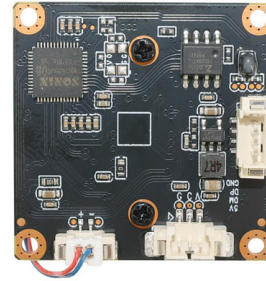# YDS-USB-1858 V1
2.3MP OnSemi AR0234 Global Shutter M12 Fixed Focus USB 2.0 Camera Module

YDS-USB-1858 V1 is a 2.3MP Fixed Focus USB camera module based on 1/2.6" AR0234 global shutter image sensor. It delivers high-speed, 2K resolution ultra sharp image. The S-mount (M12) lens holder enables customers to choose different lens as per varies applications. This camera module is ideal solution for face recognition, identity detection, automotive, access control.

Key Features

    2K resolution (1920 x 1200) OnSemi AR0234 sensor
    High speed USB 2.0 Plug and Play
    MJPG and YUV2 output format
    Low power consumption
    Compact size
    UVC compliant to Windows, Linux, OS with UVC driver
    USB OTG (On-The-Go) support

YDS-USB-1858 V1

2.3MP OnSemi AR0234 Global Shutter M12 Fixed Focus USB 2.0 Camera Module

Camera Module No.	YDS-USB-1858 V1
Resolution	2.3MP
Image Sensor	AR0234 Global Shutter
Sensor Type	1/2.6"
Pixel Size	3.0 um x 3.0 um
EFL	2.60 mm
F.NO	2.40
Pixel	1920 x 1200
View Angle	125.0°(DFOV) 91.0°(HFOV) 56.0°(VFOV)
Lens Dimensions	20.00 x 20.00 x 22.00 mm
Module Type	Fixed Focus
Interface	USB 2.0
Output Format	MJPG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	Optional
Input Voltage	DC 5V
Working Current	Max 500mA
PCB Size	32.00 x 32.00 mm
System Compatibility	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC Driver Raspberry Pi by USB Port
Software for USB Camera	AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam
Lens Type	650nm IR Cut
Operating Temperature	-30°C to +70°C
USB Cable	USB Cable

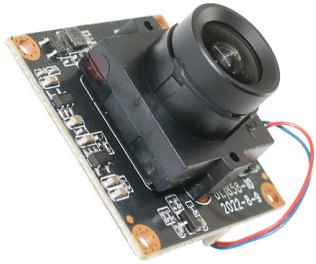**Wide Compatibility with Windows, Android, Mac OS, Linux, or Raspberry Pi**

