



HAMPO-H1K-AR0237 V2.0
2MP OnSemi AR0237 RGB-IR HiSPi Interface M12
Fixed Focus Camera Module



Front View



Back View

Specifications

| | |
|---------------------------------|---------------------------------------|
| Camera Module No. | HAMPO-H1K-AR0237 V2.0 |
| Resolution | 2MP |
| Image Sensor | AR0237 RGB-IR |
| Sensor Type | 1/2.7" |
| Pixel Size | 3.0 um x 3.0 um |
| EFL | 3.10 mm |
| F.NO | 1.80 |
| Pixel | 1928 x 1088 |
| View Angle | 153.0°(DFOV) 126.0°(HFOV) 65.0°(VFOV) |
| Lens Dimensions | 15.00 x 15.00 x 23.10 mm |
| Module Size | 50.00 x 21.50 mm |
| Module Type | Fixed Focus |
| Interface | HiSPi |
| Auto Focus VCM Driver IC | None |
| Lens Model | HAMPO-LENS-YM6011P |
| Lens Type | 650nm IR Cut |
| Operating Temperature | -30°C to +85°C |
| Mating Connector | FH12-24S-0.5SH |



HAMPO-H1K-AR0237 V2.0
2MP OnSemi AR0237 RGB-IR HiSPi Interface M12
Fixed Focus Camera Module



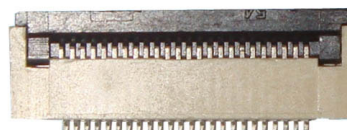
Top View



Side View



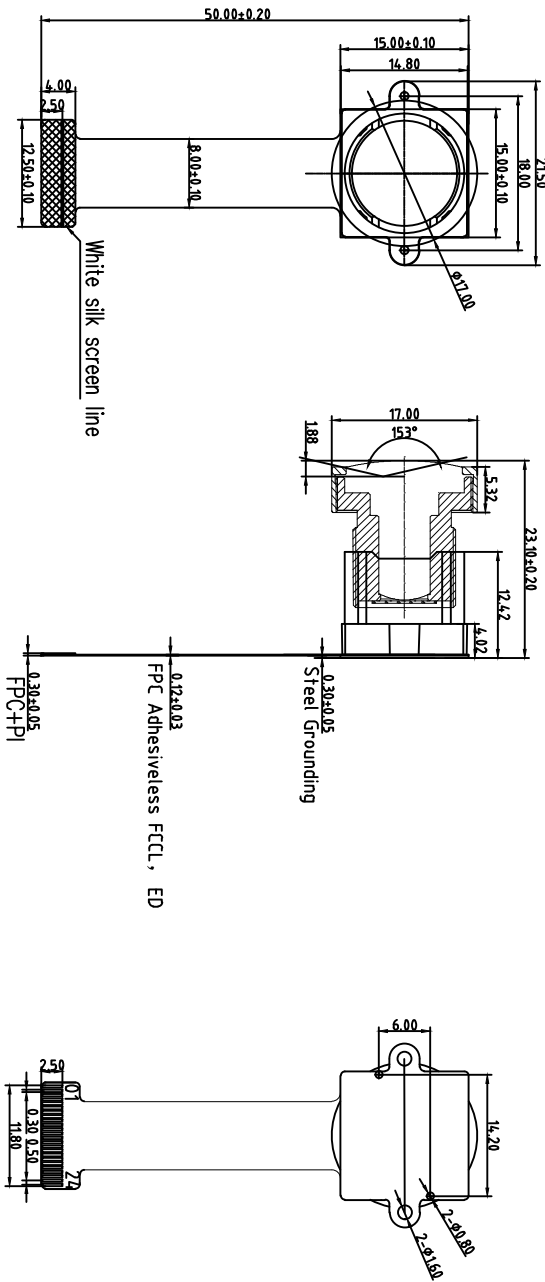
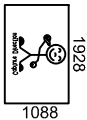
Bottom View



Mating Connector

RoHS

| PIN | SIGNAL |
|-----|----------|
| 1 | DGND |
| 2 | AGND |
| 3 | SDATA |
| 4 | AVDD2V8 |
| 5 | SCLK |
| 6 | RESET |
| 7 | NC |
| 8 | SLVS0_N |
| 9 | SLVS0_P |
| 10 | DVDD1V8 |
| 11 | DOVDD1V8 |
| 12 | SLVS1_N |
| 13 | SLVS1_P |
| 14 | DGND |
| 15 | SLVSC_N |
| 16 | SLVSC_P |
| 17 | DGND |
| 18 | SLVS2_N |
| 19 | SLVS2_P |
| 20 | DGND |
| 21 | SLVS3_N |
| 22 | SLVS3_P |
| 23 | EXTCLK |
| 24 | SADDR |



| Version Mark | Information | Date |
|--------------|-------------|--------------------|
| V1.0 | PD | First Version |
| V2.0 | | Change lens holder |
| | | 2017-04-28 |
| | | 2019-03-16 |

Parameter:

1、Sensor specification:

Image Sensor: AR0237IRSH12SHRA0-DR
Pixel: 3um×3um
Lens Type: 1/2.7
Important Voltage Description: DVDD1.8V
(external power supply);

