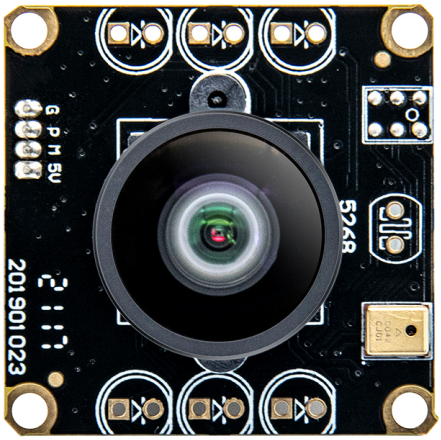
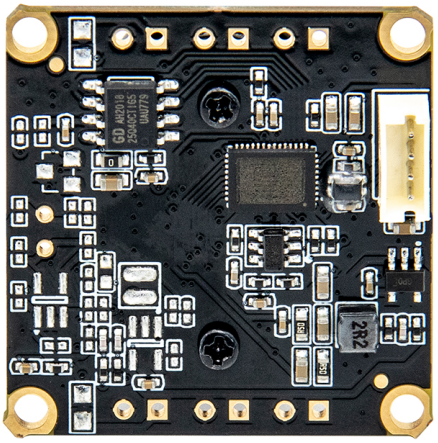
HAMPO-USB-0987-V1.0

2MP PrimeSensor PS5268 M12 Fixed Focus USB 2.0 Camera Module





HAMPO-USB-0987-V1.0 is a 2MP HDR camera module with a competitive cost, the dynamic range up to 86dB, allows the camera could compensates for images where there are dark and bright areas with WDR technology, in which can see sharp image even under the backlight.
This HDR USB camera moduless are compliant with UVC protocol, based on 1/2.7" PS5268 sensor with pixel size of 3.0 x 3.0 μm and a high-performance DSP that performs all the Auto functions (White Balance, Exposure control,etc.).

Key Features

- Full HD Resolution: The camera module has a full HD resolution, max pixel 1920*1080.
- HD Sensor PS5268 Chip: The high definition sensor chip PS5268 enables stable working performance with better clarity as well.
- High Dynamic Range: The camera module with WDR technology, the max dynamic range could up to 86dB, which allow the camera capture a clear image or video even under the backlight condition.
- 112 Degree Large View: Comes with 112 degree large field of view, providing you with larger visual range and wider field of view.
- Wided used for applications such as data collection , security monitoring , face recognition, liveness detection, access control system, advertisement machine, smart terminal etc.

HAMPO-USB-0987-V1.0

2MP PrimeSensor PS5268 M12 Fixed Focus USB 2.0 Camera Module

Camera Module No.	HAMPO-USB-0987-V1.0
Resolution	2MP
Image Sensor	PS5268
Sensor Type	1/2.7"
Pixel Size	3.0 um x 3.0um
EFL	2.8 mm
F.NO	2.2
Pixel	1920 x 1080
View Angle	112°(DFOV) 100°(HFOV) 80°(VFOV)
Lens TTL	22 mm
Module Type	Fixed Focus
Lens Model	HAMPO-LENS-2625
Interface	USB 2.0
Output Format	MJPG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	Digital Mic
Input Voltage	DC 5V
Working Current	Max 200mA
PCB Size	32mm x 32mm
System Compatibility	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC Driver Raspberry Pi by USB Port
Software for USB Camera	AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam
IR filter	650nm IR
Operating Temperature	-30°C to +85°C
USB Cable	USB-Cable-U015

