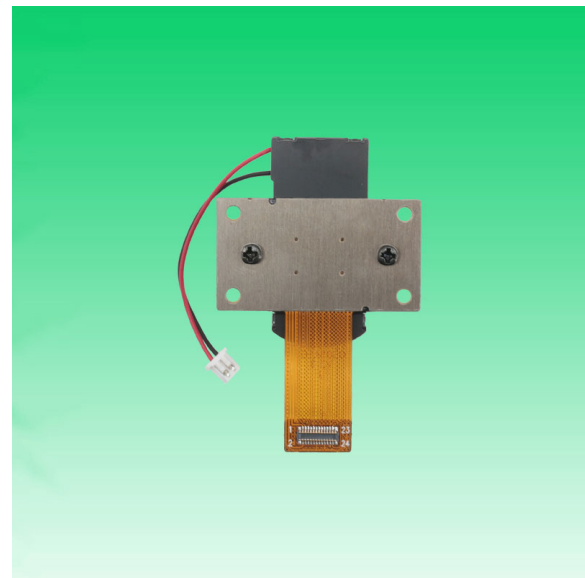
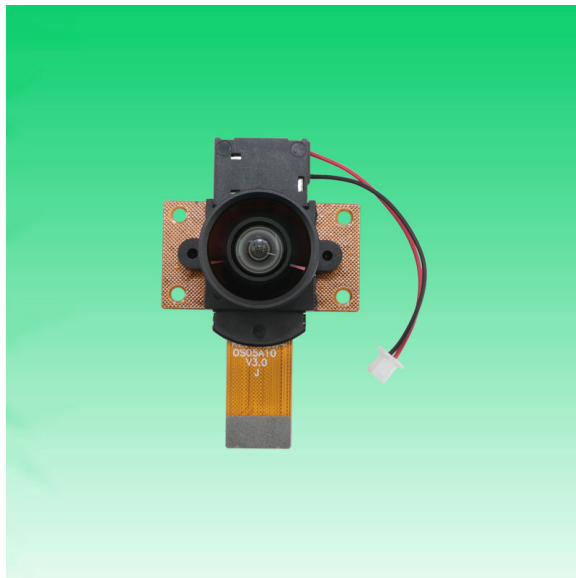


**KLT-IRSW-OS05A10 V3.0****5MP OmniVision OS05A10 IR Switch MIPI Interface Fixed Focus Camera Module**

| | |
|----------------------------------|---|
| Camera Module No. | KLT-IRSW-OS05A10 V3.0 |
| Resolution | 5MP |
| Image Sensor | OS05A10 |
| Sensor Type | 1/2.7" |
| Pixel Size | 2.0 um x 2.0 um |
| EFL | 2.02 mm |
| F.NO | 2.50 |
| Pixel | 2688 x 1944 |
| View Angle | 121.4°(DFOV) 107.6°(HFOV) 87.2°(VFOV) |
| Lens Dimensions | 16.50 x 16.50 x 21.20 mm |
| Module Size | 46.70 x 30.00 mm |
| Module Type | Fixed Focus |
| IR Switch Input Voltage | 3.3V - 5.5V |
| Lens Filter IR Frequency | 645nm +/- 15nm |
| Lens Filter AR Frequency | 700nm - 1,000nm |
| Operation (IR Day Time) | Red Line: Negative Black Line: Positive |
| Operation (AR Night Time) | Red Line: Positive Black Line: Negative |
| IR Switch Connector | 962-10231-030005 (2 Pin) |
| Interface | MIPI |
| Operating Temperature | -30°C to +85°C |
| Mating Connector | WP7A-S024VA1 |

