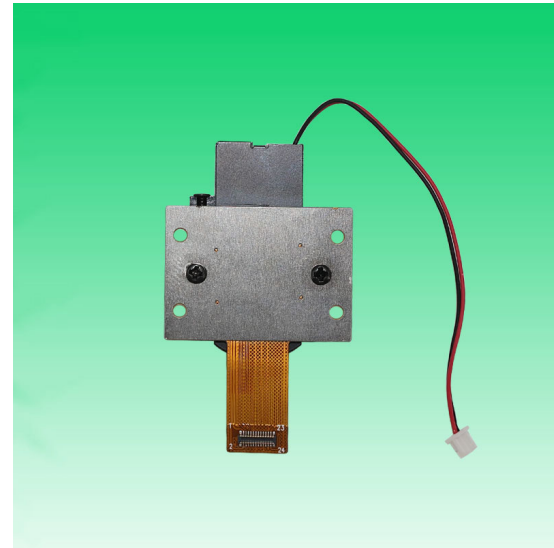
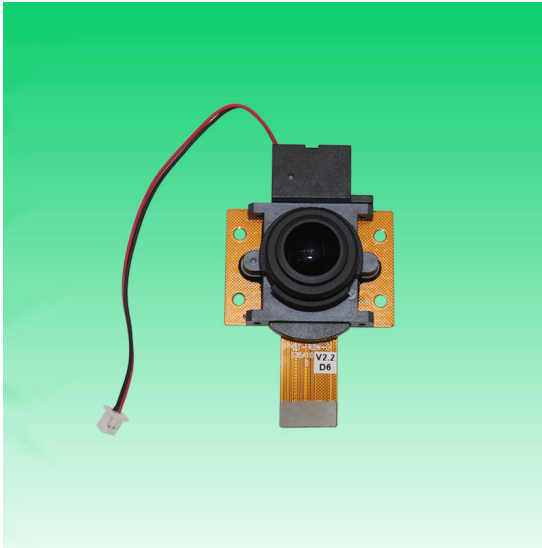


**KLT-IRSW-OS05A10 V2.2**

**Modulo telecamera a fuoco fisso M12 OmniVision OS05A10 5MP  
con interruttore IR e interfaccia MIPI**



|                                                  |                                            |
|--------------------------------------------------|--------------------------------------------|
| <b>Modulo telecamera n.</b>                      | <b>KLT-IRSW-OS05A10 V2.2</b>               |
| <b>Risoluzione</b>                               | 5MP                                        |
| <b>Sensore d'immagine</b>                        | OS05A10                                    |
| <b>Tipo di sensore</b>                           | 1/2.7"                                     |
| <b>Dimensione pixel</b>                          | 2.0 um x 2.0 um                            |
| <b>EFL</b>                                       | 1.95 mm                                    |
| <b>F.NO</b>                                      | 2.20                                       |
| <b>Pixel</b>                                     | 2688 x 1944                                |
| <b>Vista ad angolo</b>                           | 180.0°(DFOV) 171.5°(HFOV) 118.0°(VFOV)     |
| <b>Dimensioni dell'obiettivo</b>                 | 22.20 x 21.50 x 12.96 mm                   |
| <b>Dimensioni del modulo</b>                     | 50.00 x 30.00 mm                           |
| <b>Tipo di modulo</b>                            | Messa a fuoco fissa                        |
| <b>Tensione di ingresso dell'interruttore IR</b> | 3.3V - 5.5V                                |
| <b>Frequenza IR del filtro dell'obiettivo</b>    | 645nm +/- 15nm                             |
| <b>Frequenza AR del filtro dell'obiettivo</b>    | 700nm - 1,000nm                            |
| <b>Funzionamento (IR giorno)</b>                 | Linea rossa: negativa Linea nera: positiva |
| <b>Funzionamento (di notte)</b>                  | Linea rossa: positiva Linea nera: negativa |
| <b>Connettore interruttore IR</b>                | 962-10231-030005 (2 perni)                 |
| <b>Interfaccia</b>                               | MIPI                                       |
| <b>temperatura di esercizio</b>                  | -30°C to +85°C                             |
| <b>Connettore di accoppiamento</b>               | WP7A-S024VA1                               |

**KLT-IRSW-OS05A10 V2.2**

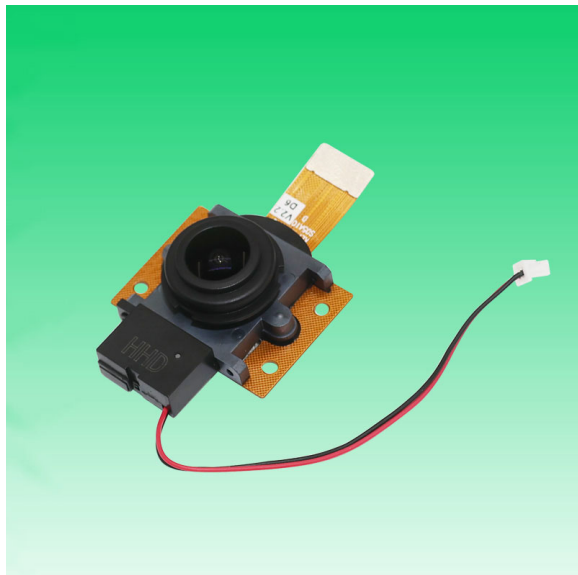
**Modulo telecamera a fuoco fisso M12 OmniVision OS05A10 5MP  
con interruttore IR e interfaccia MIPI**



