

your best camera partner

YDS-5AMPF-SC8238 V1.0

8MP SmartSens SC8238 MIPI Interface M12 Fixed Focus Camera Module





Front View Back View

Specifications

Camera Module No.	YDS-5AMPF-SC8238 V1.0		
Resolution	8MP		
Image Sensor	SC8238		
Sensor Type	1/2.7"		
Pixel Size	1.5 um x 1.5 um		
EFL	3.00 mm		
F.NO	2.00		
Pixel	3872 x 2180		
View Angle	142.0°(DFOV) 100.0°(HFOV) 73.0°(VFOV)		
Lens Dimensions	13.70 x 13.70 x 18.00 mm		
Module Size	40.05 x 13.70 mm		
Module Type	Fixed Focus		
Interface	MIPI		
Auto Focus VCM Driver IC	None		
Lens Model	YDS-LENS-MJ7010A		
Lens Type	650nm IR Cut		
Operating Temperature	perature -30°C to +85°C		
Mating Connector	DF30FC-40DS-0.4V		



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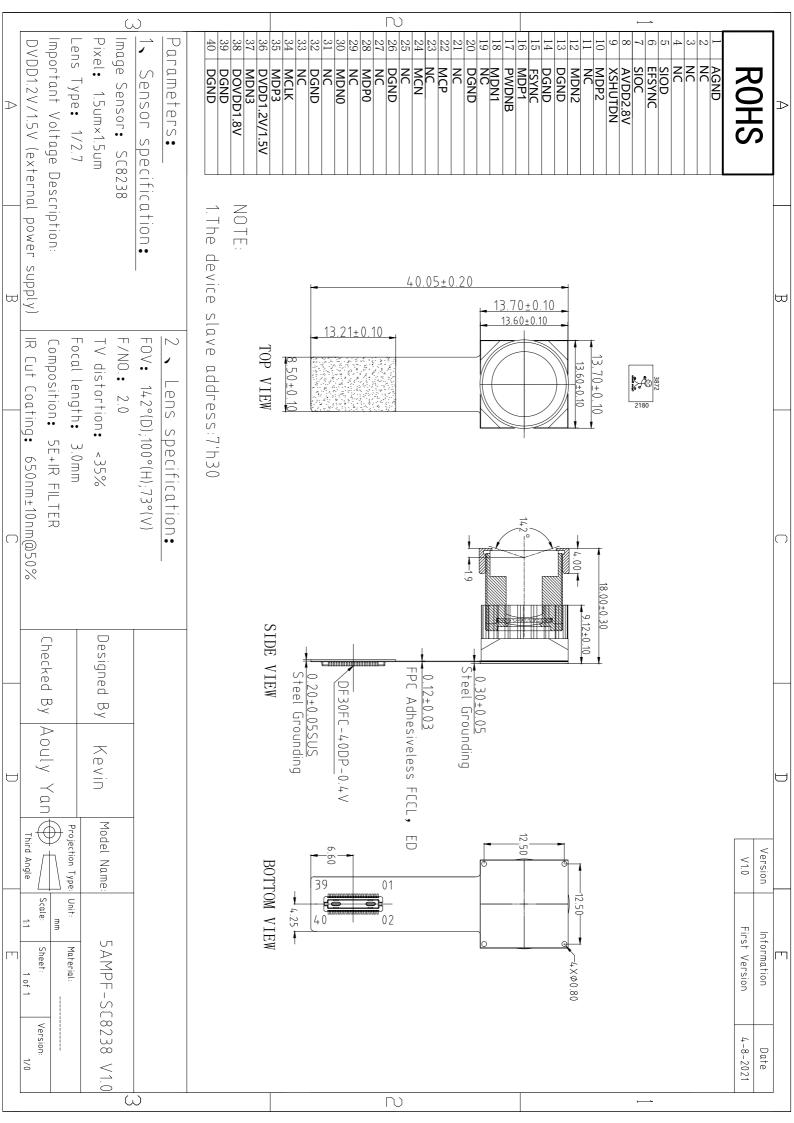
Side View



Bottom View



Mating Connector





CMOS IMAGE SENSOR



思特威电子科技有限公司(SmartSens Technology)是一家从事CMOS图像传感器芯片产品研发、设计及服务的高新技术企业,2011年创立,总部设立于中国上海,在北京、深圳、杭州、香港、新竹以及美国圣何塞等多个城市设有研发中心与销售办公室,网络遍及全球。