**KLT-IRSW-OS05A10 V3.0****5MP OmniVision OS05A10 IR Switch MIPI Interface Fixed Focus Camera Module**

Top View



Side View



Bottom View

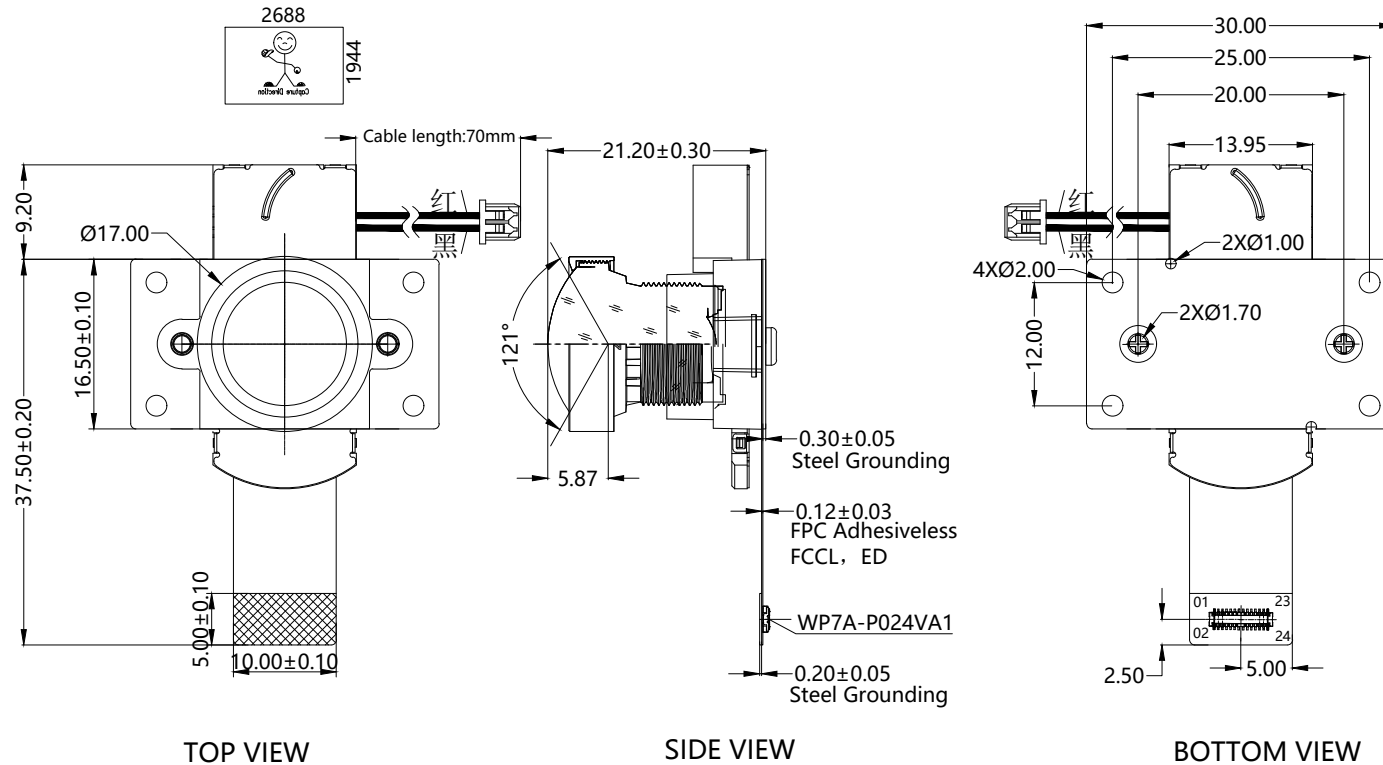


Mating Connector

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 |

| Version | Information | Date |
|---------|----------------------------|------------|
| V1.0 | First Version | 9-9-2019 |
| V2.0 | Change screw holes and ICR | 11-1-2019 |
| V3.0 | Change lens and IR CUT | 12-27-2022 |

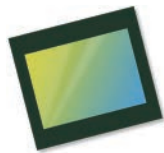


NOTE:
1.The device slave address:0x6C;

| 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: 121.4°(D);107.6°(H);87.2°(V); F/NO.: 2.5 TV distortion: <-3.6% Focal length: 2.02mm Composition: 2G4P+IR CUT |

Kai Lap Technologies Group Ltd

| | | | | | |
|-------------|-----------|------------------|-----------------------|-----------|--|
| Designed By | Kevin | Model Name: | KLT-IRSW-OS05A10 V3.0 | | |
| Checked By | Aouly_Yan | Projection Type: | Unit: | Material: | |
| | | Third Angle | mm | ----- | |
| | | Scale: | Sheet: | Version: | |
| | | 1:1 | 1 of 1 | 1/0 | |



OS05A10 5-megapixel product brief



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



available in
a lead-free
package

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.



