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### YDS-M7MF-OV4689 V1.0

4MP OmniVision OV4689 MIPI Interface Fisheye M12 Fixed Focus Camera Module



Front View



**Back View** 

#### **Specifications**

| Camera Module No.        | YDS-M7MF-OV4689 V1.0                   |  |
|--------------------------|--|--|
| Resolution               | 4MP                                    |  |
| Image Sensor             | OV4689                                 |  |
| Sensor Type              | 1/3"                                   |  |
| Pixel Size               | 2.0 um x 2.0 um                        |  |
| EFL                      | 1.82 mm                                |  |
| F.NO                     | 2.00                                   |  |
| Pixel                    | 2688 x 1520                            |  |
| View Angle               | 210.0°(DFOV) 180.0°(HFOV) 180.0°(VFOV) |  |
| Lens Dimensions          | 17.00 x 17.00 x 21.82 mm               |  |
| Module Size              | 50.00 x 22.00 mm                       |  |
| Module Type              | Fixed Focus with Fisheye Lens          |  |
| Interface                | MIPI                                   |  |
| Auto Focus VCM Driver IC | None                                   |  |
| Lens Model               | YDS-LENS-PH6010A                       |  |
| Lens Type                | 650nm IR Cut                           |  |
| Operating Temperature    | -30°C to +85°C                         |  |
| Mating Connector         | AXT524124                              |  |

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### YDS-M7MF-OV4689 V1.0

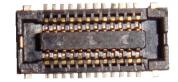
4MP OmniVision OV4689 MIPI Interface Fisheye M12 Fixed Focus Camera Module



