

YDS-D3MF-IMX334 V2.0

8.42MP Sony IMX334 MIPI Interface M12 Fixed Focus Camera Module



Front View

Back View

Specifications

Camera Module No.	YDS-D3MF-IMX334 V2.0
Resolution	8.42MP
Image Sensor	IMX334
Sensor Type	1/1.8"
Pixel Size	2.0 um x 2.0 um
EFL	4.41 mm
F.NO	2.70
Pixel	3840 x 2160
View Angle	112.0°(DFOV) 97.0°(HFOV) 54.0°(VFOV)
Lens Dimensions	20.00 x 20.00 x 31.30 mm
Module Size	37.10 x 22.00 mm
Module Type	Fixed Focus
Interface	MIPI
Auto Focus VCM Driver IC	None
Lens Type	650nm IR Cut
Operating Temperature	-30°C to +85°C
Mating Connector	BBR43-30KB533

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YDS-D3MF-IMX334 V2.0

8.42MP Sony IMX334 MIPI Interface M12 Fixed Focus Camera Module





Top View

Side View





Bottom View

Mating Connector

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A	В	С		D		E	
RoHS					Version	Information	Date
0 SIGNAL					V1.0	First Version	4-25-2023
1 GND					V2.0	Change pin signal	8-16-2023
2 GND							
3 GND 4 GND							
5 NC							
6 NC	3840	_					
7 SDA	attention and anticol						
8 DOVDD 1.8V	Copure livetion						
9 SCL 10 DVDD 1.2V	22.00						
11 GND	22.00	31.30±0.30				26.59	-
12 XCLR	20.10±0.1	<u>5</u>	2.00±0.10			2xØ0.85	
13 MCN		<u>Ø17.40</u>					
14 XTRIG		Ø14.30			<u>2xØ1.7</u>	<u>o</u>	
15 MCP 16 GND	5010=0.15						
16 GND 17 MD0N	20.10		Ш				
18 MCLK	10.05						
19 MD0P	37.10±0.20		0 30+0.05			<u>ه</u>	
20 GND		/ 5.11	0.30±0.05 Steel Groud	ding		54.05	
21 MD1N 22 NC	17,00						
23 MD1P		~		eless FCCL,RA			3.00
24 AVDD 2.9V			BBR13-30				
25 NC	8.50±0.10	∞ F	0.20±0.05				i
26 AGND 27 MD2N			Steel Groud	ling		4.25	
28 MD3N							
29 MD2P							
30 MD3P	TOP V	IEW	SIDE VIEW			BOTTOM VIEW	V
Parameters:	2 16	ens specification:					
1、Sensor specification:	501/	112° (D) ,97°(H),54°(V)					
Image Sensor: IMX334L	.QR-C F/NO.						
Pixel: 2.0um*2.0um		stortion: <-11.7%	Designed By	Kevin	Model Name:	D3MF-IMX334	V2.0
Lens Type: 1/1.8							
Important Voltage Desci		length: 4.41mm			Projection Type:	Unit: Material: mm	
AVDD 2.9V; DOVDD 1.8'		oosition: 7G+IR FILTER	Checked By	Aouly_Yan	\square	Scale: Sheet:	Version:
	IR Cut	Coating: 650nm±10nm@50%			Third Angle	1:1 1 of 1	1/0
	В		1	D	1		1

SONY

[Product Information]

Ver.1.1

IMX334LLR

Diagonal 8.86 mm (Type 1/1.8) CMOS Solid-state Image Sensor with Square Pixel for Monochrome Cameras

Description

The IMX334LLR is a diagonal 8.86 mm (Type 1/1.8) CMOS active pixel type solid-state image sensor with a square pixel array and 8.42 M effective pixels. This chip operates with analog 2.9 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear are achieved. This chip features an electronic shutter with variable charge-integration time. (Applications: Surveillance cameras, FA cameras, Industrial cameras)