Applications

- Security Cameras
- High Resolution Consumer Cameras
- Action Cameras

Product Features

- 2 μm x 2 μm pixel
- optical size of 1/2.7"
- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports output formats:
 - 12-/10-bit RAW RGB
- supports image sizes:
 - 5MP (2688x1944)
 - 1080p (1920x1080)
 - 720p (1280x720)
- supports 2x2 binning
- standard serial SCCB interface
- 12/10-bit ADC
- up to 4-lane MIPI/LVDS serial output interface (supports maximum speed up to 1500 Mbps/lane)
- 2-exposure staggered HDR support
- programmable I/O drive capability
- light sensing mode (LSM)
- PLL with SCC support
- support for frame sync

OS05A10



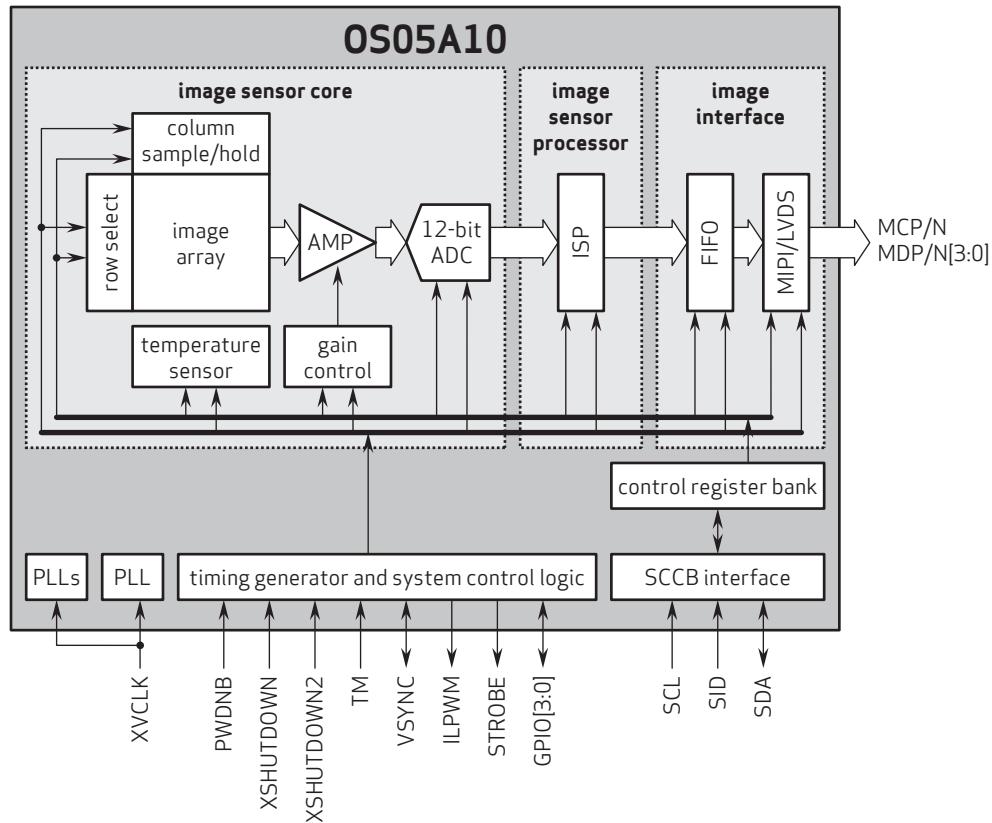
Ordering Information

- OS05A10-H73A-1B (color, lead-free)
73-pin CSP

Product Specifications

- active array size: 2688 x 1944
- maximum image transfer rate:
 - 2688x1944: 60 fps
 - 2688x1520: 60 fps
- power supply:
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- power requirements:
 - active: 210 mW
 - standby: 2 mA
 - XSHUTDOWN: 2 μA
- temperature range:
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- output formats: 10/12-bit RGB RAW
- lens size: 1/2.7"
- lens chief ray angle: 11° linear
- scan mode: progressive
- pixel size: 2.0 μm x 2.0 μm
- image area: 5434.56 μm x 3948.05 μm

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: + 1 408 567 3000
Fax: + 1 408 567 3001
www.ovt.com