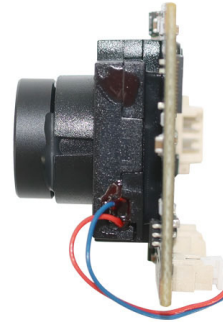## YDS-USB-1858 V1
2.3MP OnSemi AR0234 Global Shutter M12 Fixed Focus USB 2.0 Camera Module
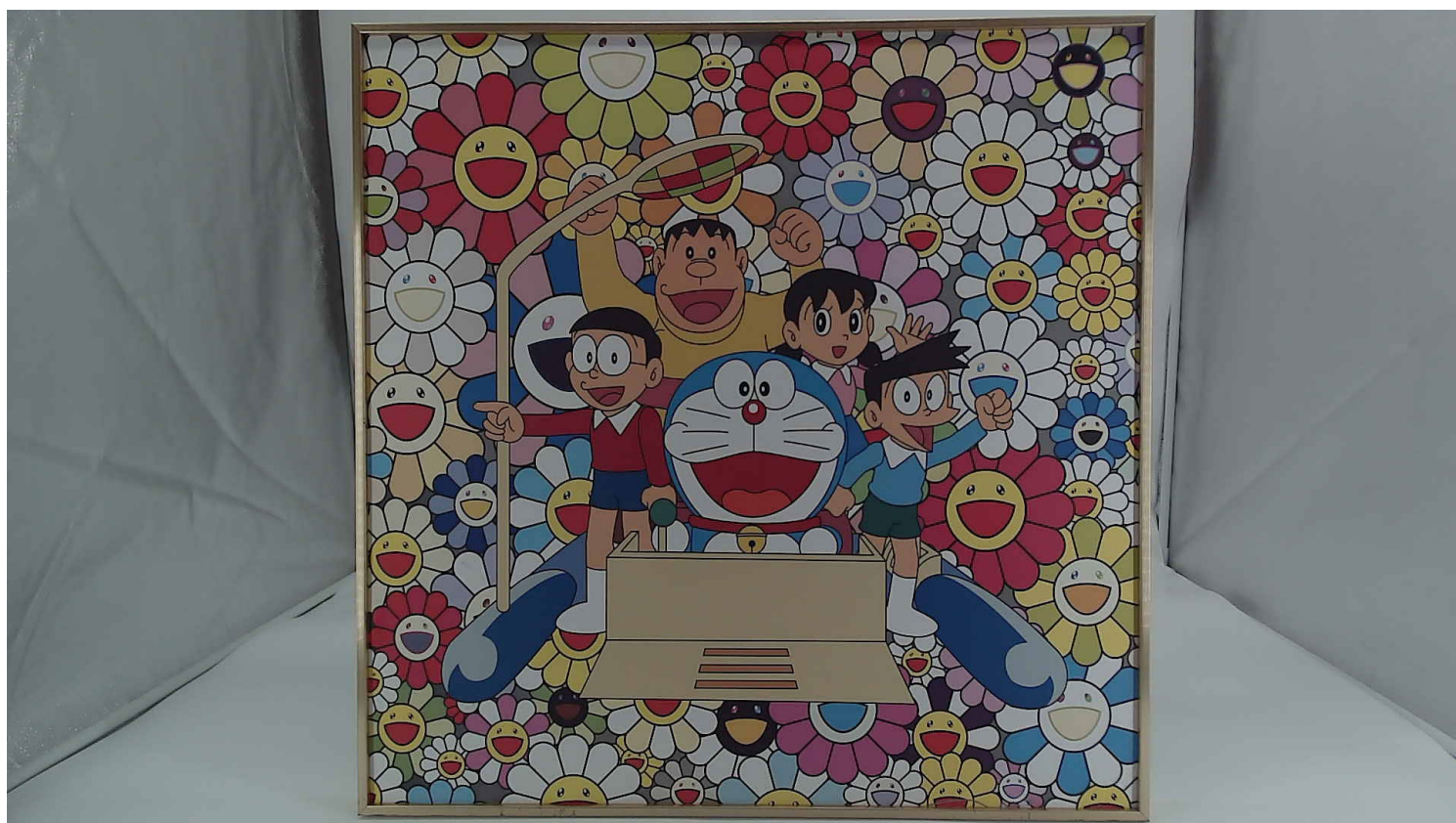
Top View

Side View

Bottom View

USB Cable

YDS CAMERA MODULE

your best camera partner

YDS-USB-1858 V1
2.3MP OnSemi AR0234 Global Shutter M12 Fixed Focus USB 2.0 Camera Module

FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	30 FPS
MJPG	1280 x 720 (720P)	30 FPS
MJPG	1920 x 1080 (1080P)	50 FPS
YUV2	640 x 480 (VGA)	30 FPS
YUV2	1280 x 720 (720P)	10 FPS
YUV2	1920 x 1080 (1080P)	5 FPS
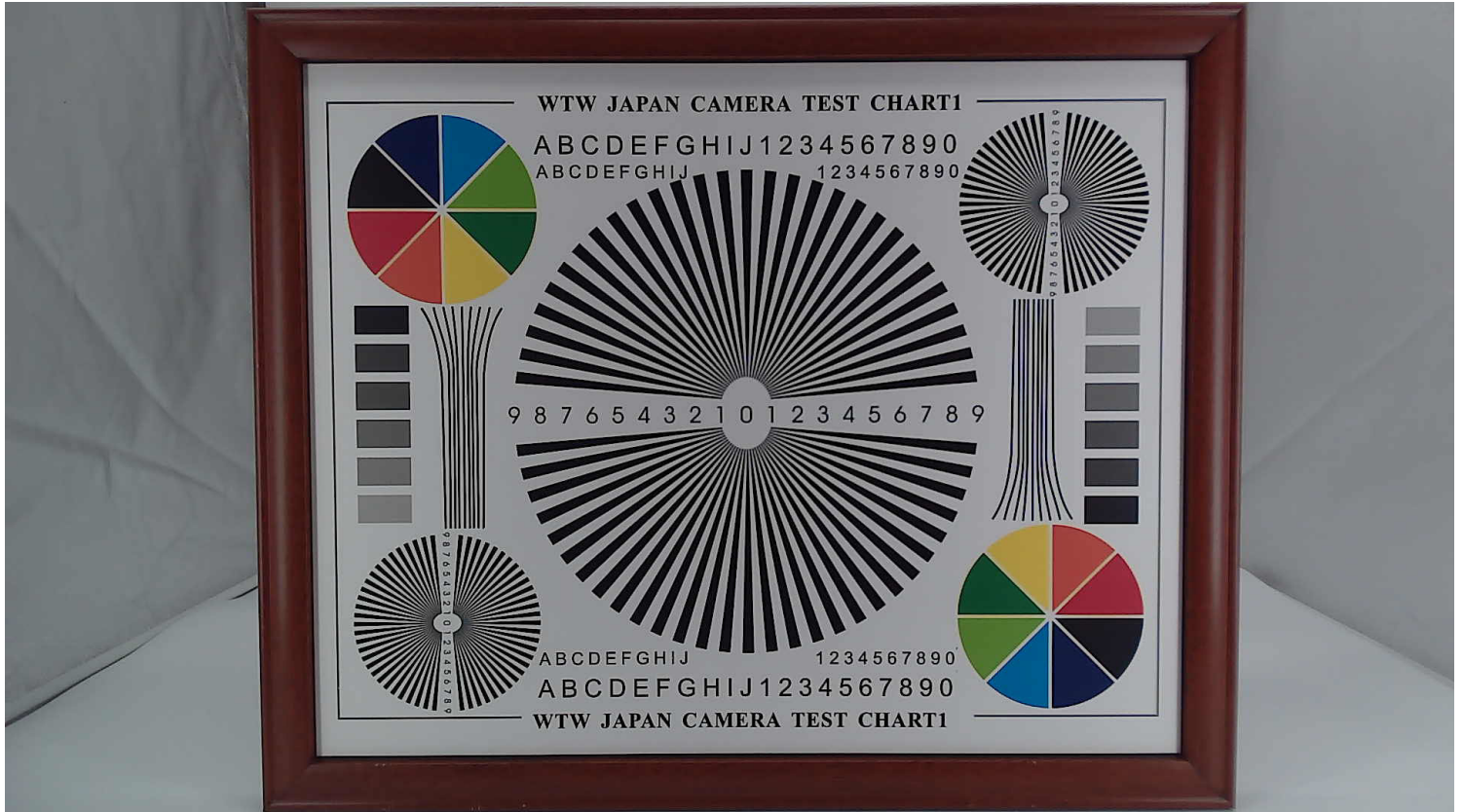
WTW JAPAN CAMERA TEST CHART1

ABCDEFGHIJ1234567890
ABCDEFGHIJ   1234567890

9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9

ABCDEFGHIJ   1234567890
ABCDEFGHIJ1234567890

WTW JAPAN CAMERA TEST CHART1

REV	DESCRIPTION	DESIGN	CHANGE	DATE
A0	The new version is released			2022/05/11

TOP VIEW

20

32±0.2

28

28

32±0.2

SIDE VIEW

1.2±0.05

Φ14 0.0 -0.1

22±0.5

BOTTOM VIEW

PH1.25 2PIN
top entry type

OUT1	OUT2
PIN1	PIN2

Φ1.8

1 2

PH1.25 3PIN
top entry type

DGND	CDS_IN	5V
PIN1	PIN2	PIN3

Φ2

1 3

1 4

PH1.25 4PIN
top entry type

USB5V	DM	DP	DGND
PIN1	PIN2	PIN3	PIN4
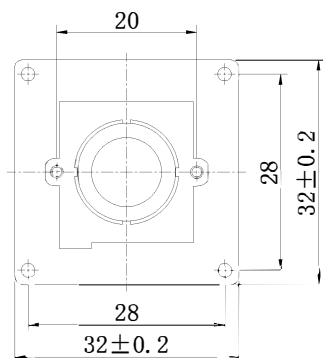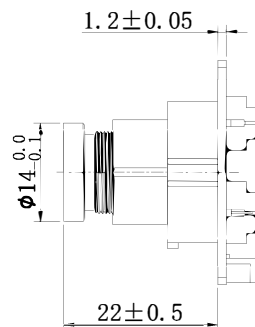
Lens parameter	4G		
焦距(EFL)	2.6	像素(Array Size)	AR0234
光圈(F.NO)	2.4	镜头类型(Lens Size)	14mm
视场角(View Angle)	D125°,H91°,V56°	模拟电路电压(AVDD)	/
畸变(Distortion)	< 13%	接口电路电压(DOVDD)	/
感光芯片(Chip Type)	1/4''	数字电路电压(DVDD)	/

UNSPECIFIED TOL.