Features

- CMOS active pixel type dots
- Built-in timing adjustment circuit, H/V driver and serial communication circuit
- Input frequency: 6 to 27 MHz / 37.125 MHz / 74.25 MHz
- ♦ Number of recommended recording pixels: 3840 (H) × 2160 (V) approx. 8.29 M pixels
- Readout mode
- All-pixel scan mode
- Window cropping mode
- Vertical / Horizontal direction-normal / inverted readout mode
- Readout rate
- Maximum frame rate in All-pixel scan mode 3840(H) × 2160(V) A/D 12-bit: 60 frame/s
- High dynamic range (HDR) function
- Multiple exposure HDR
- Digital overlap HDR
- ◆ Variable-speed shutter function (resolution 1H units)
- ◆ 10-bit / 12-bit A/D converter
- CDS / PGA function
 0 dB to 30 dB : Analog Gain 30 dB (step pitch 0.3 dB)
 30.3 dB to 72 dB : Analog Gain 30 dB + Digital Gain 0.3 to 42 dB (step pitch 0.3 dB)
- Supports I/O CSI-2 serial data output (4 Lane / 8 Lane, RAW10 / RAW12 output)
- ◆ Recommended exit pupil distance: -100 mm to -∞

STARVIS

* STARVIS is a trademark of Sony Corporation. The STARVIS is back-illuminated pixel technology used in CMOS image sensors for surveillance camera applications. It features a sensitivity of 2000 mV or more per 1 µm² (color product, when imaging with a 706 cd/m² light source, F5.6 in 1 s accumulation equivalent), and realizes high picture quality in the visible-light and near infrared light regions.

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Device Structure

- CMOS image sensor
- ♦ Image size
- Total number of pixels
- Number of effective pixels
- Number of active pixels
- Number of recommended recording pixels
- Unit cell size
- Optical black
- ♦ Dummy
- Package

Type 1/1.8 3952 (H) × 2320 (V) approx. 9.17 M pixels 3864 (H) × 2180 (V) approx. 8.42 M pixels 3864 (H) × 2176 (V) approx. 8.41 M pixels 3840 (H) × 2160 (V) approx. 8.29 M pixels 2.0 μ m (H) × 2.0 μ m (V) Horizontal (H) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 13 pixels, rear 0 pixel Horizontal (H) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 0 pixel, rear 0 pixel Horizontal (H) direction: Front 0 pixel, rear 0 pixel

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity (F8)	Тур.	1961 Digit	1/30 s accumulation 12 bit converted value
Saturation signal	Min.	3895 Digit	12 bit converted value

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All pixel	3840 (H) × 2160 (V) approx. 8.29 M pixels	60	CSI-2	10/12

SONY

[Product Information]

Ver.1.2

IMX334LQR

Diagonal 8.86 mm (Type 1/1.8) CMOS Solid-state Image Sensor with Square Pixel for Color Cameras

Description

The IMX334LQR is a diagonal 8.86 mm (Type 1/1.8) CMOS active pixel type solid-state image sensor with a square pixel array and 8.42 M effective pixels. This chip operates with analog 2.9 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear are achieved through the adoption of R, G and B primary color mosaic filters. This chip features an electronic shutter with variable charge-integration time.

(Applications: Surveillance cameras, FA cameras, Industrial cameras)

Features

- CMOS active pixel type dots
- Built-in timing adjustment circuit, H/V driver and serial communication circuit
- ◆ Input frequency: 6 to 27 MHz / 37.125 MHz / 74.25 MHz
- ♦ Number of recommended recording pixels: 3840 (H) × 2160 (V) approx. 8.29 M pixels
- Readout mode
- All-pixel scan mode
- Horizontal/Vertical 2/2-line binning mode
- Window cropping mode
- Vertical / Horizontal direction-normal / inverted readout mode
- Readout rate

Maximum frame rate in All-pixel scan mode 3840(H) × 2160(V) A/D 12-bit: 60 frame/s