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

HI-SPEED CERTIFIED USB 2.0 Windows ANDROID Mac OS Linux Raspberry Pi

HAMPO-USB-0987-V1.0

2MP PrimeSensor PS5268 M12 Fixed Focus USB 2.0 Camera Module

Top View

Side View

Bottom View

Mating Connector

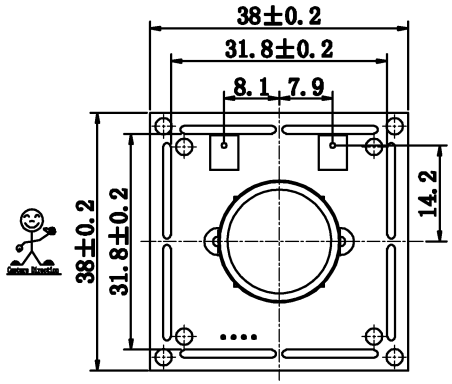
HAMPO-USB-0987-V1.0

2MP PrimeSensor PS5268 M12 Fixed Focus USB 2.0 Camera Module

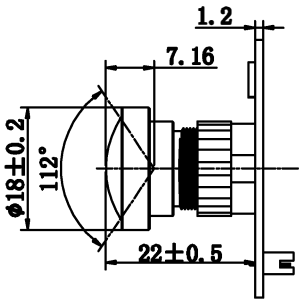
FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	1024 x 768 (Super VGA)	30 FPS
	1280 x 720 (720P)	30 FPS
	1920x 1080 (2MP)	30FPS
YUY2	1024 x 768 (Super VGA)	30 FPS
	1280x 720 (720P)	10 FPS
	1920 x 1080 (2MP)	5 FPS

RoHS

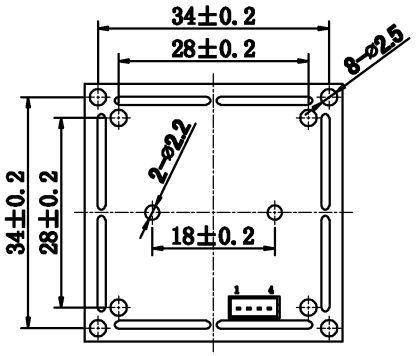
TOP VIEW



SIDE VIEW



BOTTOM VIEW



FH1.5,Top entry type, 4PIN

USB5V	DM	DP	DGND
PIN1	PIN2	PIN3	PIN4

Lens parameter:4G2P+IR

EFL:2.8mm±5%

F.NO:2.2±5%

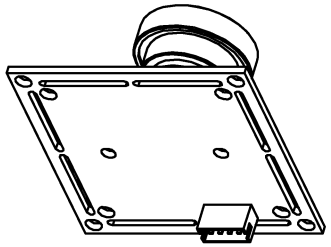
View Angle:D112° ,H100° ,V80°

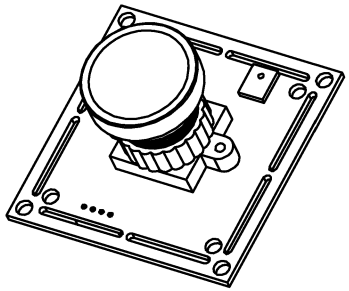
Distortion:<-3.28%

Chip Type:1/2.7"

Array Size:2MP

Lens Size:18mm





UNSPECIFIED TOL:		SIGNATURE	DATE	R & D Center			DONGGUAN HANPO ELECTRONIC TECHNOLOGY CO.,LTD
.XXX ± 0.005	DWN. BY	MIKE	2022.05.30				
.XX ± 0.05	CHK. BY			PART NAME			USB Camera
.X ± 0.1	APP. BY			DWG NO			2.03.0987.014
∠ ± 0.5°	MATERIAL	/	SCALE	UNIT	SHEET	SIZE	PART NO.
	TREATMENT	/	1:1	mm	1/1	A4	/

PS5268 Full-HD 1080p HDR CMOS IMAGE SENSOR

General Description

The **PS5268** is a low power, highly integrated CMOS image sensor that output of **1920x1080 (Full HD-1080p)** pixels with rolling shutter readout. It embedded the new FinePixel™ and HDR sensor technology to perform the excellent image quality and single-shot high dynamic range synthesized image output. **PS5268** outputs linear 14-bit or local tone mapped 12-bit raw data through MIPI CSI-2 interface with very low power consumption. It is available in **CSP** package.

The **PS5268** can be programmed to set the exposure time for different luminance condition via I2C™ serial control bus. Embedded HDR image synthesis with local tone mapping to deliver high performance, cost effective and time to market for high resolution HDR application. By programming the internal register set, it performs on-chip black level correction and high temperature image quality control.