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OmniVision

NEW



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

CONNECTOR

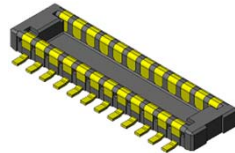
MB-0228-3

September 2017

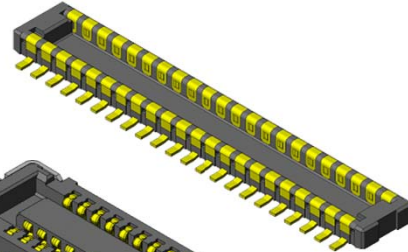
WP7 Series

RoHS Compliant

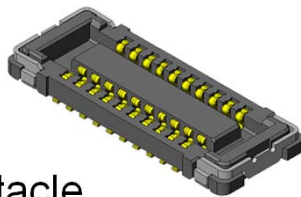
Plug



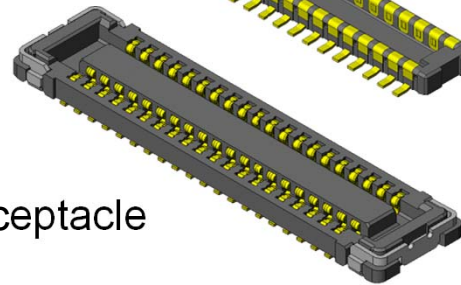
Plug



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.

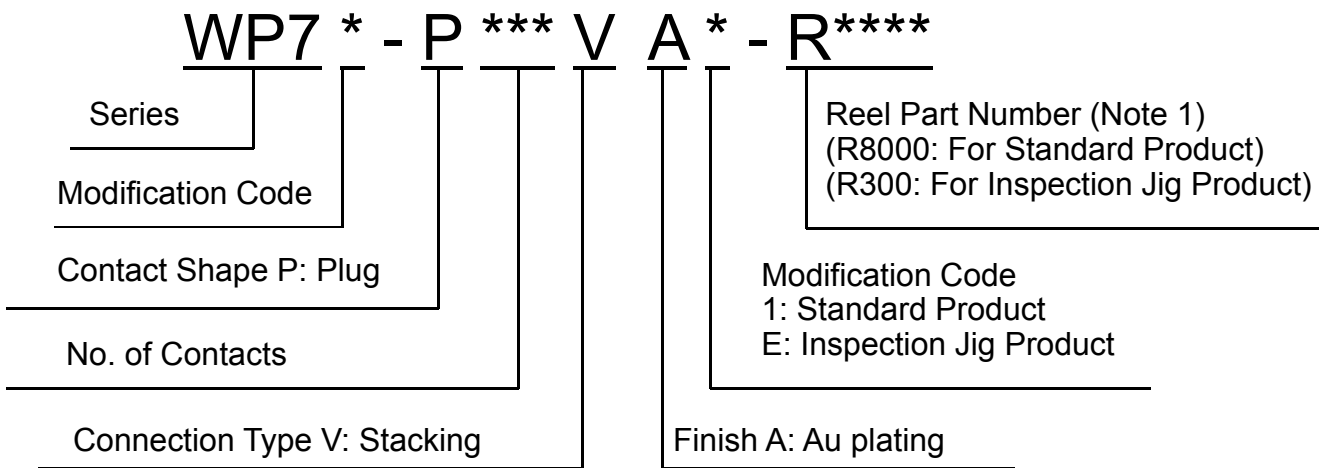
General Specifications

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

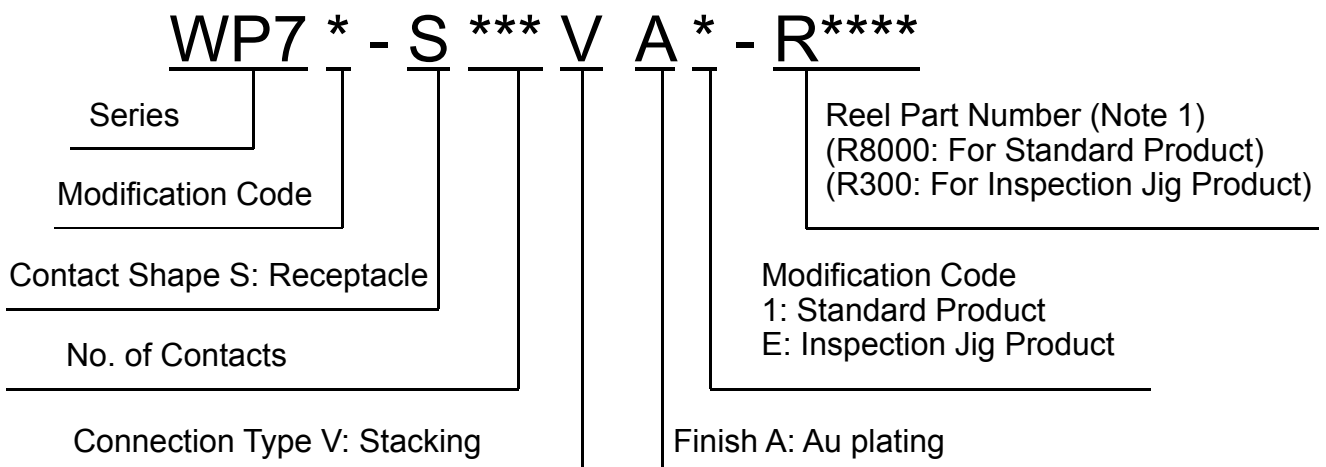
Materials and Finishes

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

Ordering Information (Plug)