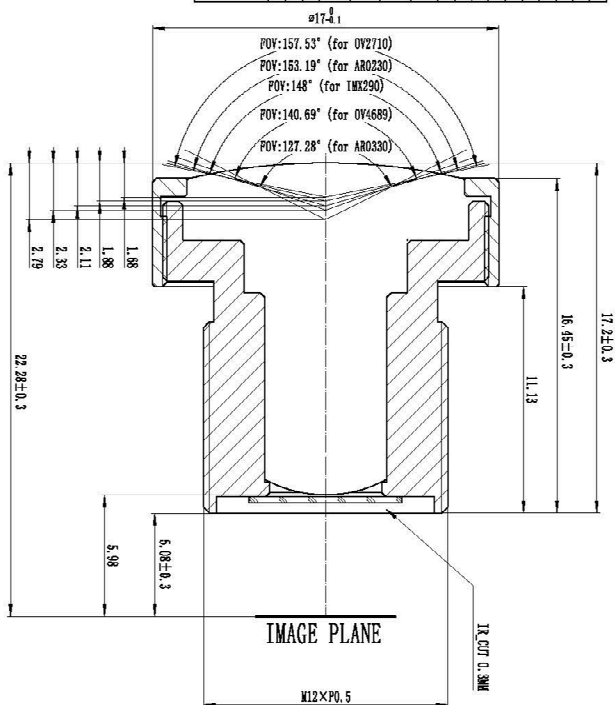
2、Lens specification:

FOV: 153°(D),126°(H),65°(V)
F/NO.: 1.8
TV distortion: <-30.1%
Focal length: 3.1mm
Composition: 6G+IR FIL TER
IR Cut Coating: 650nm±850nm

| | | | | | |
|-------------|-----------|------------------|-----------------|---------------|--------------|
| Designed By | Kevin | Model Name: | H1K-AR0237 V2.0 | | |
| Checked By | Aouly Yan | Projection Type: | Unit: mm | Material: | |
| | | Third Angle | Scale: 1:1 | Sheet: 1 of 1 | Version: 1/0 |

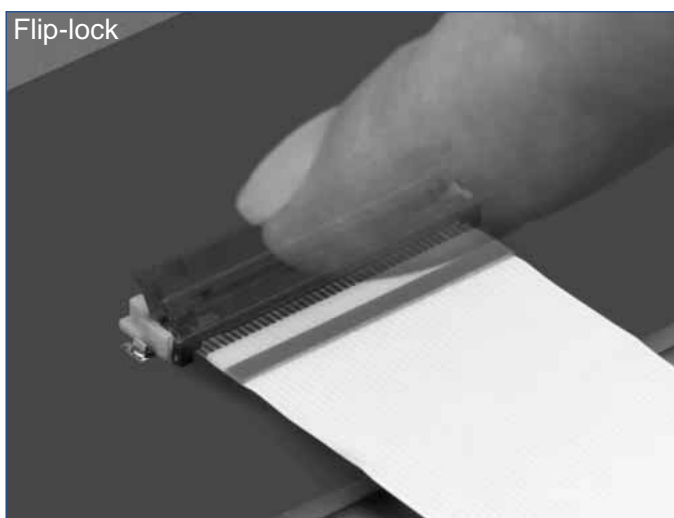
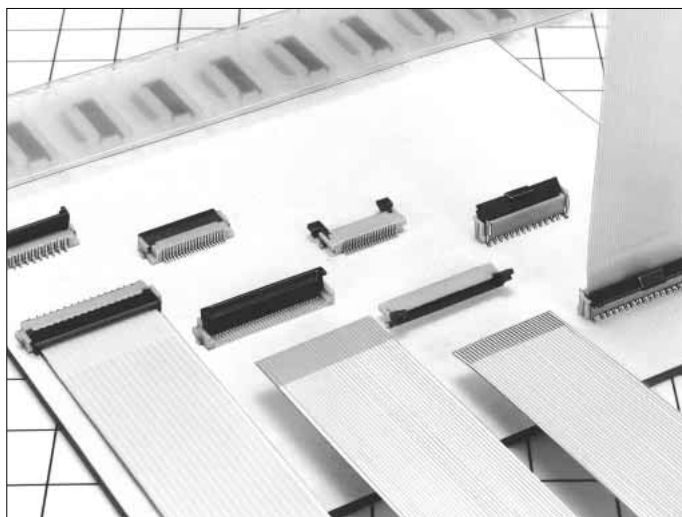
HAMPO-LENS-YM6011P