Vista dall'alto



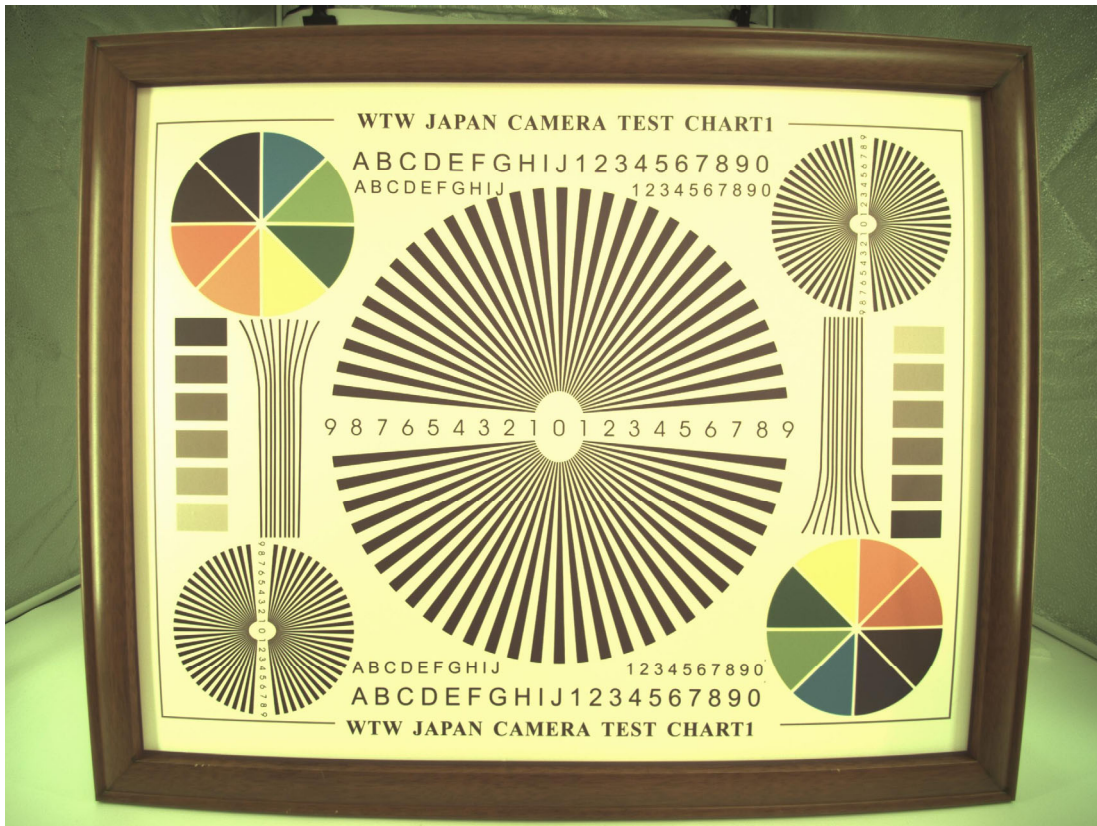
Vista laterale

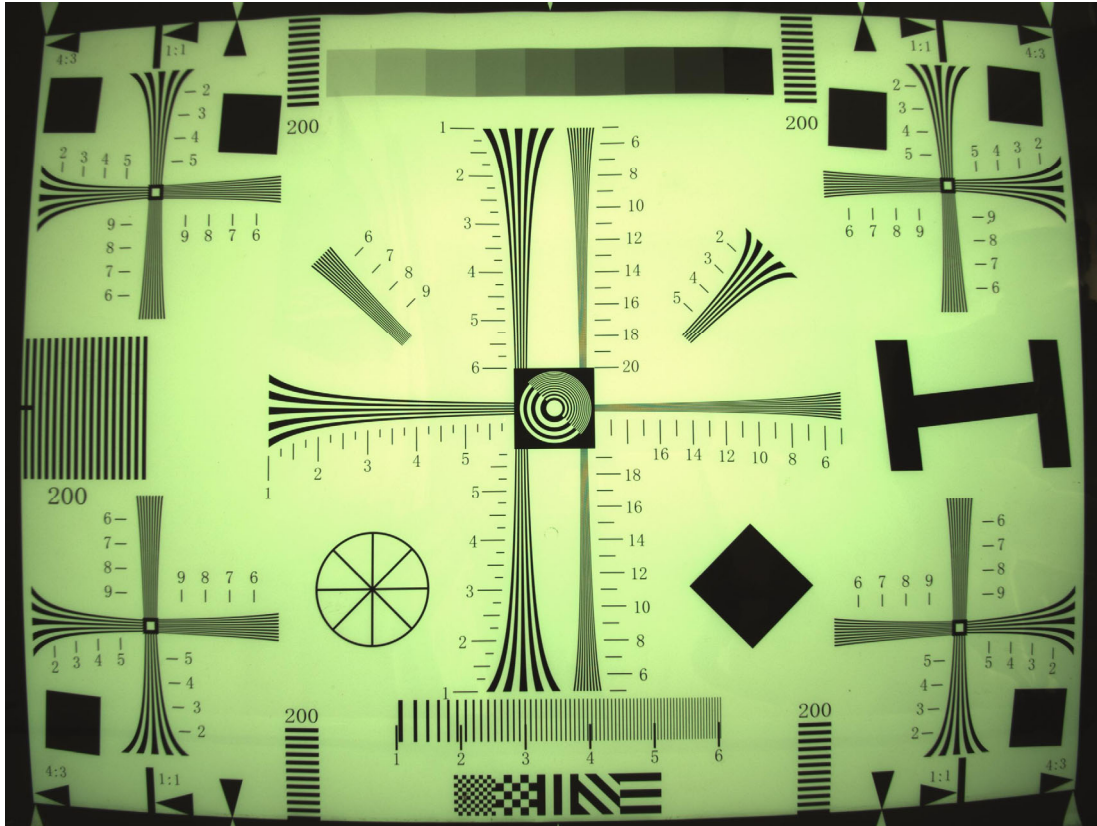


Vista dal basso



Connettore di accoppiamento





# RoHS

PIN SIGNAL

|    |             |
|----|-------------|
| 1  | AGND        |
| 2  | AVDD2.8V    |
| 3  | SDA         |
| 4  | SCL         |
| 5  | PWDN        |
| 6  | RST/XSHUNDN |
| 7  | MCP         |
| 8  | MCN         |
| 9  | DGND        |
| 10 | MDP0        |
| 11 | MDN0        |
| 12 | DGND        |
| 13 | MDP1        |