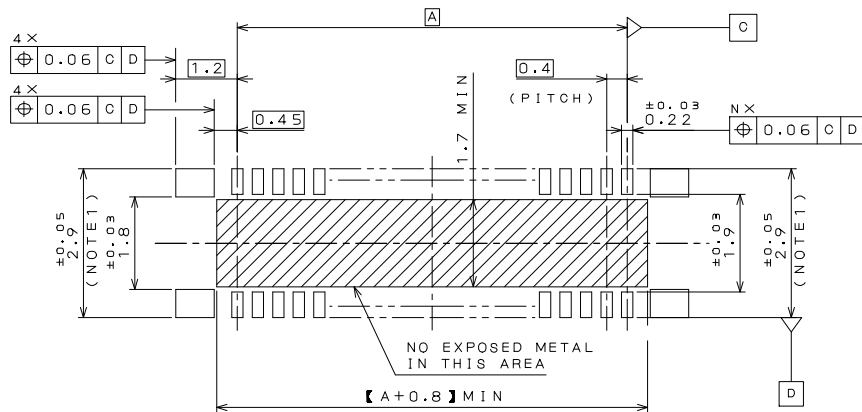
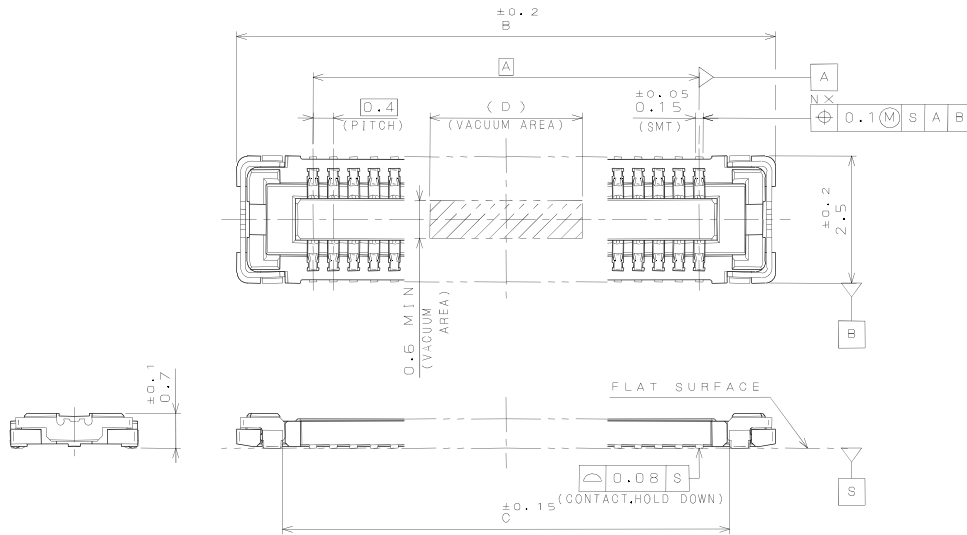
Ordering Information (Receptacle)



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.

| | |
|-------------|--------------|
| Part Number | WP7A-S***VA1 |
| SJ Drawing | SJ111877 |

WP7A Receptacle



APPLICABLE P.C.B. DIMENSION (REF.)
適合基板寸法 (参考)

| DIMENSIONS 寸法 NUMBER OF CONTACT 芯数 | DIMENSIONS | | | |
|--|------------|-----|-----|-----|
| | 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 |

Note 1) Dimension 3.5±0.05 is recommended in case repair is needed.