**Top View** 

Side View

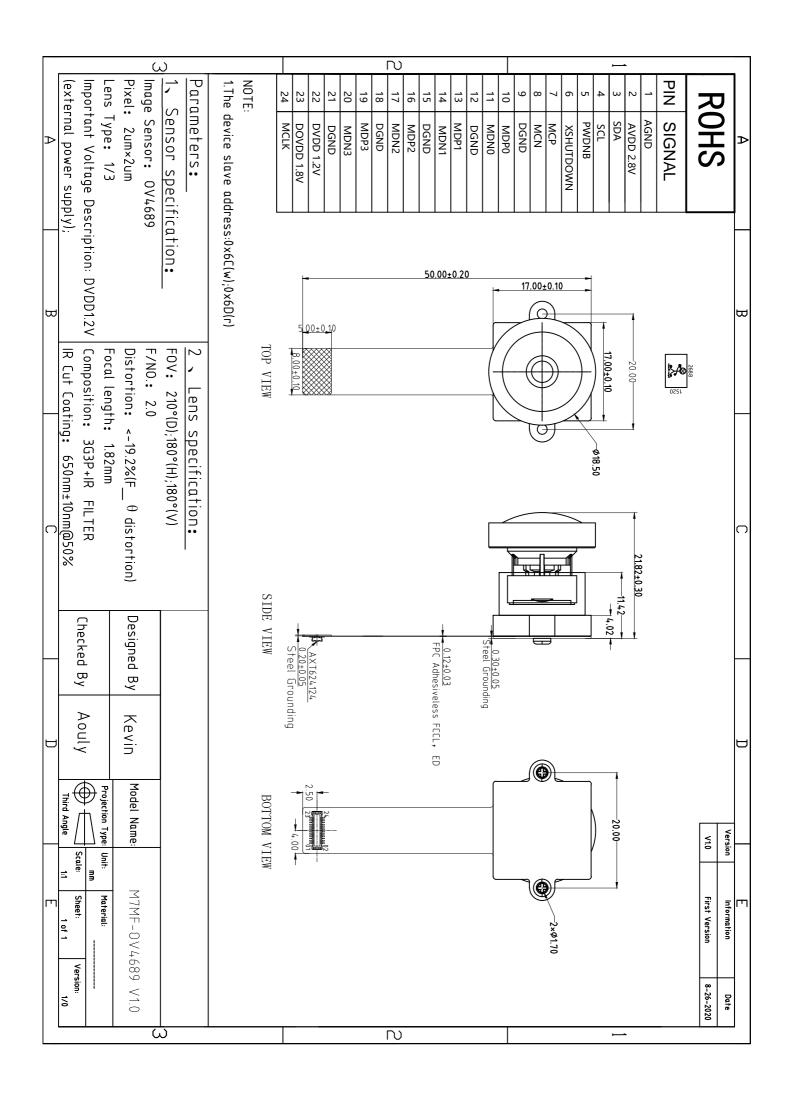


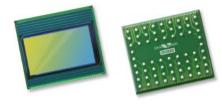


**Bottom View** 

Mating Connector

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# OV4689 4MP product brief





## High Frame Rate 4-Megapixel CameraChip<sup>™</sup> Sensor with Excellent Low-Light Sensitivity and High Dynamic Range for Security Applications

The OV4689 is a high performance 4-megapixel CameraChip sensor in a native 16:9 format designed for next-generation surveillance and security systems. The sensor utilizes an advanced 2-micron OmniBSI<sup>™</sup>-2 pixel to provide best-in-class low-light sensitivity and high dynamic range (HDR).

The 1/3-inch OV4689 can capture full-resolution 4-megapixel high definition (HD) video at 90 frames per second (fps), 1080p HD at 120 fps, and binned 720p HD at 180 fps. The sensor's high frame rates enable crisp, clean image and video capture of fast moving objects.

The OV4689 provides timing to capture full-resolution HDR using frame-based "sequential HDR" or line-based "staggered HDR", and quarter resolution HDR using

"alternate row HDR". The benefits of using "staggered HDR" compared to "sequential HDR" are significant reduction in motion artifacts and lower memory requirement for host processing. These modes produce high quality full-resolution 4-megapixel HDR video under extreme variations of bright and dark conditions, ensuring high contrast and excellent scene reproduction.

The OV4689 features a high-speed 4-lane MIPI serial output interface to facilitate the required high data transfer rate. The OV4689 is available in a chip scale package (CSP).

Find out more at www.ovt.com.





#### Applications

- IP Cameras
- Sports Cameras
- Home Monitoring
  - Security Cameras

### Product Features

- automatic black level calibration (ABLC) fast mode switching
- programmable controls for: frame rate - mirror and flip - cropping - windowing
- static defective pixel canceling
- supports output formats: 10-bit RAW RGB (MIPI)
- supports horizontal and vertical subsampling
- supports image sizes:
   4MP
   3MP

  - EIS1080p
  - 1080p EIS720p

- support 2x2 binning, 4x4 binning, re-sampling filter
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- embedded 4K bits one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loops (PLLs)
- programmable I/O drive capability
- built-in temperature sensor

OV04689-H67A (color, lead-free) 67-pin CSP

### **Technical Specifications**

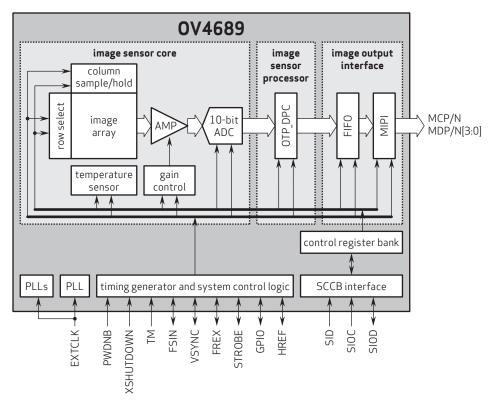
- active array size: 2688 × 1520
- maximum image transfer rate: 2688 x 1520: 90 fps - 1920 x 1080: 120 fps
- -1280 x 720: 180 fps - 672 x 380: 330 fps
- power supply:
  core: 1.1 1.3V
  analog: 2.6 3.0V
  I/O: 1.7 3.0V
- power requirements: - active: 163 mA (261 mW) - standby: 1 mA
- XSHUTDOWN: <10 µA

 temperature range:
 operating: -30°C to +85°C junction temperature - stable image: 0°C to +60°C junction temperature