| No. | ITEM | SPECIFICATION | | | | | |
|--------|---------------|---------------|--|--------|--|--------|--|
| 1 | 基礎 (FBL) | 31 | | | | | |
| 2 | 光学系 (OPT) | S58 | | | | | |
| 3 | 吸振器 (AVR) | S58 | | | | | |
| 4 | 機械系 (MT) | 145 | | | | | |
| 5 | 天線 (ANT) | 145 | | | | | |
| 6 | 電子機器 (ELEC) | C64 | | | | | |
| 7 | 光学機器 (OPTIC) | C64 | | | | | |
| 8 | 構造材料 (STRUCT) | A4790.5 | | | | | |
| 9 | 動力装置 (POWER) | 1700.5 | | | | | |
| 10 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 1700.5 | | 1700.5 | | 1700.5 | | | |
| 11 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 12 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 13 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 14 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 15 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 16 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 17 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 18 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 19 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 20 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 21 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 22 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 23 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 24 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 25 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 26 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 27 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 28 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 29 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 30 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 31 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 33 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 34 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 35 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 36 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 37 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 38 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 39 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 40 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 41 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 42 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 43 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 45 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 46 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 47 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 48 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 49 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 51 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 52 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 53 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 54 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 55 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 56 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 57 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 58 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 59 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 60 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 61 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 68 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 69 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 70 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 71 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 73 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 74 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 75 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 76 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 77 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 79 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
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| 81 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 82 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 83 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 84 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 85 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 86 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 87 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 88 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 89 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 90 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 91 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 92 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 93 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 94 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 95 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 96 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 97 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 98 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |
| 99 | 光学系 (OPT) | 1700.5 | | 1700.5 | | 1700.5 | |
| 100 | 基礎 (FBL) | 1700.5 | | 1700.5 | | 1700.5 | |

[illegible]

0.5mm and 1mm Pitch Connectors For FPC/FFC

FH12 Series



■ Features

1. Ease of Use and Space Savings

Only one finger or 6.9N (Newtons) of force is required to lock Hirose's rotational actuator (flip-lock) as compared to using 2 fingers and 39.2N to close a FFC/FPC connector from our competition.

The Flip-Lock design also allows customers to place 2 or more connectors side by side as there is no need to waste additional board space for a side latch.

2. Strengthened Flip-lock Actuator

The standard Flip-Lock requires only 2.0mm height above the board. A strengthened lock lever is available which only requires an additional 0.4mm.

3. Supports Thin FPC (0.18mm)

Hirose does not require double-sided FPC to have any additional strengthening plate or stiffener and can therefore support a thickness of as little as 0.18mm +/- 0.05.

4. Hirose Ensures Reliability

Hirose's patented half tuning fork contacts maintain the required normal force without relying on the connector housing. With our competitor's conventional products the housing walls support the contact force, which does not provide for long-term reliability.

5. Prevention of Solder Bridge

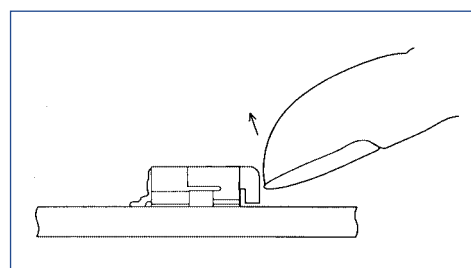
Excess solder cavity absorbs excessive solder and avoids solder bridging.

6. Three different assembly types

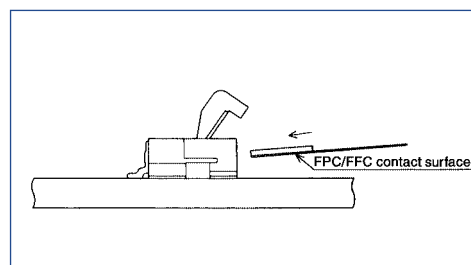
FH12 is offered in Top & Bottom Contact and Vertical Mount and offered in both a 0.5mm contact pitch as well as a 1.0mm contact pitch (bottom contact only).

Rotating One-touch Mechanism

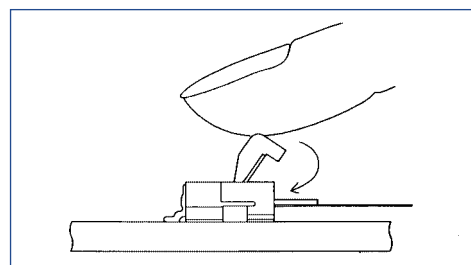
①



②



③



■ Applications

Notebook computers, printers, PDAs, digital cameras and other compact devices for interconnecting the main circuit board with the LCD, HDD or other device.

Product Specifications

| | | | |
|--------|---|--|--|
| Rating | Current rating: 0.5A DC(Note 1) Voltage rating: 50V AC | Operating Temperature Range: -40 to +70°C (Note 2) Operating Humidity Range: Relative humidity, 90% max. (Not dewed) | Storage Temperature Range: -10 to +50°C (Note 3) Storage Humidity Range: Relative humidity, 90% max. (Not dewed) |
|--------|---|--|--|

| | | |
|----------------|------------------------|----------------------------------|
| Applicable FPC | t=0.3±0.05 Gold plated | t=0.18 ± 0.05 for FH12F-*S-0.5SH |
|----------------|------------------------|----------------------------------|