| 14 | MDN1        |
| 15 | DGND        |
| 16 | MDP2        |
| 17 | MDN2        |
| 18 | DGND        |
| 19 | MDP3        |
| 20 | MDN3        |
| 21 | DGND        |
| 22 | DVDD1.2V    |
| 23 | DOVDD1.8V   |
| 24 | MCLK        |

Parameter:

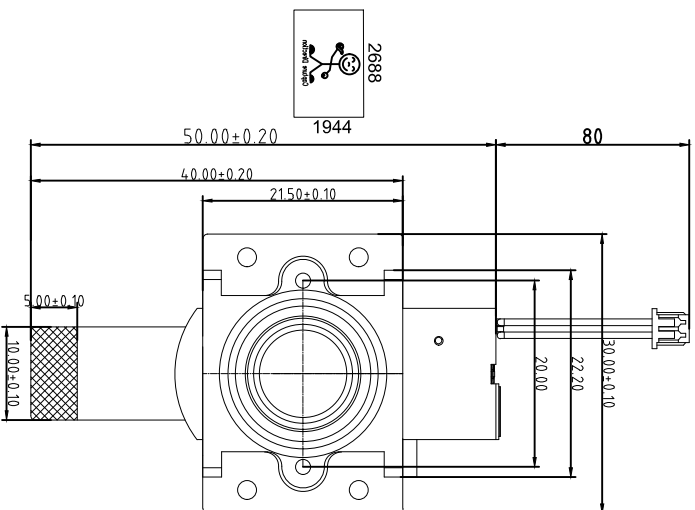
1、Sensor specification:

Image Sensor: OS05A10  
Pixel: 2um×2um  
Lens Type: 1/2.7  
Important Voltage Description: DVDD1.2V  
(external power supply);

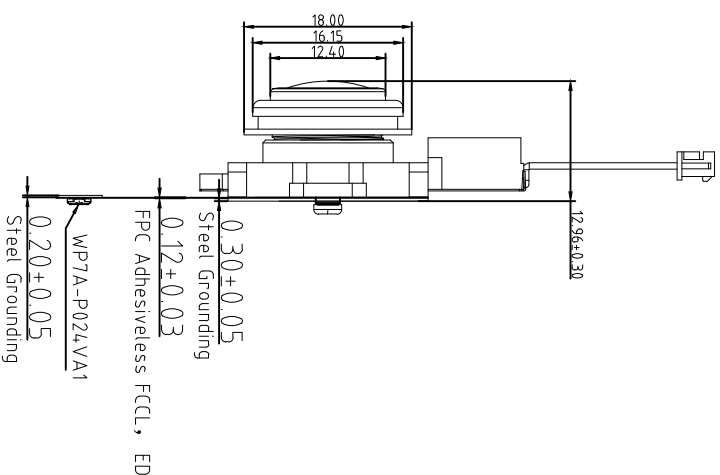
2、Lens specification:

FOV: 180°(D),171.5°(H),118°(V)  
F/NO.: 2.2  
OP distortion: <-9%  
Focal length: 1.95mm  
Composition: 6G+IR Switch

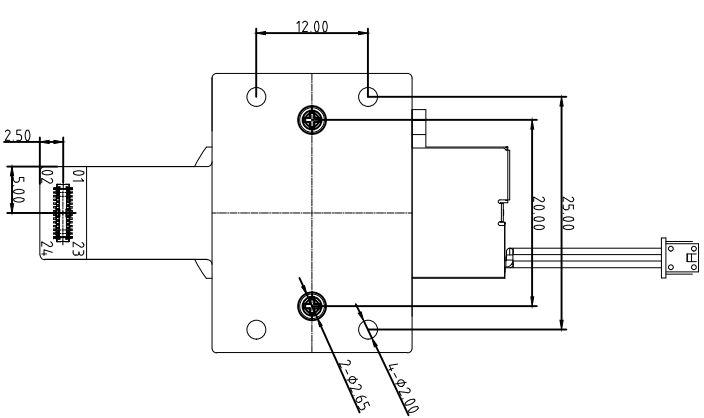
TOP VIEW



SIDE VIEW



BOTTOM VIEW



NOTE:

1.The device slave  
address:0x6C(w),0x6D(r)

| Version | Information                | Date       |
|---------|----------------------------|------------|
| V1.0    | First Version              | 09-09-2019 |
| V2.0    | Change screw holes and ICR | 11-01-2019 |
| V2.2    | Change ICR                 | 6-21-2023  |

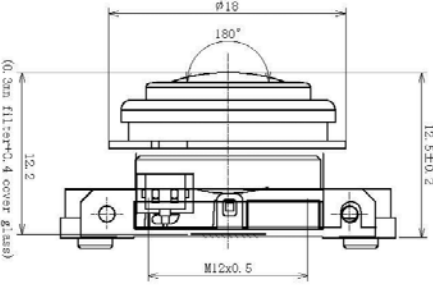
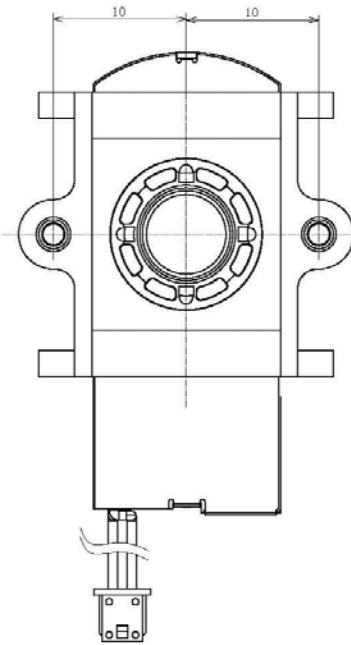
Kai Lap Technologies Group Ltd

|             |       |                  |                       |
|-------------|-------|------------------|-----------------------|
| Designed By | Kevin | Model Name:      | KLT-IRSW-OS05A10 V2.2 |
| Checked By  | Aouly | Projection Type: | Unit: mm              |
|             |       | Third Angle      | Scale: 1:1            |
|             |       | Material:        | Sheet: 1 of 1         |
|             |       | Version:         | 1/0                   |