- High dynamic range (HDR) function
 - Multiple exposure HDR
 - Digital overlap HDR
- Variable-speed shutter function (resolution 1H units)
- ◆ 10-bit / 12-bit A/D converter
- CDS / PGA function
 - 0 dB to 30 dB : Analog Gain 30 dB (step pitch 0.3 dB)
 - 30.3 dB to 72 dB : Analog Gain 30 dB + Digital Gain 0.3 to 42 dB (step pitch 0.3 dB)
- Supports I/O
 - CSI-2 serial data output (4 Lane / 8 Lane, RAW10 / RAW12 output)
- ◆ Recommended exit pupil distance: -30 mm to -∞

STARVIS

* STARVIS is a trademark of Sony Corporation. The STARVIS is back-illuminated pixel technology used in CMOS image sensors for surveillance camera applications. It features a sensitivity of 2000 mV or more per 1 µm² (color product, when imaging with a 706 cd/m² light source, F5.6 in 1 s accumulation equivalent), and realizes high picture quality in the visible-light and near infrared light regions.

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Device Structure

- CMOS image sensor
- ◆ Image size
- Total number of pixels
- Number of effective pixels
- Number of active pixels
- Number of recommended recording pixels
- Unit cell size
- Optical black
- ♦ Dummy
- ♦ Package

Type 1/1.8 3952 (H) × 2320 (V) approx. 9.17 M pixels 3864 (H) × 2180 (V) approx. 8.42 M pixels 3864 (H) × 2176 (V) approx. 8.41 M pixels 3840 (H) × 2160 (V) approx. 8.29 M pixels 2.0 μ m (H) × 2.0 μ m (V) Horizontal (H) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 13 pixels, rear 0 pixel Horizontal (H) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 0 pixel, rear 0 pixel 128 pin LGA