NEW



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

CONNECTOR

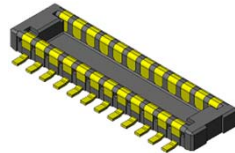
MB-0228-3

September 2017

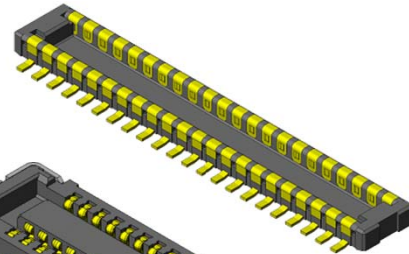
WP7 Series

RoHS Compliant

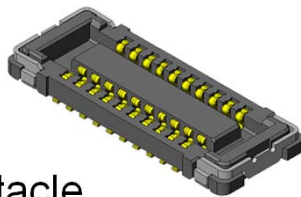
Plug



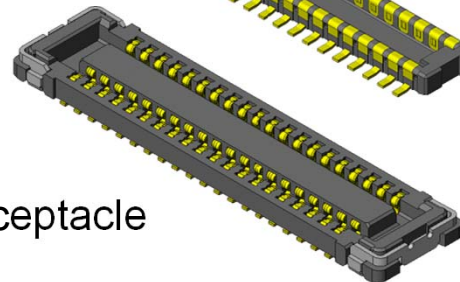
Plug



Receptacle



Receptacle



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Features

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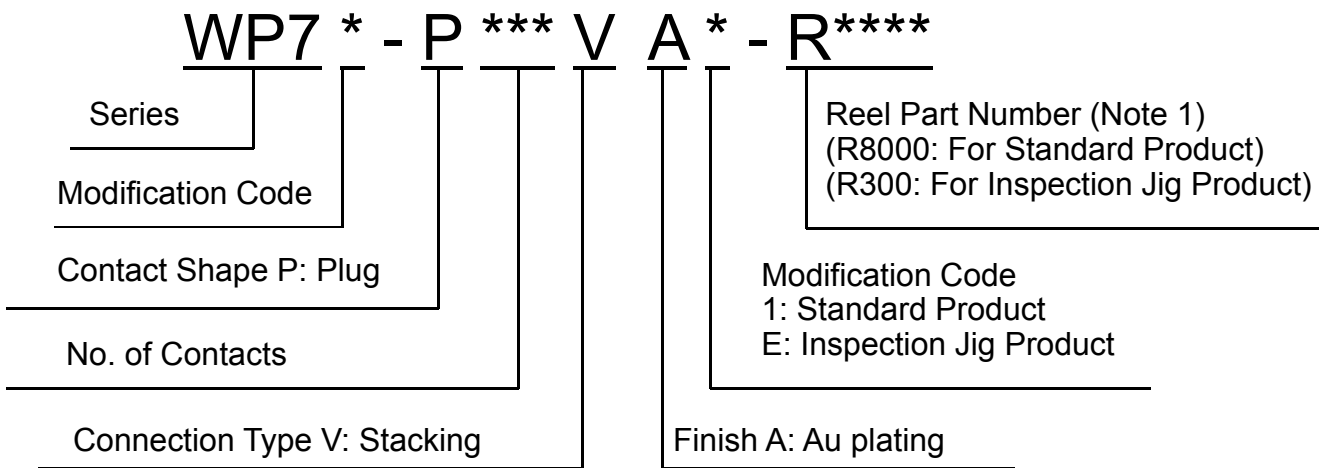
General Specifications

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|---|---|
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|---|---|