Lens Model: KLT-LENS-E3335C

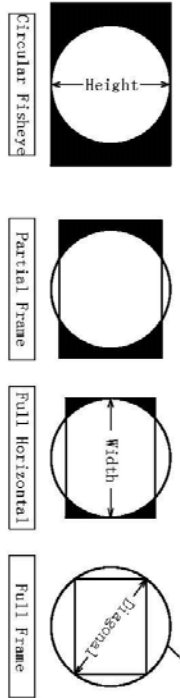
| SPECIFICATION SHEET      |  |                                        |  |  |  |  |  |  |  |
|--------------------------|--|----------------------------------------|--|--|--|--|--|--|--|
| Model No. 型号             |  |                                        |  |  |  |  |  |  |  |
| Material No. 物料号         |  | 1                                      |  |  |  |  |  |  |  |
| 传感器规格 Sensor Spec        |  | CCD/CMOS                               |  |  |  |  |  |  |  |
| 最大像面<br>Max Image Circle |  | Ø5.6mm                                 |  |  |  |  |  |  |  |
| EFL 有效焦距                 |  | 1.95mm                                 |  |  |  |  |  |  |  |
| F.No. F 值                |  | F2.2                                   |  |  |  |  |  |  |  |
|                          |  | OS05A20                                |  |  |  |  |  |  |  |
| F.O.V. 视场角               |  | D 对角 180°(5.57mm)                      |  |  |  |  |  |  |  |
|                          |  | H 水平 171.5°(5.376mm)                   |  |  |  |  |  |  |  |
|                          |  | V 垂直 118°(3.888mm)                     |  |  |  |  |  |  |  |
| Back Focal Length        |  | 3.07mm (0.3mm filter +0.4 cover glass) |  |  |  |  |  |  |  |
| Lens Effective Diameter  |  | Ø9.4mm                                 |  |  |  |  |  |  |  |
| 通光口径                     |  | Ø6mm                                   |  |  |  |  |  |  |  |
| Lens construction        |  | 6-5(A5G)                               |  |  |  |  |  |  |  |
| OP Distortion            |  | -3%                                    |  |  |  |  |  |  |  |
| Resolution 分辨率           |  | Mega pixel                             |  |  |  |  |  |  |  |
| Relative Illumination    |  | >40%                                   |  |  |  |  |  |  |  |
| Iris 光圈                  |  | Fixed                                  |  |  |  |  |  |  |  |
| Max Chief Ray Angle      |  | 15.6±3°                                |  |  |  |  |  |  |  |
| M.O.D 最近物距               |  | 0.1m                                   |  |  |  |  |  |  |  |
| Working Distance         |  | ∞                                      |  |  |  |  |  |  |  |
| Mount 接口                 |  | M12X0.5                                |  |  |  |  |  |  |  |
| TTL 光学总长                 |  | 12.2mm (0.3mm filter +0.4 cover glass) |  |  |  |  |  |  |  |
| Dimension (ØxL)          |  | Ø18x12.5                               |  |  |  |  |  |  |  |
| 外形尺寸                     |  |                                        |  |  |  |  |  |  |  |
| Filter Spec              |  |                                        |  |  |  |  |  |  |  |
| 滤光片规格                    |  |                                        |  |  |  |  |  |  |  |

**Image Circle vs. Sensor Format**



Circular Fisheye

Partial Frame

Full Horizontal

Full Frame

Image Circle

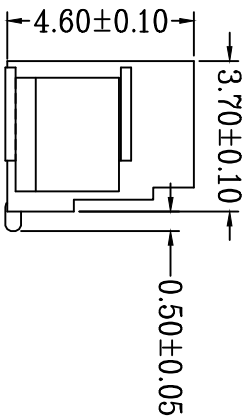
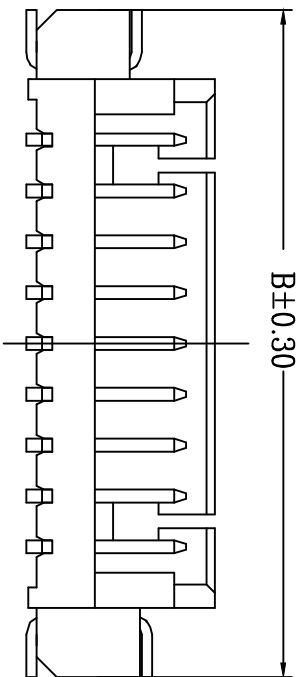
| REV. NO. | DATE      | DESCRIPTION | REVISED | APPR. | APPR. | NAME | DATE |
|----------|-----------|-------------|---------|-------|-------|------|------|
| 00       | 2019.6.30 | 新模作成        | H.L.Q.  | X.L.  | AUD.  |      |      |

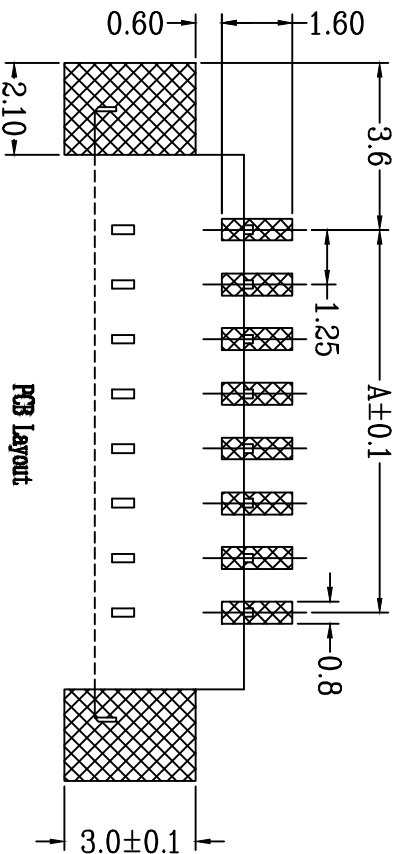
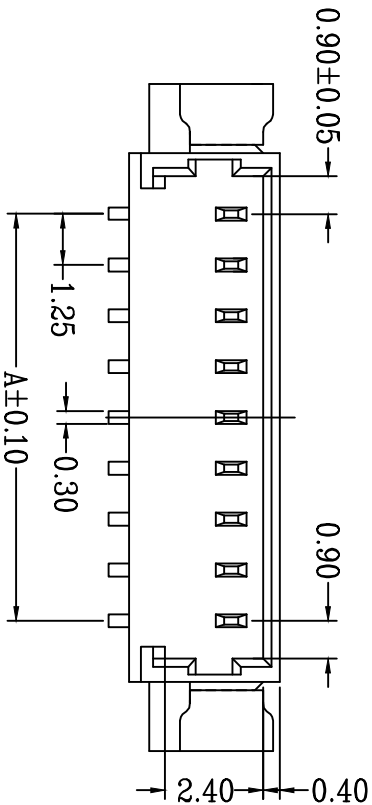
UNLESS TOLERANCE