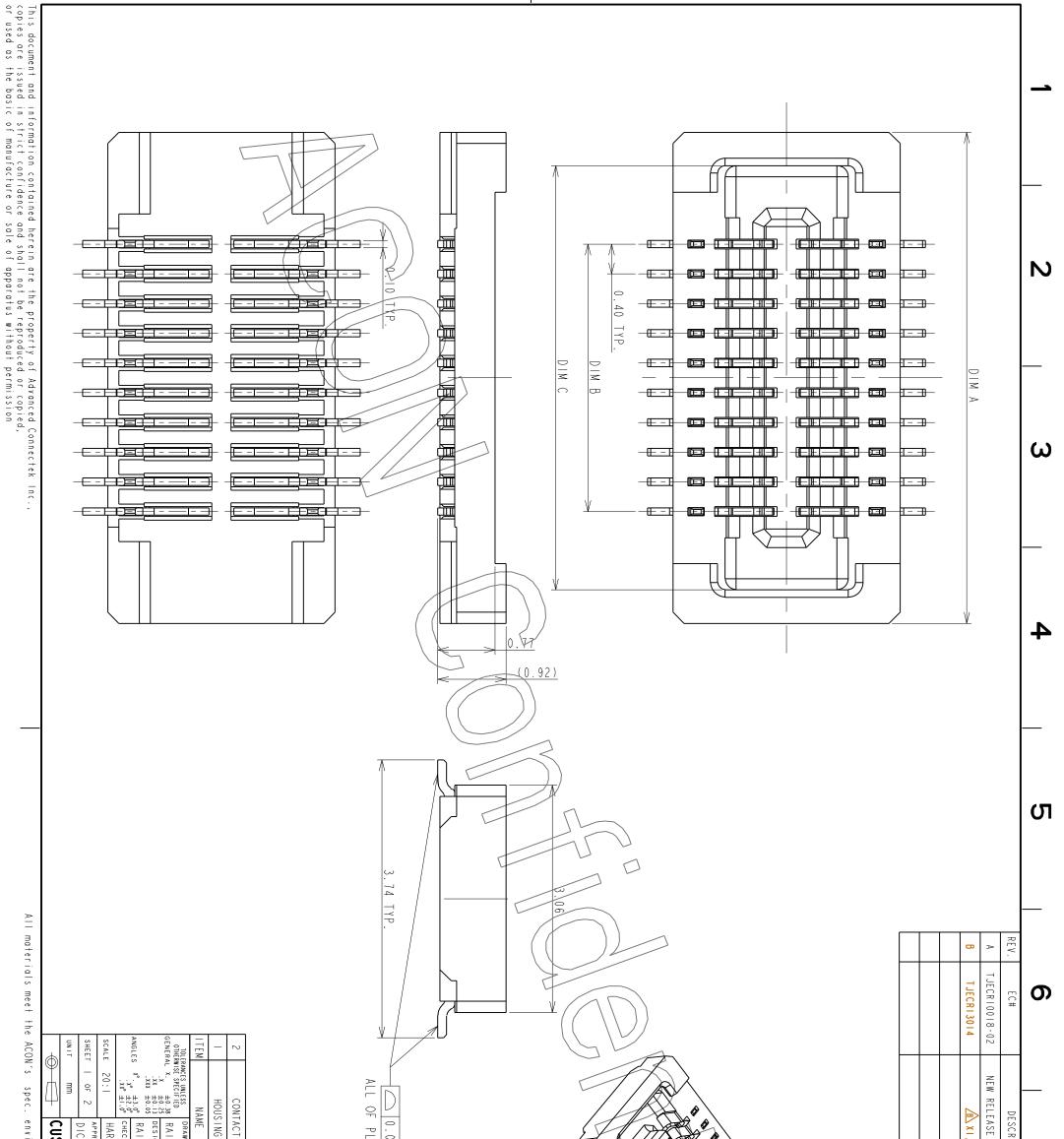
Image Sensor Characteristics

(Tj = 60 °C)

ltem		Value	Remarks	
Sensitivity (F5.6)	Тур.	2200 Digit	1/30 s accumulation 12 bit converted value	
Saturation signal	Min.	3895 Digit	12 bit converted value	

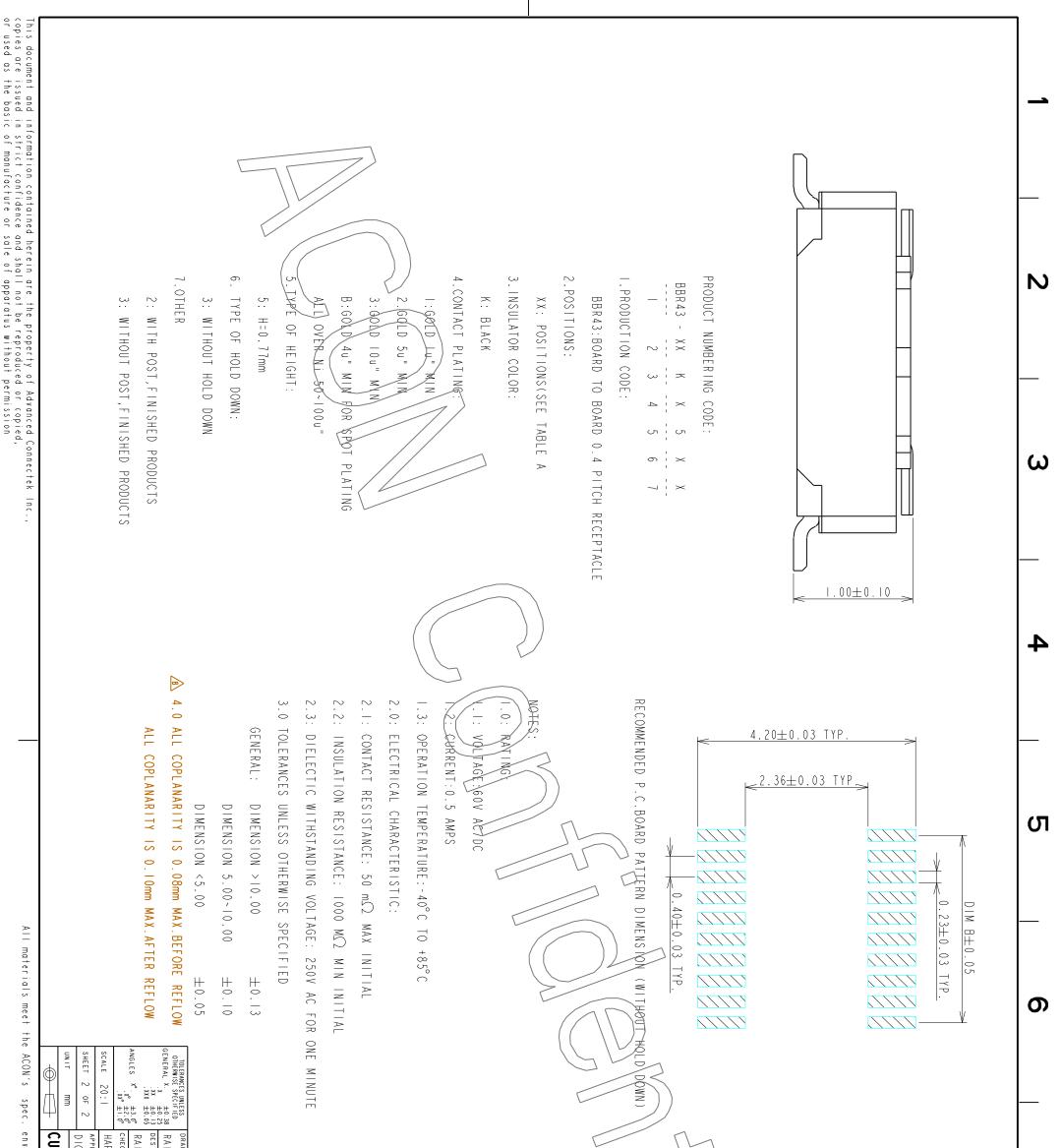
Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All pixel	3840 (H) × 2160 (V) approx. 8.29 M pixels	60	CSI-2	10/12
Horizontal/ Vertical 2/2-line binning	1920 (H) × 1080 (V) approx. 2.07 M pixels	120	CSI-2	10