| Item | Specification | Conditions |
|--------------------------------------|---|--|
| 1. Insulation resistance | 500M ohms minimum | 100V DC |
| 2. Withstanding voltage | No flashover or insulation breakdown. | 150V AC/1 minute |
| 3. Contact resistance | 50m ohms maximum | 1mA |
| 4. Durability (Insertion/withdrawal) | Contact resistance: 50m ohms maximum No damage, cracks, or parts dislocation. | 20 cycles |
| 5. Vibration | No electrical discontinuity of 1μs or more Contact resistance: 50m ohms maximum. No damage, cracks, or parts dislocation. | Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions. |
| 6. Shock | No electrical discontinuity of 1μs or more Contact resistance: 50m ohms maximum. No damage, cracks, or parts dislocation. | Acceleration of 490 m/s ² , 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis. |
| 7. Humidity(Steady state) | Contact resistance: 50m ohms maximum. Insulation resistance: 50M ohms minimum. No damage, cracks, or parts dislocation. | 96 hours at 40°C and humidity of 90% to 95% |
| 8. Temperature Cycle | Contact resistance: 50m ohms maximum. Insulation resistance: 50M ohms minimum. No damage, cracks, or parts dislocation. | Temperature: -40°C → 15 to 35°C → 85°C → 15 to 35°C, Time: 30 → 5 max. → 30 → 5 max.(minutes) 5 cycles |
| 9. Resistance to Soldering heat | No deformation of components affecting performance. | Reflow: At the recommended temperature profile Manual soldering: 350±5°C for 3 seconds |

Note 1: When passing the current through all of the contacts, use 70% of the current rating.

Note 2: Includes temperature rise caused by current flow.

Note 3: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers nonconducting condition of installed connectors in storage, shipment or during transportation.

Material

| Part | Material | Finish | Remarks |
|----------------|-------------------------|--------------------|---------|
| Insulator | Polyamide, LCP(60 pos.) | Color : Beige | UL94V-0 |
| Actuator | PPS | Color : Dark brown | |
| Contact | Phosphor bronze | Gold plated | _____ |
| Metal Fittings | Brass | Tin plated | |

Ordering Information

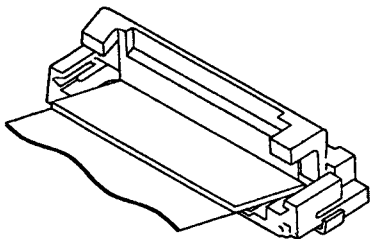
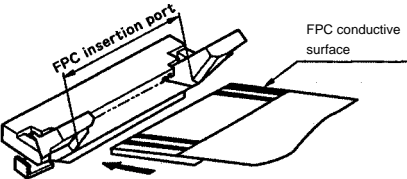
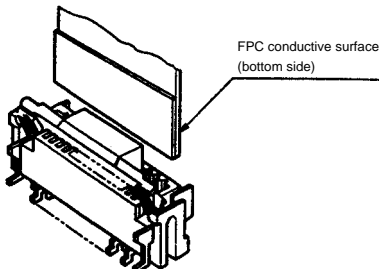
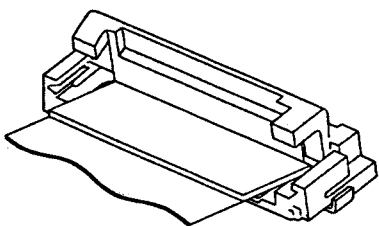
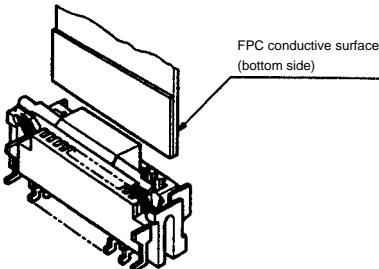
FH12 A - 10 (4) - S A - 0.5 SH (55)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

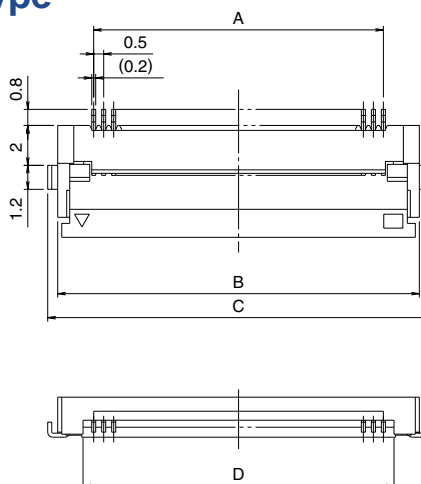
| | |
|--|--|
| ① Series Name : FH12 | ⑤ Contact alignment: Single |
| ② Blank : standard type A : Top contact type S : Type with strengthened flip-lock actuator F : Type with 0.18mm FPC End Thickness | ⑥ Eccentric direction: Blank : standard type A : Eccentric type |
| ③ Standard type : Number of contacts Eccentric type : Number of contacts in 0.5mm housing | ⑦ Contacts Pitch : 0.5mm, 1mm |
| ④ Standard type : Blank Eccentric type : Number of contacts | ⑧ Contact type SH : SMT horizontal mounting type SV : SMT vertical mounting type |
| | ⑨ Plating specification (55) : Gold plated |