.XXX ± 0.005

.XX ± 0.035

.X ± 0.1

∠ ± 0.5°

	SIGNATURE	DATE			
DWN. BY					
CHK. BY			PART NAME	USB-1858 V1	
APP. BY			DWG NO		
MATERIAL		SCALE	UNIT	SHEET	SIZE	PART NO.
TREATMENT		1:1	mm	1/1	A4	/

AR0234CS

1/2.6-inch 2.3 Mp CMOS Digital Image Sensor with Global Shutter

Product Overview

For complete documentation, see the data sheet.

The AR0234CS is a 1/2.6-inch 2Mp CMOS digital image sensor with an active-pixel array of 1920 (H) x 1200 (V). It incorporates a new innovative global shutter pixel design optimized for accurate and fast capture of moving scenes at 120 frame per second, full resolution. The sensor produces clear, low noise images in both low-light and bright scenes. It includes sophisticated camera functions such as auto exposure control, windowing, row skip mode, column-skip mode, pixel-binning, and both video and single frame modes. It is programmable through a simple two-wire serial interface. The AR0234CS produces extraordinarily clear, sharp digital pictures with an industry leading Global Shutter Efficiency, and its ability to capture both continuous video and single frames makes it the perfect choice for a wide range of applications, including scanning, autonomous mobility, surveillance and industrial quality control.

Features

- Best in Class Global Shutter Efficiency
- Low Dark Current/Hot Pixels

- High Linear Full Well
- Low Operational Power
- Small Form Factor
- Built-In Statistics Engine

- Multiple Functional Modes - Row & Col Skip Modes, Pixel Binning

Benefits

- Superior Image Quality for fast-moving objects
- Reduced Total Noise Floor, Higher SNR delivering High Image Fidelity
- High Dynamic Range, delivers higher image clarity
- Suitable of Battery Powered Applications
- Ideal for Space Constrained Applications
- Offloads Image Processor Loads, provides scene details with Prog. ROI
- Application-specific Image Quality Selections with Performance/Power Trade-offs

Applications

- Gesture recognition
- 3D scanning
- Position tracking
- Machine vision
- AR/VR/MR/XR

End Products

- Autonomous Mobile Robots
- Autonomous Guide Vehicles (Drones)
- Video Doorbells
- AR/VR/MR Headsets
- Barcode Readers

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
AR0234CSSC00SUD20		Pb H	NEW	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	
AR0234CSSC00SUKA0-CP		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSC00SUKA0-CP1		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSC00SUKA0-CR		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSC28SUD20		Pb H	NEW	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	
AR0234CSSC28SUKA0-CP		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSC28SUKA0-CP1		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSC28SUKA0-CR		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Color	ODCSP-83
AR0234CSSM00SUD20		Pb H	NEW	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	
AR0234CSSM00SUKA0-CP		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83
AR0234CSSM00SUKA0-CP1		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83
AR0234CSSM00SUKA0-CR		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83
AR0234CSSM28SUD20		Pb H	NEW	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	
AR0234CSSM28SUKA0-CP		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83
AR0234CSSM28SUKA0-CP1		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83
AR0234CSSM28SUKA0-CR		Pb H	Active	CMOS	2.3	120	1/2.6 inch	Global Shutter	3.0 x 3.0		Mono	ODCSP-83