OV4689

- output formats: 10-bit RAW RGB
- lens size: 1/3"
- lens chief ray angle: 0°
- scan mode: progressive
- pixel size: 2 µm x 2 µm
- image area: 5440 μm x 3072 μm

### Functional Block Diagram



4275 Burton Drive Santa Clara, CA 95054 USA

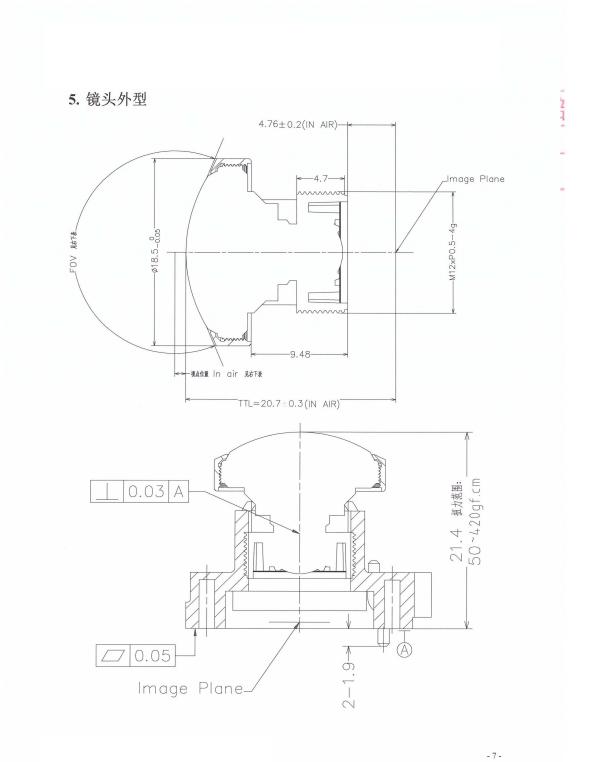
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## YDS-LENS-PH6010A



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# YDS YDS CAMERA MODULE

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7-1.0

- 4 -

## YDS-LENS-PH6010A

| 扁号.  | 项 目                           | 规格                              | 备 注           |
|------|-------------------------------|---------------------------------|---------------|
| 2-1  | 芯片型号 Sensor Type              | For 1/2.8" Sensor               | Min Pixel 2um |
| 2-2  | 焦距(EFL)                       | 1.82mm±5%                       |               |
| 2-3  | 总长 (TTL)                      | 20.7mm±0.3mm                    | In Air        |
| 2-4  | 光学后焦(BFL)                     | 5.26mm±0.2mm                    | In Air        |
| 2-5  | 机械后焦 (FFL)                    | 4.76mm±0.2mm                    | In Air        |
| 2-6  | 光圈(FNO)                       | 2.04±5%                         |               |
|      |                               | 210° (D)                        | H= 2.45mm     |
| 2-7  | 视场角(FOV)                      | 180° (H)                        | H=2.3mm       |
|      |                               | 180° (V)                        | H= 2.3mm      |
| 2-8  | 光学畸变 (Distortion)             | -19.2%(F_θ distortion)          | H=2.3mm       |
| 2-9  | 相对照度 (Relative Illumination.) | 44%                             | H= 2.3mm      |
| 2-10 | 最大主光线夹角(CRA <sub>Max</sub> )  | 13.7°                           | H= 2.3mm      |
| 2-11 | 光谱透过率(SpectralTransmission)   | 436~656nm T≥85%;<br>850nm T≥70% |               |
| 2-12 | 最近物距(MOD)                     | 0.1m                            |               |
| 2-13 | 接口 (Mount)                    | M12*P0.5-6g                     |               |
| 2-14 | 红外功能(IR)                      | YES                             |               |
| 2-15 | 工作温度(WorkingTemperature)      | -30∼70°C                        |               |

#### 2. 光学性能

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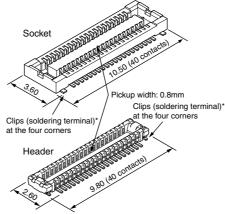




#### NARROW-PITCH, THIN AND SLIM CONNECTOR FOR BOARD-TO-FPC CONNECTION

### FEATURES

1. Space-saving (3.6 mm widthwise) The required space is smaller than our F4 series (40-contact type): Socket — 27% smaller, Header — 38% smaller The small size contributes to the miniaturization of target equipment.