FH12 Series 0.5mm and 1mm Pitch Connectors For FPC/FPC

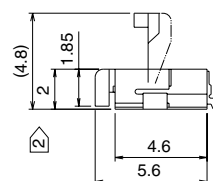
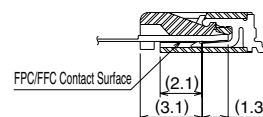
Series Configuration

| Pitch | Bottom Contact Type | Top Contact Type | Vertical mounting Type |
|-------|---|--|--|
| 0.5mm |  <p>FH12- ** S-0.5SH P.12</p> <p>Number of contacts 6, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32, 33, 34, 35, 36, 40, 45, 50, 53</p> |  |  |
| | Type with Strengthened Lock Lever | | |
| | <p>FH12S- ** S-0.5SH P.13</p> <p>Number of contacts 30, 40, 45, 50, 53</p> | | |
| | Type with 0.18mm FPC End Thickness | | |
| 1mm | <p>FH12F- ** S-0.5SH P.14</p> <p>Number of contacts 6, 8, 10, 12, 13, 14, 15, 16, 18, 20, 22, 24, 25, 26, 28, 30, 32, 34, 36, 40</p> | <p>FH12A- ** S-0.5SH P.15</p> <p>Number of contacts 10, 12, 15, 16, 18, 20, 22, 24, 26, 28, 29, 30, 32, 33, 34, 36, 40, 42, 45, 50</p> | <p>FH12- ** S-0.5SV P.16</p> <p>Number of contacts 10, 12, 13, 15, 16, 17, 18, 20, 22, 24, 26, 30, 32, 33, 34, 36, 40, 45, 49, 50, 60</p> |
| |  <p>Standard FH12- ** S-1SH P.18</p> <p>Eccentric FH12- ** (**) SA-1SH</p> <p>Standard</p> <p>Number of contacts 5, 6, 7, 8, 9, 11, 12, 16, 17, 22, 26</p> <p>Eccentric</p> <p>Number of contacts 4, 6, 8, 10, 11, 14, 19, 24</p> | | |
| | | |  <p>FH12- ** S-1SV P.19</p> <p>Number of contacts 6, 7, 8, 16, 20, 22, 24</p> |

0.5mm Pitch Bottom Contact Type



Mated Cross-sectional Diagram



Unit:mm

| Part Number | CL No. | Number of Contacts | A | B | C | D | RoHS |
|---------------------------|---------------|--------------------|------|------|------|-------|------|
| FH12- 6S-0.5SH(55) | 586-0582-5-55 | 6 | 2.5 | 6.1 | 7.1 | 3.57 | YES |
| FH12- 8S-0.5SH(55) | 586-0744-5-55 | 8 | 3.5 | 7.1 | 8.1 | 4.57 | |
| FH12-10S-0.5SH(55) | 586-0522-3-55 | 10 | 4.5 | 8.1 | 9.1 | 5.57 | |
| FH12-11S-0.5SH(55) | 586-0600-5-55 | 11 | 5 | 8.6 | 9.6 | 6.07 | |
| FH12-12S-0.5SH(55) | 586-0704-0-55 | 12 | 5.5 | 9.1 | 10.1 | 6.57 | |
| FH12-13S-0.5SH(55) | 586-0549-0-55 | 13 | 6 | 9.6 | 10.6 | 7.07 | |
| FH12-14S-0.5SH(55) | 586-0533-0-55 | 14 | 6.5 | 10.1 | 11.1 | 7.57 | |
| FH12-15S-0.5SH(55) | 586-0523-6-55 | 15 | 7 | 10.6 | 11.6 | 8.07 | |
| FH12-16S-0.5SH(55) | 586-0531-4-55 | 16 | 7.5 | 11.1 | 12.1 | 8.57 | |
| FH12-17S-0.5SH(55) | 586-0606-1-55 | 17 | 8 | 11.6 | 12.6 | 9.07 | |
| FH12-18S-0.5SH(55) | 586-0530-1-55 | 18 | 8.5 | 12.1 | 13.1 | 9.57 | |
| FH12-19S-0.5SH(55) | 586-0534-2-55 | 19 | 9 | 12.6 | 13.6 | 10.07 | |
| FH12-20S-0.5SH(55) | 586-0524-9-55 | 20 | 9.5 | 13.1 | 14.1 | 10.57 | |
| FH12-22S-0.5SH(55) | 586-0532-7-55 | 22 | 10.5 | 14.1 | 15.1 | 11.57 | |
| FH12-24S-0.5SH(55) | 586-0521-0-55 | 24 | 11.5 | 15.1 | 16.1 | 12.57 | |
| FH12-25S-0.5SH(55) | 586-0692-3-55 | 25 | 12 | 15.6 | 16.6 | 13.07 | |
| FH12-26S-0.5SH(55) | 586-0576-2-55 | 26 | 12.5 | 16.1 | 17.1 | 13.57 | |
| FH12-28S-0.5SH(55) | 586-0612-4-55 | 28 | 13.5 | 17.1 | 18.1 | 14.57 | |
| Note ② FH12-30S-0.5SH(55) | 586-0525-1-55 | 30 | 14.5 | 18.1 | 19.1 | 15.57 | |
| FH12-32S-0.5SH(55) | 586-0681-7-55 | 32 | 15.5 | 19.1 | 20.1 | 16.57 | |
| FH12-33S-0.5SH(55) | 586-0520-8-55 | 33 | 16 | 19.6 | 20.6 | 17.07 | |
| FH12-34S-0.5SH(55) | 586-0617-8-55 | 34 | 16.5 | 20.1 | 21.1 | 17.57 | |
| FH12-35S-0.5SH(55) | 586-0740-4-55 | 35 | 17.0 | 20.6 | 21.6 | 18.07 | |
| FH12-36S-0.5SH(55) | 586-0526-4-55 | 36 | 17.5 | 21.1 | 22.1 | 18.57 | |
| Note ② FH12-40S-0.5SH(55) | 586-0527-7-55 | 40 | 19.5 | 23.1 | 24.1 | 20.57 | |
| Note ② FH12-45S-0.5SH(55) | 586-0528-0-55 | 45 | 22 | 25.6 | 26.6 | 23.07 | |
| Note ② FH12-50S-0.5SH(55) | 586-0529-2-55 | 50 | 24.5 | 28.1 | 29.1 | 25.57 | |
| Note ② FH12-53S-0.5SH(55) | 586-0595-7-55 | 53 | 26 | 29.6 | 30.6 | 27.07 | |