思特威以创新为驱动,专注于为客户提供面向未来和全球领先的CMOS图像传感器芯片产品。凭借一支精于创新、覆盖全球的研发团队,思特威自主研发出了优秀的夜视全彩技术、独创领先的DSI技术、Stack BSI的全局曝光技术等诸多卓越技术。

自成立以来,思特威一直以客户需求为核心,致力于为客户提供高质量的视频解决方案。公司产品也不断成熟并逐步确立了安防领域行业领先地位,产品遍及安防监控、车载影像、机器视觉及消费类电子产品(运动相机、无人机、扫地机器人、智能家用摄像头)等应用领域。2017年起,思特威已连续两年在CIS产品安防领域全球市场占有率上保持第一,并在机器视觉、人工智能应用等新兴领域不断拓展创新。

SmartSens Technology Co., Ltd. is a high-performance CMOS image sensing (CIS) chip design company. The company, founded in 2011, is headquartered in Shanghai and has both research centers and sales offices in various cities around the world, including Beijing, Shenzhen, Hangzhou, Hong Kong, Hsinchu and San Jose, California.

SmartSens is dedicated to providing future-oriented and world-leading CMOS image sensing products. With an international and accomplished research team, SmartSens owns a suite of proprietary technologies, including full color night vision, DSI Pixel, global exposure built on voltage domain architecture and Stack BSI processes, among many others.

SmartSens has always kept the needs of the customer first, constantly innovating with the goal of providing the customer with high-quality video capturing solutions, with products in Security & Surveillance, Automotive, Machine Vision, Consumer Electronics (sports cameras, drones, automatic vacuums, smart home), and other application fields. Since 2017, SmartSens has maintained its lead in the CIS Security & Surveillance global market share for two consecutive years, and it has had achievements in machine vision, artificial intelligence, among other applications.

SC8238 Product Flyer

SmartClarity™ Series

规格说明 | Specifications

项目	参数
Resolution	8 MP
Pixel Array	3872H x 2180V
Pixel Size	1.5μm x 1.5μm
Optical Format	1/2.7"
Max Frame Rate	3840H x 2160V @30fps @10bit
Output Interface	12/10/8 bit 4 lane MIPI
output interface	12/10/8 bit 4 lane LVDS
Output Format	RAW RGB
CRA	15°
Sensitivity	1160mV/Lux·s
Dynamic Range	HDR Mode up to 100dB
Dynamic Kange	Linear Mode 70dB
SNR	36dB
Operation Temperature Range	-30°C to +85°C
Best IQ Temperature	-20°C to +60°C
	Analog = 2.8V
Power Supply	Digital = 1.5/1.2V
	I/O = 1.8V
Package	41 pin CSP
Package Size	6.82mm x 4.65mm



产品特性

I Features

■ 支持最常用的1/3"光学尺寸

Support Most Commonly Used 1/3" Optical Format

4K消费级视频应用的极佳选择

Most Suitable for Consumer 4K Video Applications

高灵敏度的1.5μm背照式像素

Highly Sensitive 1.5µm BSI Pixel

■ 同级别产品中功耗最低

Lowest Power Consumption Among the Same Grade Products

应用场景

| Applications

■ 家用监控摄像头

Consumer Surveillance Cameras

■ 智能家居/IoT摄像头

Smart Home and IoT Cameras

视频会议系统

Video Conferencing Cameras

■ 经济型运动相机

Cost Effective Sport Cameras





WeChat

LinkedIr

■ 深圳办公室

■ F海办公室

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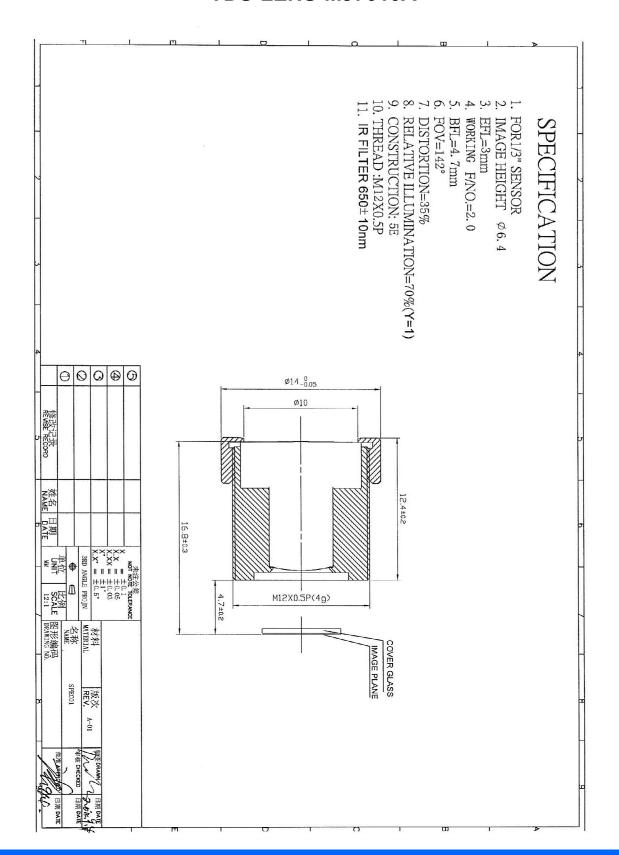
美国(圣何塞)