\* Clips for preventing the solder joints from being removed

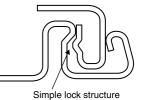
#### 2. Highly reliable **TDLIGH CONTRET** has strong resistance to adverse environments.

(See Page 6 for details of the structure) Note: If extra resistance to shock caused by dropping

is required, we recommend using our previous F4 Series.

## NARROW PITCH (0.4 mm) CONNECTORS F4S SERIES

3. The simple lock structure gives tactile feedback that ensures a superior mating/unmating operation feel.



#### 4. Gull-wing type terminals

The gull-wing type terminals facilitate automatic mounting inspections.

**5.** Connectors for inspection available Connectors for inspection are available that are ideal for modular unit inspection and inspection in device assembly processes.

### **APPLICATIONS**

Compact portable devices "Cellular phones, DVC, Digital cameras, etc"

| Example of Board-to-FPC connections  |  |  |  |  |
|--|--|--|--|--|
| Before mating  | Reinforcing plate<br>Narrow-pitch f (with FPC)<br>connectors F4S |  |  |  |
| After<br>mating  | + 1.0mm  |  |  |  |
| The simple lock mechanism ensures that the<br>connector clicks into position when it is inserted<br>for reliable single-action insertion on the PCB. |  |  |  |  |

### ORDERING INFORMATION

| 5: Narrow Pitch Connector F4S (0.4 mm pitch) Socket<br>6: Narrow Pitch Connector F4S (0.4 mm pitch) Header   | AXT 4    |
|--|----------|
| Number of contacts (2 digits)  |          |
| Mated height<br><socket><br/>1: For mated height 1.0 mm<br/>2: For mated height 1.2 mm<br/><header><br/>1: For mated height 1.0 mm<br/>2: For mated height 1.2 mm</header></socket>                          |          |
| Functions<br><socket, header=""><br/>2: Without positioning bosses</socket,>   |          |
| Surface treatment (Contact portion / Terminal portion)<br><socket><br/>4: Base: Ni plating Surface: Au plating (for Ni barrier av<br/><header><br/>4: Base: Ni plating Surface: Au plating</header></socket> | ailable) |

Note: Please note that models with a mated height of 1.0 mm (7th digit of part number is "1") and 1.2 mm (7th digit of part number is "2") are not compatible.

## AXT5, 6 PRODUCT TYPES TOUGH CONTRET

| Matad baight | Number of contacts | Part number |           | Pac          | king         |
|--------------|--------------------|-------------|-----------|--------------|--------------|
| Mated height | Number of contacts | Socket      | Header    | Inner carton | Outer carton |
|              | 10                 | AXT510124   | AXT610124 |              |              |
|              | 12                 | AXT512124   | AXT612124 |              |              |
|              | 14                 | AXT514124   | AXT614124 |              |              |
|              | 16                 | AXT516124   | AXT616124 |              |              |
|              | 18                 | AXT518124   | AXT618124 |              |              |
|              | 20                 | AXT520124   | AXT620124 |              |              |
|              | 22                 | AXT522124   | AXT622124 |              |              |
|              | 24                 | AXT524124   | AXT624124 |              |              |
|              | 26                 | AXT526124   | AXT626124 |              |              |
|              | 28                 | AXT528124   | AXT628124 |              |              |
|              | 30                 | AXT530124   | AXT630124 |              |              |
|              | 32                 | AXT532124   | AXT632124 |              |              |
| 1.0mm        | 34                 | AXT534124   | AXT634124 |              |              |
| 1.01111      | 36                 | AXT536124   | AXT636124 |              |              |
|              | 38                 | AXT538124   | AXT638124 |              |              |
|              | 40                 | AXT540124   | AXT640124 | 3,000 pieces | 6,000 pieces |
|              | 42                 | AXT542124   | AXT642124 |              |              |
|              | 44                 | AXT544124   | AXT644124 |              |              |
|              | 46                 | AXT546124   | AXT646124 |              |              |
|              | 48                 | AXT548124   | AXT648124 |              |              |
|              | 50                 | AXT550124   | AXT650124 |              |              |
|              | 54                 | AXT554124   | AXT654124 |              |              |
|              | 60                 | AXT560124   | AXT660124 |              |              |
|              | 64                 | AXT564124   | AXT664124 |              |              |
|              | 70                 | AXT570124   | AXT670124 |              |              |
|              | 80                 | AXT580124   | AXT680124 |              |              |
|              | 10                 | AXT510224   | AXT610224 |              |              |
|              | 30                 | AXT530224   | AXT630224 |              |              |
| 1.2mm        | 40                 | AXT540224   | AXT640224 |              |              |
|              | 50                 | AXT550224   | AXT650224 |              |              |
|              | 80                 | AXT580224   | AXT680224 |              |              |