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Cameras Applications

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Automotive Driver Pilot





Video Conference



Live Streaming

Eye Tracker Biometric Detection

Machine Vision

Agricultural Monitor



Night Vision Security

Drone and Sports Eagle Eyes



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Camera Module Pinout Definition Reference Chart

	tina 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 D00 Y0	DVP data output port 0
D1 D01 Y1	DVP data output port 1
D2 D02 Y2	DVP data output port 2
D3 D03 Y3	DVP data output port 3
D4 D04 Y4	DVP data output port 4
D5 D05 Y5	DVP data output port 5
D6 D06 Y6	DVP data output port 6
D7 D07 Y7	DVP data output port 7
D8 D08 Y8	DVP data output port 8
D9 D09 Y9	DVP data output port 9
D10 D010 Y10	DVP data output port 10
D11 D011 Y11	DVP data output port 11

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Camera Reliability Test

	Reliability Inspect	ion Item	Testing Mathed	A coorton oo Critorio
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
Environmental	Operation	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
	Temperature	Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation
Environmentai	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
		50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
Physical	Vibration Test	50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
Filysical		50Hz Z-Axis 2mm 30min	Vibration Table	Electrically Functional
	Cable Tensile Strength Test Cable Tensile Cycling in 24 Hours		Tensile Testing Machine	Electrically Functional
		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



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Camera Inspection Standard

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	Inspectior	n Item	Inspection Method	Standard of Inspection
Categ	gory	Item	пересноп менной	Standard of Inspection
		Color	The Naked Eye	Major Difference is Not Allowed.
	FPC/ PCB	Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)
Appearance	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
		Scratch	The Naked Eye	No Effect On Resolution Standard
	Long	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.
	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
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
Dimen	sion	Width	The Naked Eye	Follows Approval Data Sheet
Dimen	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

DS



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







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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Complete with Lens Protection Film



YDSCAM Package Solutions

Place Camera Sample into Anti-Static Bag





Label the Sample Bags

Place Connectors into Anti-Static Bag



Place Connectors into Reel



Place Samples into the Carbon Box





Place Connectors into the Carbon Box



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YDS

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 <u>www.YDSCAM.com</u>. 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

Y

Powerful Factory



Professional Service



Promised Delivery



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