加利福尼亚州圣何塞市史蒂文森克里克大道4340号280室 4340 Stevens Creek Blvd, Suite 280, San Jose CA95129 Tel: +1 408 981 6626



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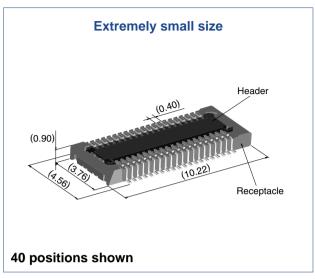
YDS-LENS-MJ7010A



0.4 mm Pitch, 0.9 mm Height, Board-to-Board / Board-to-FPC Connectors

DF30 Series





Overview

Continuous miniaturization and increased component density on PCB created demand for extremely low profile connectors. This series is addition of a new extremely low profile connectors to Hirose's wide range of high reliability board-to-board/board-to-FPC connection solutions.

Features

1. Contact reliability

Concentration of the contact's normal forces at the single point assures good contact wipe and electrical reliability, while confirming the fully mated condition with a definite tactile click.

2. Self alignment

Recognizing the difficulties of mating extremely small connectors in limited spaces the connectors will self align in horizontal axis within 0.3 mm.

3. Automatic board placement

Packaged on tape-and-reel the plug and headers have sufficiently large flat areas to allow pick-up with vacuum nozzles of automatic placement equipment.

4. Variety of contact positions and styles

Available in standard contact positions of: 20, 22, 24, 30, 34, 40, 50, 60, 70 and 80 with and without metal fittings. Addition of metal fittings does not affect external dimensionsof the connectors.

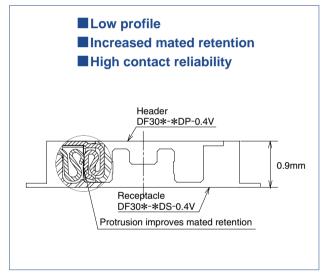
Smaller contact positions are also available.

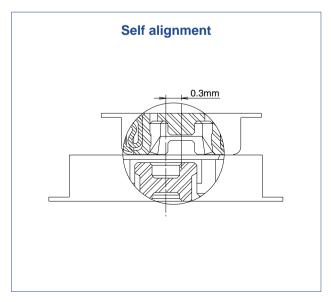
5. Support for continuity test connector

Connectors which have increased insertion and removal durability are available for continuity tests. Contact your Hirose sales representative for details.

Applications

Cellular phones, PDA's, mobile computers, digital cameras, digital video cameras, and other devices demanding high reliability connections in extremely limited spaces.





■Product Specifications

Datina	Rated current 0.3A	Operating temperature range	: -35°C to 85°C (Note 1)	Storage temperature range	-10°C to 60°C (Note 2)
Rating	Rated voltage 30V AC	Operating humidity range	: Relative humidity 20% to 80%	Storage humidity range	Relative humidity 40% to 70% (Note 2)

Item	Specification	Conditions
1. Insulation resistance	50 MΩ min.	100V DC
2. Withstanding voltage	No flashover or insulation breakdown.	100V AC / one minute
3. Contact resistance	100 mΩ max.	100 mA
4. Vibration	No electrical discontinuity of 1 μ s or more	Frequency: 10 to 55 Hz, single amplitude of 0.75mm, 2 hours, 3 axis
5. Humidity	Contact resistance: 100 m Ω max. Insulation resistance: 25 M Ω min.	96 hours at temperature of 40℃±2℃ and RH of 90% to 95%
6. Temperature cycle	Contact resistance: 100 m Ω max. Insulation resistance: 50 M Ω min.	Temperature: $-55^{\circ}C \rightarrow +5^{\circ}C$ to $+35^{\circ}C \rightarrow +85^{\circ}C \rightarrow +5^{\circ}C$ to $+35^{\circ}C$ Duration: $30 \rightarrow 10 \rightarrow 30 \rightarrow 10$ (Minutes) 5 cycles
7. Durability (insertions/withdrawals)	Contact resistance: 100 mΩ max.	50 cycles(Connector for conductivity tests: 500 cycles)
8. Resistance to soldering heat	No deformation of components affecting performance.	Reflow: At the recommended temperature profile Manual soldering: 300°C for 3 seconds

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating temperature range and humidity range covers non-conducting condition of installed connectors in storage, shipment or during transportation.