Note 1 : Embossed tape reel packaging (2,000 pieces/reel).
 Order by number of reels.

Note ② : If there is no problem with the connector height, we recommend the type with the strengthened Flip-lock actuator (FH12S-*S-0.5SH).
 Standard type connector height: 2 mm
 Connector height of type with strengthened Flip-lock actuator: 2.4 mm

Product Overview

AR0237 RGB-IR: 2 MP 1/2.7" RGB-IR CMOS Image Sensor

For complete documentation, see the data sheet.

The AR0237 RGB-IR is a 1/2.7-inch CMOS digital image sensor with an active-pixel array of 1928 (H) x 1088 (V). It captures images in either linear or high dynamic range modes with a rolling-shutter readout, and includes sophisticated camera functions such as in-pixel binning, windowing and both video and single frame modes. It is designed for both low light and high dynamic range scene performance, and is programmable through a simple two-wire serial interface. The AR0237 RGB-IR integrates the ability to take daytime color imaging and nighttime near-IR imaging in one sensor without the need for a mechanical IR-cut filter which can be loud, large, cause refocusing issues and expensive to maintain, and ideal for home security and other monitoring applications where lighting conditions can change drastically during the times when the camera is expected to work.

Features

- Superior low-light performance
- DR-PIX (TM) technology with Dual Conversion Gain
- Full HD support at up to 1080p 60 fps for superior video performance
- Linear or high dynamic range capture
- On-chip phase-locked loop (PLL) oscillator
- Supports line interleaved T1/T2 readout to enable HDR processing in ISP chip
- Support for external mechanical shutter
- Integrated position-based color and lens shading correction
- Slave mode for precise frame-rate control
- Stereo/3D camera support

For more features, see the data sheet

Applications

- Video surveillance
- 1080p60 (Surveillance) video applications
- High dynamic range imaging
- Home security