Single Part Size: A1 | Portfolio Size: A2.3 | 3RD Angle Projection

客户确认  
签章处



| PIN | A     | B     |
|-----|-------|-------|
| 2   | 1.25  | 7.70  |
| 3   | 2.50  | 8.95  |
| 4   | 3.75  | 10.20 |
| 5   | 5.00  | 11.45 |
| 6   | 6.25  | 12.70 |
| 7   | 7.50  | 13.95 |
| 8   | 8.75  | 15.20 |
| 9   | 9.00  | 16.45 |
| 10  | 10.25 | 17.70 |
| 11  | 11.50 | 18.95 |
| 12  | 12.75 | 20.20 |
| 13  | 13.00 | 21.45 |
| 14  | 14.25 | 22.70 |
| 15  | 15.50 | 23.95 |
| 16  | 16.25 | 25.20 |



NOTES:

Current Rating: 0.3A AC,DC  
Voltage Rating: 100V AC,DC  
Temperature Range: -25℃ to +85℃  
Contact Resistance: 20mΩ Max  
Insulation Resistance: 100MΩ min  
Withstanding Voltage: 300V AC/minute  
PIN Material: phosphor bronze Tin plated  
Material: LCP UL94V-0 ROHS

|                                                                         |  |                      |  |                                                    |  |              |  |         |  |                                             |  |
|-------------------------------------------------------------------------|--|----------------------|--|----------------------------------------------------|--|--------------|--|---------|--|---------------------------------------------|--|
|                                                                         |  |                      |  | 深圳市福金鹰电子有限公司<br>SHENZHEN FJY ELECTRONICS CO., LTD. |  |              |  | REV: A1 |  | GENERAL TOLERANCE<br>UNLESS OTHERWISE NOTED |  |
| TITLE<br>PH1.25mm Water 立贴 米色 环保料                                       |  | Dwg NO.<br>090106-15 |  | DATE<br>16/06/16                                   |  | DRAWN<br>CZX |  | CHECK   |  | DATE                                        |  |
| PART NO.<br>962-10231-030005                                            |  | DATE<br>16/06/16     |  | DATE                                               |  | DATE         |  | DATE    |  | DATE                                        |  |
| SCALE<br>1:1                                                            |  | PROJ.<br>1/1         |  | PAGE<br>1/1                                        |  | APPRO.       |  | DATE    |  | LENGTH                                      |  |
| TEL:(06)765-2788310/11/12 FAX:(06)765-2788300/13 E-MAIL:sales@fjyde.com |  |                      |  | Http://www.fjyde.com                               |  |              |  |         |  |                                             |  |