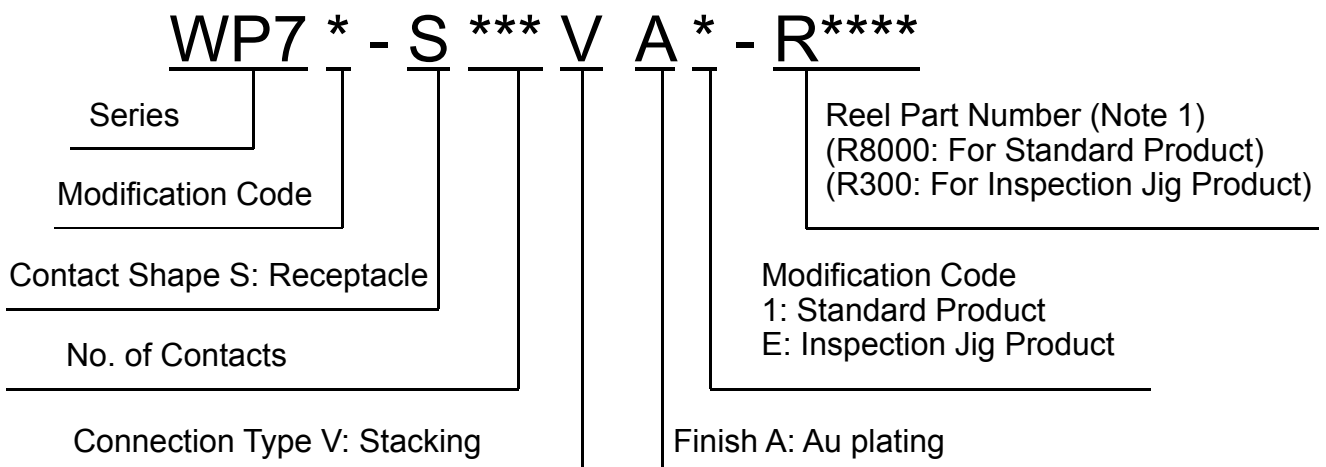
Materials and Finishes

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

Ordering Information (Plug)



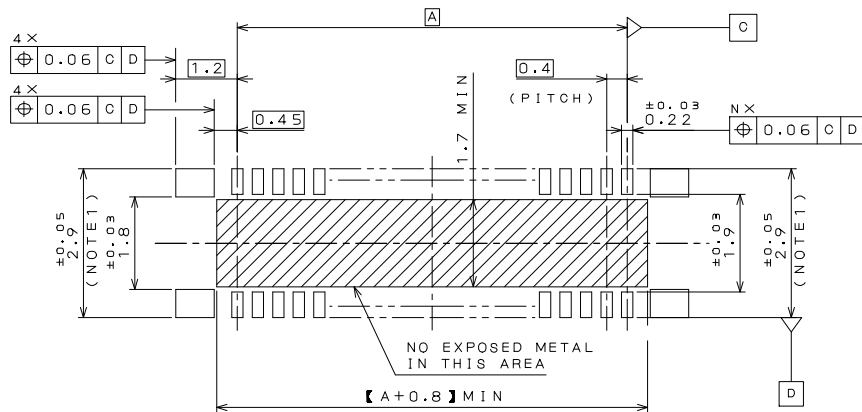
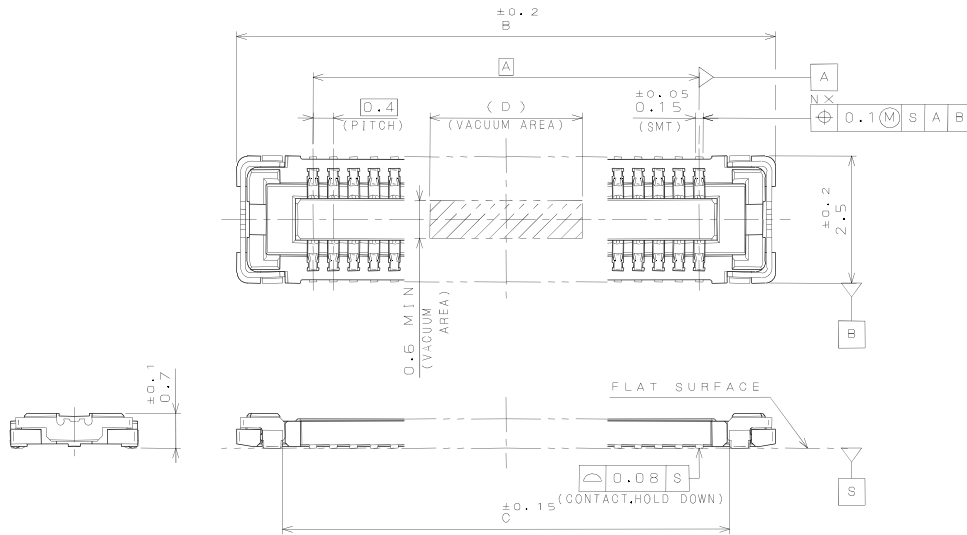
Ordering Information (Receptacle)



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.

| | |
|-------------|--------------|
| Part Number | WP7A-S***VA1 |
| SJ Drawing | SJ111877 |

WP7A Receptacle



APPLICABLE P.C.B. DIMENSION (REF.)
適合基板寸法 (参考)

| DIMENSIONS 寸法 NUMBER OF CONTACT 芯数 | DIMENSIONS | | | |
|--|------------|-----|-----|-----|
| | 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 |

Note 1) Dimension 3.5 ± 0.05 is recommended in case repair is needed.