■Materials and Finishes

Connectors	Component	Material	Finish	Remarks
Receptacles	Insulator	LCP	Color : Black	UL94V-0
and	Contacts	Phosphor bronze	Gold plated	
Headers	Metal fittings	Phosphor bronze	Tin-cupper plated	

■Ordering information

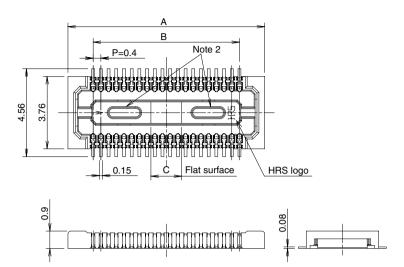
Receptacles and Headers

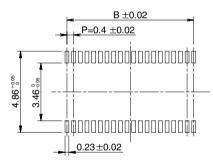
DF30	FC -	*	DS -	0.4	V	(**)
<u> </u>	2	6	4	6	6	7

1 Series name: DF30	5 Contact pitch: 0.4 mm		
2 Configuration	6 Termination section		
FB: With metal fittings, without bosses	V: Straight SMT		
FC: Without metal fittings, without bosses	Packaging		
CJ: Connector for conductivity tests	(81): Embossed tape packaging (5,000 pieces per reel)		
3 Number of positions: 20, 22, 24, 30, 34, 40, 50, 60, 70, 80	(82): Embossed tape packaging (1,000 pieces per reel)		
4 Connector type			
DS: Double row receptacle			
DP: Double row header			

■Receptacles (without metal fittings)







Recommended solder paste thickness: 120 μm

[Specification number] -**, (**)
(81): Embossed tape packaging (5,000 pieces per reel)

* Tolerances non- accumulative.

Unit: mm

Part Number	CL No.	Number of contacts	Α	В	С
DF30FC-20DS-0.4V(**)	CL684-1109-8-**	20	6.22	3.6	1.2
DF30FC-22DS-0.4V(**)	CL684-1110-7-**	22	6.62	4.0	1.2
DF30FC-24DS-0.4V(**)	CL684-1111-0-**	24	7.02	4.4	1.2
DF30FC-30DS-0.4V(**)	CL684-1112-2-**	30	8.22	5.6	1.2
DF30FC-34DS-0.4V(**)	CL684-1113-5-**	34	9.02	6.4	1.36
DF30FC-40DS-0.4V(**)	CL684-1078-6-**	40	10.22	7.6	1.6
DF30FC-50DS-0.4V(**)	CL684-1114-8-**	50	12.22	9.6	2.0
DF30FC-60DS-0.4V(**)	CL684-1082-3-**	60	14.22	11.6	2.4
DF30FC-70DS-0.4V(**)	CL684-1115-0-**	70	16.22	13.6	2.8
DF30FC-80DS-0.4V(**)	CL684-1116-3-**	80	18.22	15.6	3.2

Note 1: Order by number of reels.

Note 2: Receptacles with 24 or fewer contacts positions will not have recessed areas.



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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 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	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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Cameras Applications





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Camera Reliability Test

Reliability Inspection Item			Tanking Makhad	Acceptance Criteria	
Cat	egory	Item	Testing Method	Acceptance Chiena	
	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	
	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional	
Physical		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional	
Titysical		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	
	ESD Test	Air Discharge 4 KV	ESD Testing Machine	Electrically Functional	
Electrical	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

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	Inspection	ı Item	lana antina Mathard	Ctondard of Increasion	
Cateo	gory	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	
	Image	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	
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



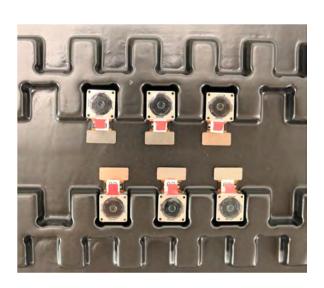
Tray with Grid and Space



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





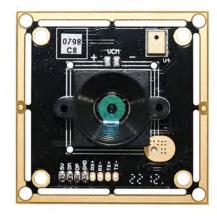
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YDSCAM Package Solutions

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