**NEW**  


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

CONNECTOR

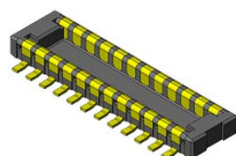
MB-0228-3

September 2017

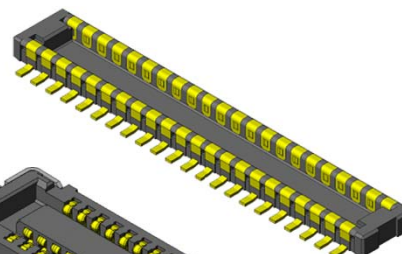
# WP7 Series

## RoHS Compliant

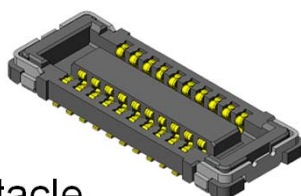
Plug



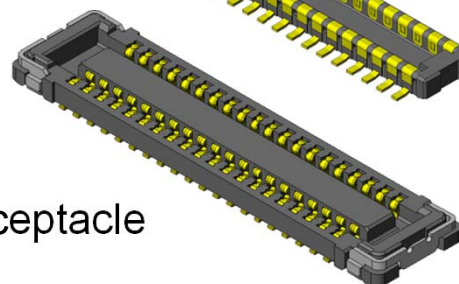
Plug



Receptacle



Receptacle



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

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

## Features

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

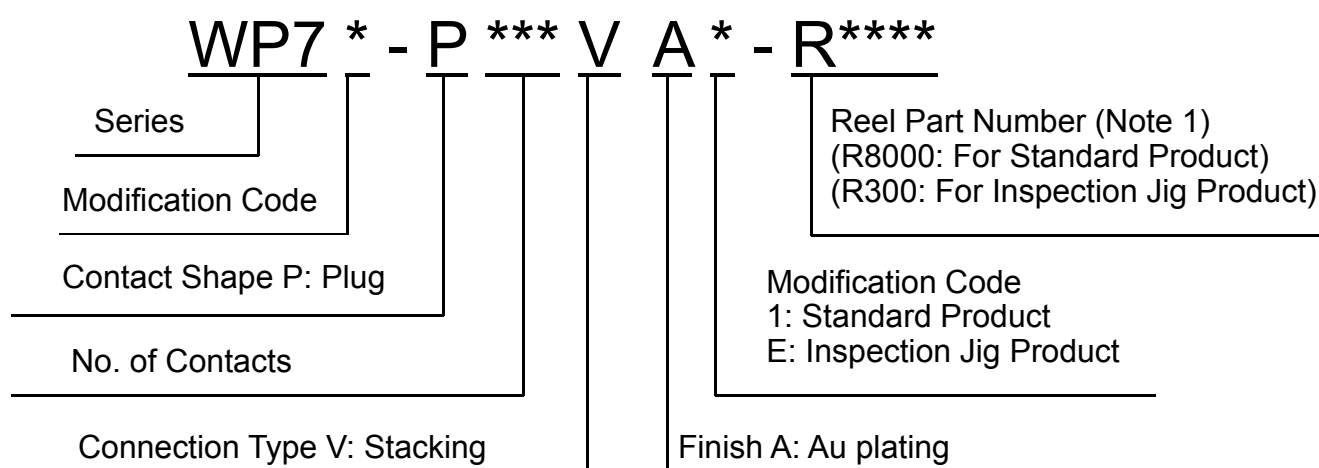
## General Specifications

- |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■(WP7A) No. of Contacts:<br/>10, 16, 20, 22, 24, 26,<br/>28, 30, 32 pos.</li> <li>■(WP7B) No. of Contacts:<br/>34, 40, 50, 60, 70 pos.</li> <li>■Pitch: 0.4mm, 2 rows</li> <li>■Operating Temperature:<br/>-40 Deg. C to +85 Deg. C</li> <li>■Contact Resistance:<br/>70mΩ max. (initial)</li> <li>■Life Time: 30 mating cycles</li> </ul> | <ul style="list-style-type: none"> <li>■Rated Current: AC, DC 0.3A each per terminal</li> <li>■Rated Voltage: AC, DC 50V</li> <li>■Insulation Resistance: 100MΩ min. (initial)</li> <li>■Dielectric Withstanding Voltage:<br/>AC250Vr.m.s for 1 minute</li> <li>■(WP7A) total insertion force:<br/>1.50N x n max. (n: No. of pos.)</li> <li>■(WP7A) total removal force:<br/>0.15N x n min. (n: No. of pos.)</li> <li>■(WP7B) total insertion force:<br/>1.00N x n max. (n: No. of pos.)</li> <li>■(WP7B) total removal force:<br/>0.10N x n min. (n: No. of pos.)</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