Cameras Applications

Automotive Driver Pilot

Live Streaming

Video Conference

Eye Tracker Biometric Detection
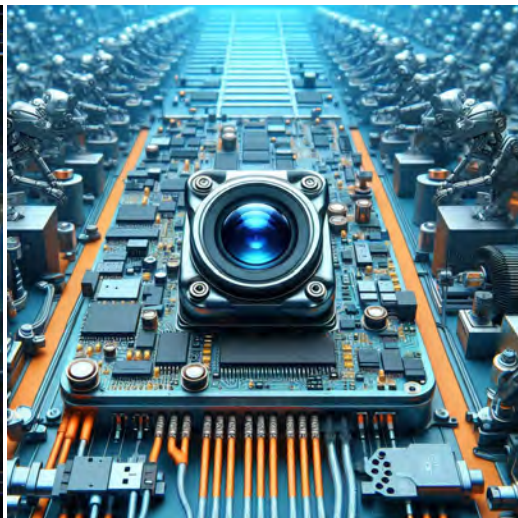
Machine Vision

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 Aptina Himax GalaxyCore PixArt SmartSens Sensors	
Pin Signal	**Description**
DGND GND	ground for digital circuit
AGND	ground for analog circuit
PCLK DCK	DVP PCLK output
XCLR PWDN XSHUTDOWN STANDBY	power down active high with internal pull-down resistor
MCLK XVCLK XCLK INCK	system input clock
RESET RST	reset active low with internal pull-up resistor
NC NULL	no connect
SDA SIO_D SIOD	SCCB data
SCL SIO_C SIOC	SCCB input clock
VSYNC XVS FSYNC	DVP VSYNC output
HREF XHS	DVP HREF output
DOVDD	power for I/O circuit
AFVDD	power for VCM circuit
AVDD	power for analog circuit
DVDD	power for digital circuit
STROBE FSTROBE	strobe output
FSIN	synchronize the VSYNC signal from the other sensor
SID	SCCB last bit ID input
ILPWM	mechanical shutter output indicator
FREX	frame exposure / mechanical shutter
GPIO	general purpose inputs
SLASEL	I2C slave address select
AFEN	CEN chip enable active high on VCM driver IC
MIPI Interface	
MDN0 DN0 MD0N DATA_N DMO1N	MIPI 1st data lane negative output
MDP0 DP0 MD0P DATA_P DMO1P	MIPI 1st data lane positive output
MDN1 DN1 MD1N DATA2_N DMO2N	MIPI 2nd data lane negative output
MDP1 DP1 MD1P DATA2_P DMO2P	MIPI 2nd data lane positive output
MDN2 DN2 MD2N DATA3_N DMO3N	MIPI 3rd data lane negative output
MDP2 DP2 MD2P DATA3_P DMO3P	MIPI 3rd data lane positive output
MDN3 DN3 MD3N DATA4_N DMO4N	MIPI 4th data lane negative output
MDP3 DP3 MD3P DATA4_P DMO4P	MIPI 4th data lane positive output
MCN CLKN CLK_N DCKN	MIPI clock negative output
MCP CLKP MCP CLK_P DCKN	MIPI clock positive output
DVP Parallel Interface	
D0 DO0 Y0	DVP data output port 0
D1 DO1 Y1	DVP data output port 1
D2 DO2 Y2	DVP data output port 2
D3 DO3 Y3	DVP data output port 3
D4 DO4 Y4	DVP data output port 4
D5 DO5 Y5	DVP data output port 5
D6 DO6 Y6	DVP data output port 6
D7 DO7 Y7	DVP data output port 7
D8 DO8 Y8	DVP data output port 8
D9 DO9 Y9	DVP data output port 9
D10 DO10 Y10	DVP data output port 10
D11 DO11 Y11	DVP data output port 11

Camera Reliability Test

| Reliability Inspection Item		Testing Method	Acceptance Criteria
Category	Item		
Environmental	Storage Temperature — High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Storage Temperature — Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature — High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature — 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
	Drop Test (Free Falling) — With Package 60cm	10 Times on Wood Floor	Electrically Functional
	Vibration Test — 50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
	Vibration Test — 50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
	Vibration Test — 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
	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 Connector — On/Off 250 Times	Plug and Unplug	Electrically Functional

YDS CAMERA MODULE

your best camera partner

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
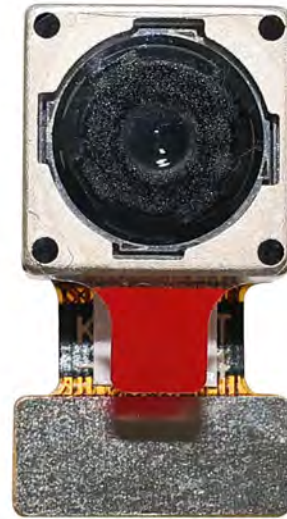
Tray with Grid and Space