Notes: 1. Order unit: For mass production: in 1-inner-box (1-reel) units

Samples for mounting check: in 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 contacts other than those listed above.

## SPECIFICATIONS

#### 1. Characteristics

|                                  | Item   | Specifications  | Conditions   |
|----------------------------------|--|---|--|
|                                  | Rated current  | 0.3A/contact (Max. 5 A at total contacts)   |  |
|                                  | Rated voltage  | 60V AC/DC   |  |
| Electrical characteristics       | 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.   |
| characteristics                  | 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.  |
|                                  | Composite insertion force                                | Max. 0.981N/contacts × contacts (initial)   |  |
| Vechanical                       | Composite removal force                                  | Min. 0.165N/contacts × contacts   |  |
| characteristics                  | Contact holding force<br>(Socket contact)                | Min. 0.49N/contacts   | Measuring the maximum force.<br>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) | Infrared reflow soldering  |
|                                  |  | 300°C within 5 sec. 350°C within 3 sec.   | Soldering iron   |
|                                  | Storage temperature                                      | -55°C to +85°C (product only)<br>-40°C to +50°C (emboss packing)                                | No freezing at low temperatures. No dew condensation.  |
| Environmental<br>characteristics | Thermal shock resistance<br>(header and socket mated)    | 5 cycles, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$       | Sequence        155. <sup>9</sup> / <sub>2</sub> °C, 30 minutes        2. ~, Max. 5 minutes        3. 85* <sup>3</sup> / <sub>2</sub> °C, 30 minutes        4. ~, Max. 5 minutes |
|                                  | Humidity resistance<br>(header and socket mated)         | 120 hours, insulation resistance min. 100M $\Omega$ , contact resistance max. 90m $\Omega$      | Bath temperature 40±2°C,<br>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,<br>saltwater concentration 5±1%   |
|                                  | H <sub>2</sub> S resistance<br>(header and socket mated) | 48 hours, contact resistance max. $90m\Omega$   | Bath temperature $40\pm2^{\circ}C$ , gas concentration $3\pm1$ ppm, humidity 75 to 80% R.H.  |
| Lifetime<br>characteristics      | Insertion and removal life                               | 50 times  | Repeated insertion and removal speed of max. 200 times/<br>hours   |
| Unit weight                      |  | 20-contact type: Socket: 0.03 g Header: 0.01 g  |  |

#### 2. Material and surface treatment

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

## AXT5, 6

#### **DIMENSIONS** (Unit: mm) The CAD data of the products with a CAD Data mark can be downloaded from: http://panasonic-electric-works.net/ac Socket (Mated height: 1.0 mm and 1.2 mm) table (mm)