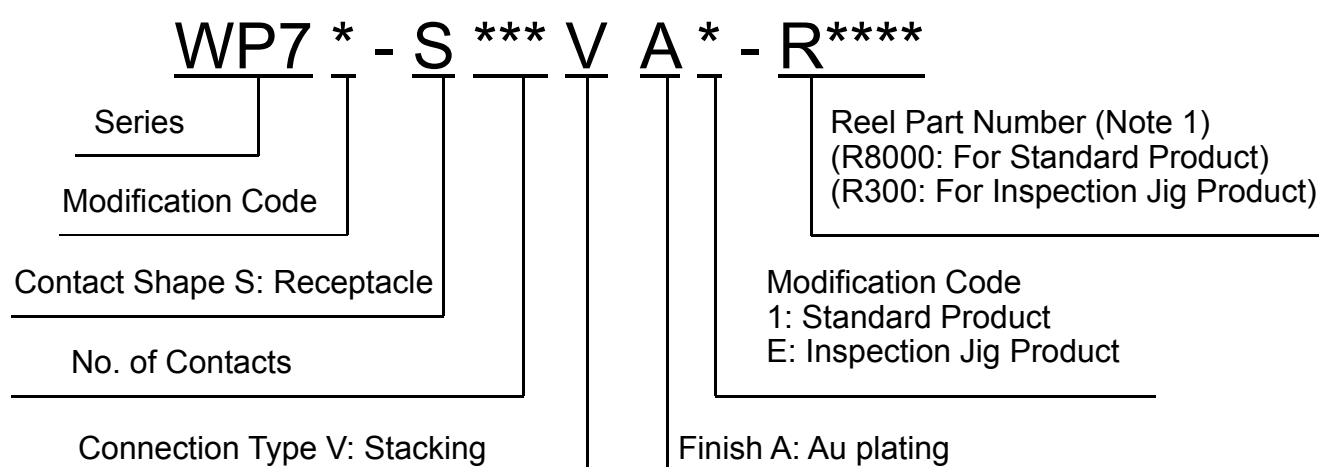
## Materials and Finishes

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

## Ordering Information (Plug)

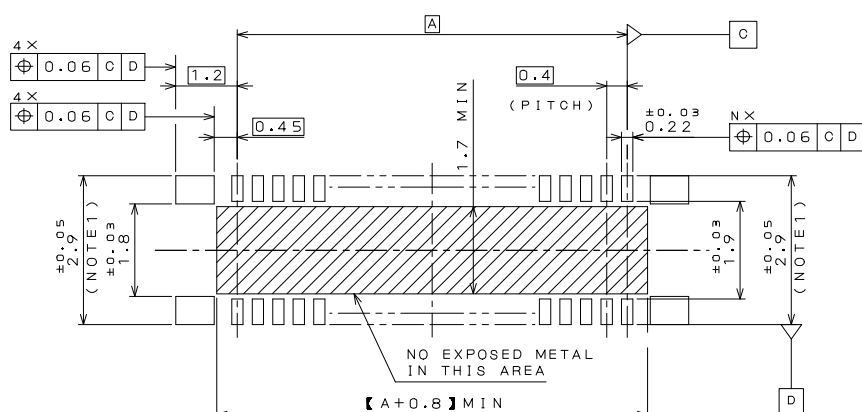


## Ordering Information (Receptacle)



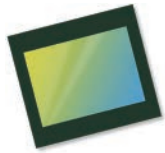
Note 1) An embossed tape reel contains 8,000 pieces of standard product, or 300 pieces of inspection jig product.  
Please contact us for details on embossed tape specifications.

## WP7A Receptacle



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

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 4/7



# OS05A10 5-megapixel product brief



available in  
a lead-free  
package

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

OmniVision's low-power OS05A10 is a 5-megapixel image sensor that brings crisp 1080p high definition, 2K, and 5-megapixel video to a wide range of commercial security and consumer applications, including 360-degree full-view cameras. Built on OmniVision's advanced PureCel® pixel architecture, the OS05A10 utilizes backside illumination (BSI) technology to deliver enhanced low-light sensitivity and wide field of view (FOV).

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

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

The OS05A10 is compatible with MIPI and LVDS interfaces and comes in a chip scale package (CSP).

Find out more at [www.ovt.com](http://www.ovt.com).



Applicazioni per fotocamere

*your BEST camera module partner*



Pilota automobilistico



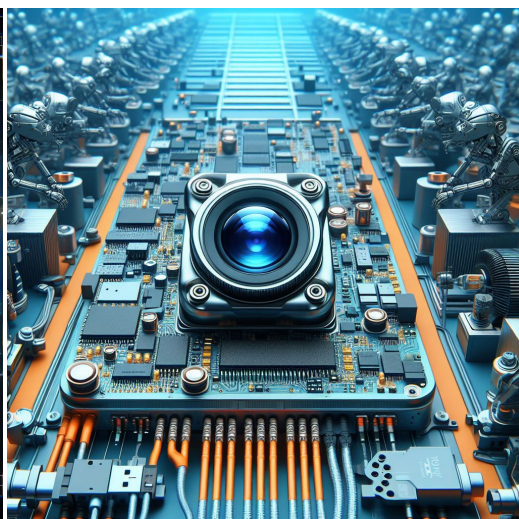
Diretta streaming



Video conferenza



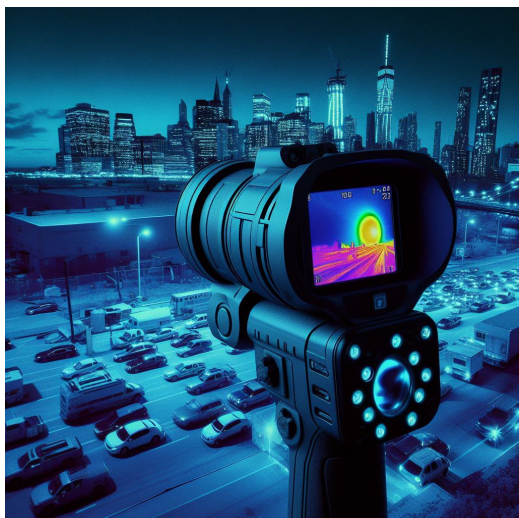
Rilevamento biometrico Eye Tracker



Visione artificiale



Monitor agricolo



Sicurezza della visione notturna



Drone e occhi d'aquila sportivi



Fotocamera interattiva per animali domestici