	5.6	8.6	6.8	5.0
32	6.0	9.0	7.2	5.0

D

Note 1) Dimension 3.5 ± 0.05 is recommended in case repair is needed.



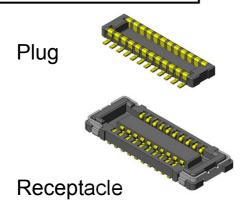


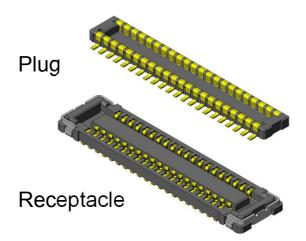
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Features

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- Contact structure ensures high wear-resistance and high contact reliability.
- Secure hold-downs prevent insulator breakage and peeling from FPC.
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General Specifications

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- ■Pitch: 0.4mm, 2 rows
- ■Operating Temperature: -40 Deg. C to +85 Deg. C
- ■Contact Resistance:

 $70m\Omega$ max. (initial)

■Life Time: 30 mating cycles

- ■Rated Current: AC, DC 0.3A each per terminal
- ■Rated Voltage: AC, DC 50V
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■(WP7B) total insertion force:

1.00N x n max. (n: No. of pos.)

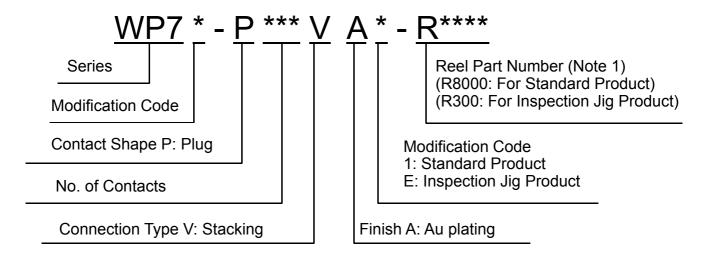
■(WP7B) total removal force:

0.10N x n min. (n: No. of pos.)

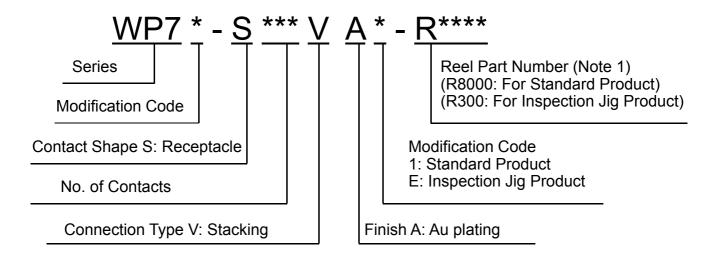
Materials and Finishes

Component	Material / Finish	
Contact	Cu alloy / Au plating	
Insulator	Heat-resistant plastic	
Hold-Down	Plug: Cu alloy / Au plating Receptacle: Cu alloy / Sn plating	

Ordering Information (Plug)



Ordering Information (Receptacle)

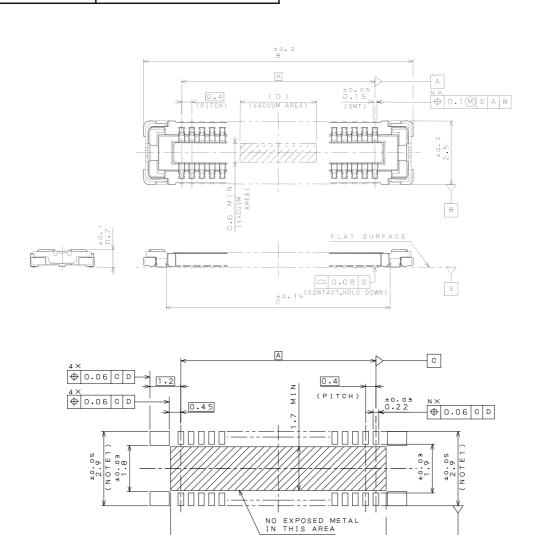


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SJ Drawing	SJ111877

WP7A Receptacle



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24	4.4	7.4	5.6	2.0
26	4.8	7.8	6.0	5.0
28	5.2	8.2	6.4	5.0
30	5.6	8.6	6.8	5.0
32	6.0	9.0	7.2	5.0

D

Note 1) Dimension 3.5 ± 0.05 is recommended in case repair is needed.