1.2mm

1.17

0.83

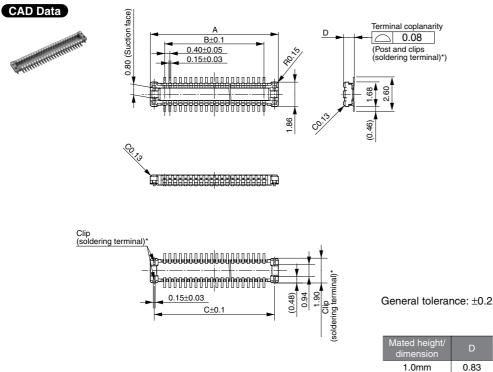
1.01

1.2mm

| ······                 | Dimension table (m                 |
|------------------------|------------------------------------|
| CAD Data               | 8 Number of contacts/<br>dimension |
|                        | 28                                 |
|                        | 30                                 |
|                        | 32                                 |
| L <del></del>          | 34                                 |
|                        | 36                                 |
|                        | 38                                 |
| Y note                 | 40                                 |
|                        | 42                                 |
|                        | 44                                 |
|                        | 46                                 |
|                        | e: ±0.2 48                         |
|                        | 50                                 |
|                        | 54                                 |
| A CTU. I Mated height/ | D 60                               |
| dimension              | 64                                 |
| 1.0mm 0                | 0.97 70                            |

Note: Since the clip (soldering terminal)\* has a single-piece construction, sections Y and Z are electrically connected.

#### Header (Mated height: 1.0 mm and 1.2 mm)



#### Dimension table (mm)

80

| Number of contacts/<br>dimension | А    | В    | С    |
|----------------------------------|------|------|------|
| 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  |
| 42                               | 10.2 | 8.0  | 9.6  |
| 44                               | 10.6 | 8.4  | 10.0 |
| 46                               | 11.0 | 8.8  | 10.4 |
| 48                               | 11.4 | 9.2  | 10.8 |
| 50                               | 11.8 | 9.6  | 11.2 |
| 54                               | 12.6 | 10.4 | 12.0 |
| 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 |

4.5

4.9

5.3

5.7

6.1

6.5

6.9

7.3

77

8.1

8.5

8.9

9.3

9.7

10.1

10.5

10.9

11.3

11.7

12.1

12.5

13.3

14.5

15.3

16.5

18.5

1.6

2.0

2.4

2.8

3.2

3.6

4.0

4.4

4.8

5.2

5.6

6.0

6.4

6.8

7.2

7.6

8.0

8.4

8.8

9.2

9.6

10.4

11.6

12.4

13.6

15.6

3.4

3.8

4.2

4.6

5.0

5.4

5.8

6.2

6.6

7.0

7.4

7.8

8.2

8.6

9.0

9.4

9.8

10.2

10.6

11.0

11.4

12.2

13.4

14.2

15.4

17.4

#### · Socket and Header are mated





Mated height: 1.0 mm

Mated height: 1.2 mm



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#### **Camera Module Pinout Definition Reference Chart**

| OmniVision Sony Samsung On-Semi Ap | 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 2                                  |
| D4 D04 Y4                          | DVP data output port 3                                  |
| 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 7                                  |
| D9 D09 Y9                          | DVP data output port 9                                  |
| D10 D010 Y10                       | DVP data output port 9<br>DVP data output port 10       |
| D11 D011 Y11                       | DVP data output port 10<br>DVP data output port 11      |
|                                    | עשר שמומ שעוףטו דיו                                     |

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#### **Cameras Applications**

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#### **Camera Reliability Test**

| Reliability Inspection Item |  |  | Testing Mathed          | Acceptance Criteria     |  |
|-----------------------------|--|--|-------------------------|-------------------------|--|
| Category                    |  | 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   |  |
|                             | High 60°C 0.5 HoursThermal ShockLow -20°C 0.5 HoursCycling 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 |  |
| Filysical                   |  | 50Hz Z-Axis 2mm 30min                                    | Vibration Table         | Electrically Functional |  |
|                             | Cable Tensile<br>Strength Test   | Loading Weight 4 kg<br>60 Seconds<br>Cycling in 24 Hours | Tensile Testing Machine | Electrically Functional |  |
|                             |  | 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<br>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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| Inspection Item |          | 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) |  |
|                 |          | 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           |  |
|                 | 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.                    |  |
|                 |          | 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                |  |
| 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



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## **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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