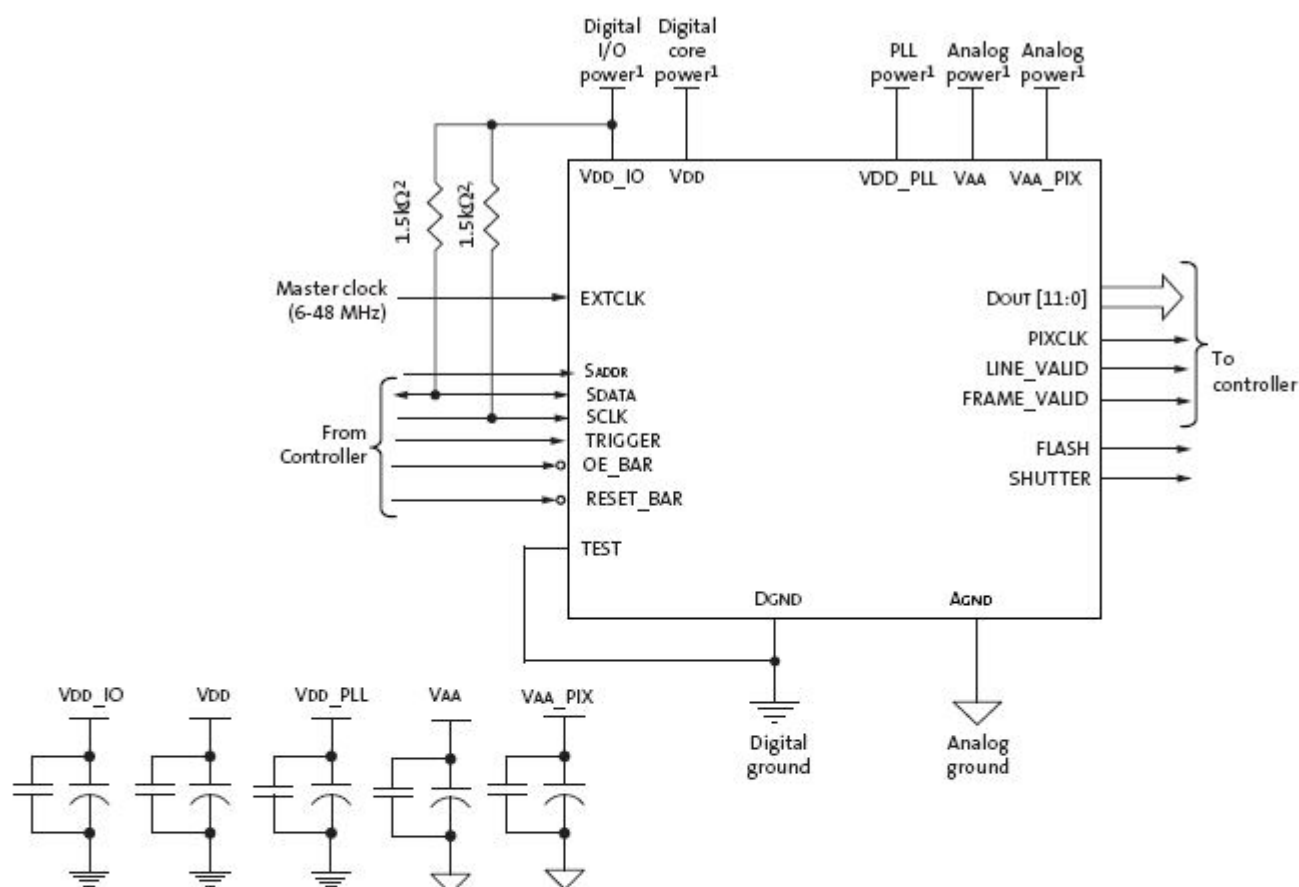
End Products

- Surveillance camera
- Door Bell camera
- Baby camera
- Home security camera

Part Electrical Specifications

| Product | Compliance | Status | Type | Megapixels | Frame Rate (fps) | Optical Format | Shutter Type | Pixel Size (µm) | Output Interface | Color | Package Type |
|----------------------|------------------------|--------|------|------------|------------------|----------------|---|-----------------|------------------|--------|--------------|
| AR0237IRSH12SHRA0-DR | Pb-free Halide free | NEW | CMOS | 2 | 60 | 1/2.7 inch | Electronic Rolling and Global Reset Release | 3.0 x 3.0 | HiSPi™ | RGB-IR | PLCC-48 |
| AR0237IRSH12SPRA0-DR | Pb-free Halide free | NEW | CMOS | 2 | 30 | 1/2.7 inch | Electronic Rolling and Global Reset Release | 3.0 x 3.0 | Parallel | RGB-IR | PLCC-48 |

Application Diagram



- Notes:
1. All power supplies must be adequately decoupled.
 2. ON Semiconductor recommends a resistor value of 1.5kΩ, but a greater value may be used for slower two-wire speed.
 3. The serial interface output pads and VDDSLVS can be left unconnected if the parallel output interface is used.
 4. ON Semiconductor recommends that 0.1μF and 10μF decoupling capacitors for each power supply are mounted as close as possible to the pad. Actual values and results may vary depending on layout and design considerations. Refer to the AR0237 demo headboard schematics for circuit recommendations.
 5. ON Semiconductor recommends that analog power planes are placed in a manner such that coupling with the digital power planes is minimized.
 6. I/O signals voltage must be configured to match VDD_IO voltage to minimize any leakage currents.
 7. The EXTCLK input is limited to 6-48 MHz.

For more information please contact your local sales support at www.onsemi.com.

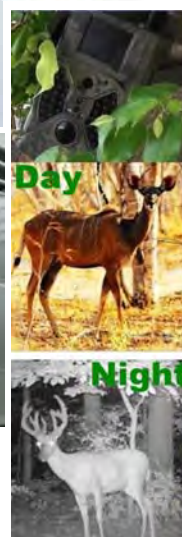
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Cameras Applications



IMAGING DEVICES





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 |
| | | Low -20°C 96 Hours | Temperature Chamber | No Abnormal Situation |
| | Operation Temperature | High 60°C 24 Hours | Temperature Chamber | No Abnormal Situation |
| | | 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 |
| | | With Package 60cm | 10 Times on Wood Floor | Electrically Functional |
| | Vibration Test | 50Hz X-Axis 2mm 30min | Vibration Table | Electrically Functional |
| | | 50Hz Y-Axis 2mm 30min | Vibration Table | Electrically Functional |
| | | 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 |
| | | 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 |





Camera Inspection Standard

| Inspection Item | | Inspection Method | Standard of Inspection |
|-----------------|----------|-------------------|---|
| Category | Item | | |
| Appearance | FPC/ PCB | Color | Major Difference is Not Allowed. |
| | | Be Torn/Chopped | Copper Crack Exposure is Not Allowed. |
| | | Marking | Clear, Recognizable (Within 30cm Distance) |
| | Holder | Scratches | The Inside Crack Exposure is Not Allowed |
| | | Gap | Meet the Height Standard |
| | | Screw | Make Sure Screws Are Presented (If Any) |
| | | Damage | The Inside Crack Exposure is Not Allowed |
| | Lens | Scratch | No Effect On Resolution Standard |
| | | Contamination | No Effect On Resolution Standard |
| | | Oil Film | No Effect On Resolution Standard |
| | | Cover Tape | 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 |