Place Cameras on the Tray
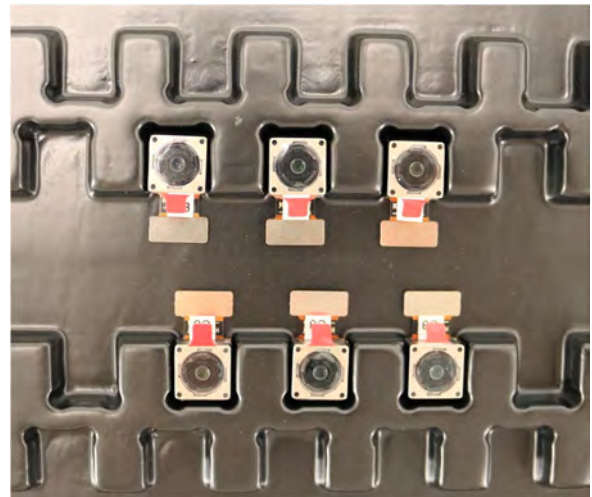
YDSCAM Package Solutions

Full Tray of Cameras

Cover Tray with Lid

Place Tray into Anti-Static Bag

Vacuum the Anti-Static Bag

www.YDSCAM.com   sales@ydscam.com   Phone (WeChat, QQ): (+86) 177 2732 6718

YDSCAM Package Solutions

Sealed Vacuum Anti-Static Bag with Labels

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

YDS CAMERA

YDS Model No.

YDS-MAA12-IMX586 V1.0

IMX586, MIPI Interface
Auto Focus, 79.4 Degree

www.ydscam.com MADE IN CHINA

YDS CAMERA

Tray 1 of 1
100 PIECES

Production Date
20 August 2022

Date Code
2234 (Week 34, 2022)

www.ydscam.com MADE IN CHINA

CAUTION
STATIC SENSITIVE
DEVICES

NOT TO BE HANDLED
BY UNAUTHORISED
PERSONNEL

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

your best camera partner

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

YDS CAMERA

YDS Model No.

YDS-MAA12-IMX586 V1.0

IMX586, MIPI Interface

Auto Focus, 79.4 Degree

www.ydscam.com MADE IN CHINA

CAUTION
STATIC SENSITIVE DEVICES
NOT TO BE HANDLED
BY UNAUTHORISED
PERSONNEL

YDS CAMERA

OK-10F030-04

Mating Connector for

YDS-MAA12-IMX586 V1.0

10 PIECES

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CAUTION
STATIC SENSITIVE DEVICES
NOT TO BE HANDLED
BY UNAUTHORISED
PERSONNEL

Place Samples into the Carbon Box

Place Connectors into the Carbon Box

Package:
1 of 1

fragile HANDLE WITH CARE

Package:
1 of 1

fragile

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.

USB camera module
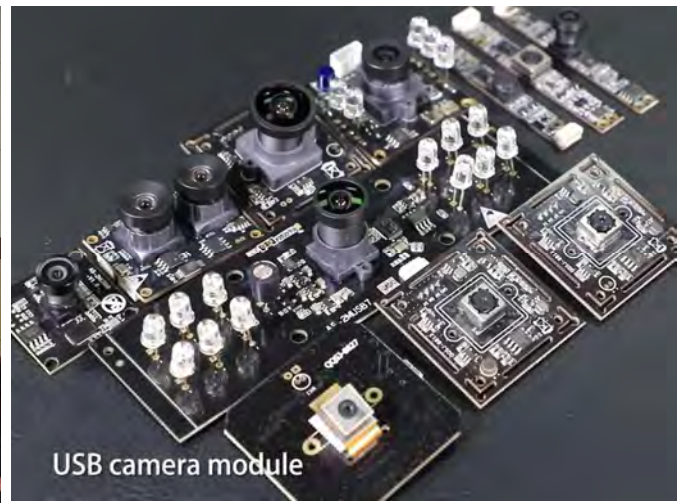
Limited Warranty

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.

YDS Strength

Powerful Factory

Professional Service

Promised Delivery