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Cameras Applications





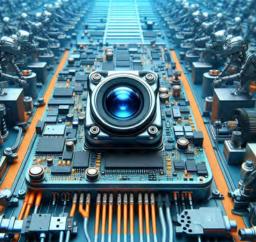


Automotive Driver Pilot

Live Streaming

Video Conference







Eye Tracker Biometric Detection

Machine Vision

Agricultural Monitor







Night Vision Security

Drone and Sports Eagle Eyes

Interactive Pet Camera



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Camera Module Pinout Definition Reference Chart

OmniVision Sony Samsung On-Semi Ap	otina 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 resiste			
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	3			
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 D00 Y0	DVP data output port 0			
D1 D01 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 D06 Y6	DVP data output port 6			
D7 D07 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 D011 Y11	DVP data output port 11			
ווו ווטס ווס	DVI data output port 11			



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Camera Reliability Test

Reliability Inspection Item		Tanking Makhad	A cooptoned Critoria		
Cat	egory	Item	Testing Method	Acceptance Criteria	
	Storage	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation	
	Temperature	Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation	
	Operation	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation	
Environmental	Temperature	Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation	
Environmental	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	
	Drop Test	Without Package 60cm	10 Times on Wood Floor	Electrically Functional	
	(Free Falling)	With Package 60cm	10 Times on Wood Floor	Electrically Functional	
Physical	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional	
		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional	
Physical		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	
	ESD Test	Contact Discharge 2 KV	ESD Testing Machine	Electrically Functional	
Electrical	ESD Test	Air Discharge 4 KV	ESD Testing Machine	Electrically Functional	
	Aging Test On/Off 30 Seconds Cycling in 24 Hours		Power Switch	Electrically Functional	
USB Connec		On/Off 250 Times	Plug and Unplug	Electrically Functional	











Camera Inspection Standard

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Inspection I		ı Item	lana antina Mathard	Ctondard of Increasion	
Category		Item	Inspection Method	Standard of Inspection	
	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)	
		Scratches	The Naked Eye	The Inside Crack Exposure is Not Allowed	
	Holder	Gap	The Naked Eye	Meet the Height Standard	
Appearance	Holdel	Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)	
		Damage	The Naked Eye	The Inside Crack Exposure is Not Allowed	
		Scratch	The Naked Eye	No Effect On Resolution Standard	
	Lens	Contamination	The Naked Eye	No Effect On Resolution Standard	
	Lens	Oil Film	The Naked Eye	No Effect On Resolution Standard	
		Cover Tape	The Naked Eye	No Issue On Appearance.	
		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	
	Image	Vertical Line	The Naked Eye	Not Allowed	
		Horizontal Line	The Naked Eye	Not Allowed	
Function		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	
		Height	The Naked Eye	Follows Approval Data Sheet	
Dimer	neion	Width	The Naked Eye	Follows Approval Data Sheet	
Dille	131011	Length	The Naked Eye	Follows Approval Data Sheet	
		Overall	The Naked Eye	Follows Approval Data Sheet	



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YDSCAM Package Solutions

YDS Camera Module



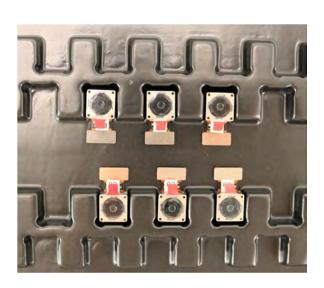
Tray with Grid and Space



Complete with Lens Protection Film



Place Cameras on the Tray





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YDSCAM Package Solutions

Full Tray of Cameras



Place Tray into Anti-Static Bag



Cover Tray with Lid



Vacuum the Anti-Static Bag





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YDSCAM Package Solutions

Sealed Vacuum Anti-Static Bag with Labels

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





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YDSCAM Package Solutions

Place Foam Sheets Between Tray Bags



Place Foam Sheets and Trays into Box



Seal the Carbon Box



Foam Sheets are Larger Than Trays



Foam Sheets are Tightly Fitting in Box



Label the Carbon Shipping Box





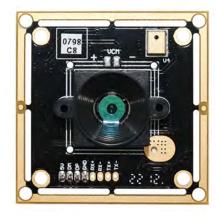
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YDSCAM Package Solutions

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







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YDSCAM Package Solutions

Place Camera Sample into Anti-Static Bag





Label the Sample Bags



Place Samples into the Carbon Box



Place Connectors into Anti-Static Bag





Place Connectors into Reel



Place Connectors into the Carbon Box





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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. 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 subsequential events.















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YDS Strength

Powerful Factory





Professional Service







Promised Delivery