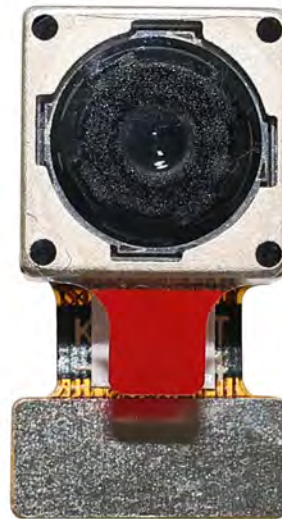


HAMPO Package Solutions

Hampo Camera Module



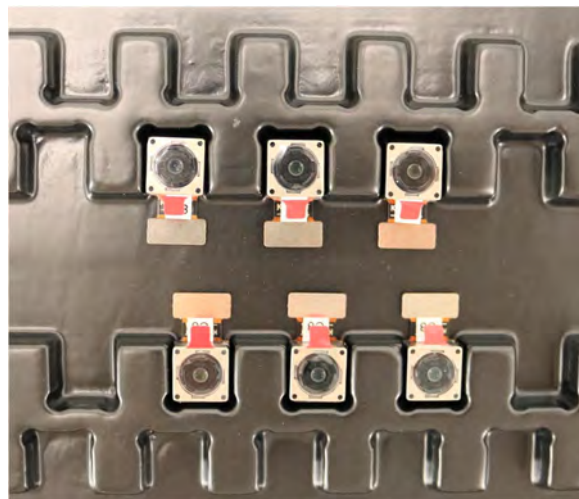
Complete with Lens Protection Film



Tray with Grid and Space



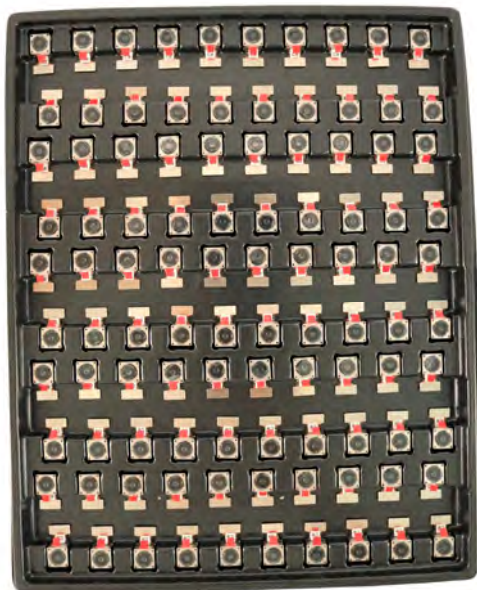
Place Cameras on the Tray



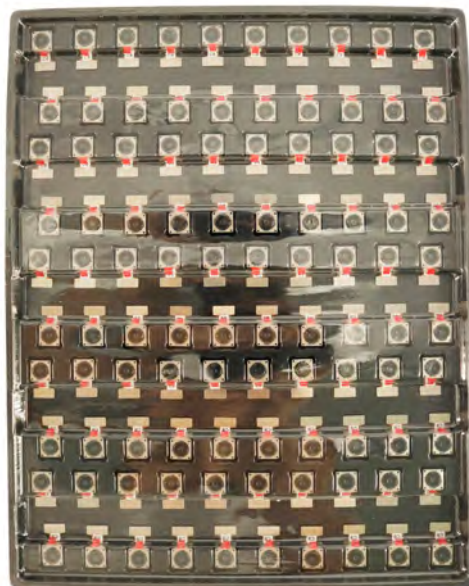


Camera Modules Package Solution

Full Tray of Cameras



Cover Tray with Lid



Place Tray into Anti-Static Bag



Vacuum the Anti-Static Bag





Camera Modules Package Solution

Sealed Vacuum Anti-Static Bag with Labels

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





Large Order Package Solution

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





An open, empty cardboard box with a white interior lining. The box is shown from a top-down perspective, with the lid flaps open and folded outwards. The interior is lined with a white material, and the box is set against a plain white background.

HAMPO

HAMPO Model No.
HAMPO M6A12 (HMSM-V18)
HSRM, SMP Interface
Auto Focus, 70-8 Degree

DATE IN CHINA

Tray

Tray 1 of 1
300 PIECES
Production Date
20 August 2022
Date Code
2234 (Week 34, 2022)

[illegible]



Sample Order and Connector Package Solution

Place Camera Sample into Anti-Static Bag



Place Connectors into Anti-Static Bag



Label the Sample Bags



Place Connectors into Reel



Place Samples into the Carbon Box



Place Connectors into the Carbon Box





Company HAMPO

Dongguan Hampo Electronic Technology Co., Ltd. was established in 2015, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. Hampo is occupying 150,000 square feet automated plants with 500 employees of annual throughput 180,000,000 units cameras.

Hampo 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. Hampo 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

Hampo provides the following limited warranty if you purchased the Product(s) directly from Hampo company or from Hampo's website, www.hampotech.com. Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. Hampo 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, Hampo 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 Hampo is solely limited to repair and/or replacement on the terms set forth above. Hampo is not reliable or responsible for any subsequent events.





Hampo Strength

Powerful Factory



Professional Service



Promised Delivery