Features

- **Image size : 1928 x 1088 pixels with Bayer-RGB color filter array and micro-lens**
- **Output format:**
  - **14bit Linear HDR-RAW RGB**
  - **12bit HDR + Local Tone Mapped RAW RGB**
  - **10bit Linear RAW RGB**
- **Output interface**
  - **12bit parallel DVP output**
  - **2-lane MIPI output (up to 800Mbps per lane)**
- **I2C™ Interface with two kinds of Slave_ID**
- **Low Power consumption**
- **High sensitivity**
- **Support on-chip HDR synthesis**
- **Image sensor processor functions :**
  - **Automatic black-level calibration**
  - **Embedded Local Tone Mapping**
  - **Black sun cancellation**
- **Support sensor frame synchronization**
- **On-chip PLL (input_clock / PLL_m >= 1MHz)**
- **On-chip column A/D converter**
- **On-chip manual analog gain control**
- **Continuous variable frame time & exposure time**
- **Support WOI and subsampling**
- **Support dummy line & pixel timing**
- **Support output Hsync at Vsync**
- **Support 1.7V~3.3V I/O**
- **Support Fast Auto Exposure (FAE) function**

Specifications

Parameter	Typical Value
Active array size	1928(H) x 1088(V)
Pixel size	3.0um (H) x 3.0um (V)
Shutter type	Electronic rolling shutter (ERS)
Optical format	1/2.7-inch
Lens chief ray angle	17 degree
ADC	10-bit
Sensitivity	5800 mV/Lux-sec
SNRmax	41 dB
Dynamic range	85 dB
Scan mode	Progressive scan
Input clock	Max 50MHz
Pixel clock	Max 148.5MHz
Max. frame rate	1080p: 1920x1080 Linear@ 60fps 1080p: 1920x1080 HDR+LTM @30fps
Supply voltage	Analog: 3.3 V Digital: 1.2 V I/O: 1.8V / 3.3V
Power consumption	75mW@1080p30 (MIPI) 54.5mW@1080p30 (DVP w/o I/O) 124mW@HDR-LTM1080p30 (MIPI) 107mW@HDR-LTM 1080p30 (DVP w/o I/O)
Operating temperature	-30ºC ~ 85ºC

Applications

- **Surveillance HD-CCTV Camera**
- **Surveillance IP Camera**
- **Car Video Recorder**
- **Video Door Phone**

Ordering Information

Part Number	Description
PS5268LT	47-ball CSP

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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	The Naked Eye	Major Difference is Not Allowed.
		Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)
	Holder	Scratches	The Naked Eye	The Inside Crack Exposure is Not Allowed
		Gap	The Naked Eye	Meet the Height Standard
		Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)
		Damage	The Naked Eye	The Inside Crack Exposure is Not Allowed
	Lens	Scratch	The Naked Eye	No Effect On Resolution Standard
		Contamination	The Naked Eye	No Effect On Resolution Standard
		Oil Film	The Naked Eye	No Effect On Resolution Standard
		Cover Tape	The Naked Eye	No Issue On Appearance.
Function	Image	No Communication	Test Board	Not Allowed
		Bright Pixel	Black Board	Not Allowed In the Image Center
		Dark Pixel	White board	Not Allowed In the Image Center
		Blurry	The Naked Eye	Not Allowed
		No Image	The Naked Eye	Not Allowed
		Vertical Line	The Naked Eye	Not Allowed
		Horizontal Line	The Naked Eye	Not Allowed
		Light Leakage	The Naked Eye	Not Allowed
		Blinking Image	The Naked Eye	Not Allowed
		Bruise	Inspection Jig	Not Allowed
		Resolution	Chart	Follows Outgoing Inspection Chart Standard
		Color	The Naked Eye	No Issue
		Noise	The Naked Eye	Not Allowed
		Corner Dark	The Naked Eye	Less Than 100px By 100px
		Color Resolution	The Naked Eye	No Issue
Dimension		Height	The Naked Eye	Follows Approval Data Sheet
		Width	The Naked Eye	Follows Approval Data Sheet
		Length	The Naked Eye	Follows Approval Data Sheet
		Overall	The Naked Eye	Follows Approval Data Sheet

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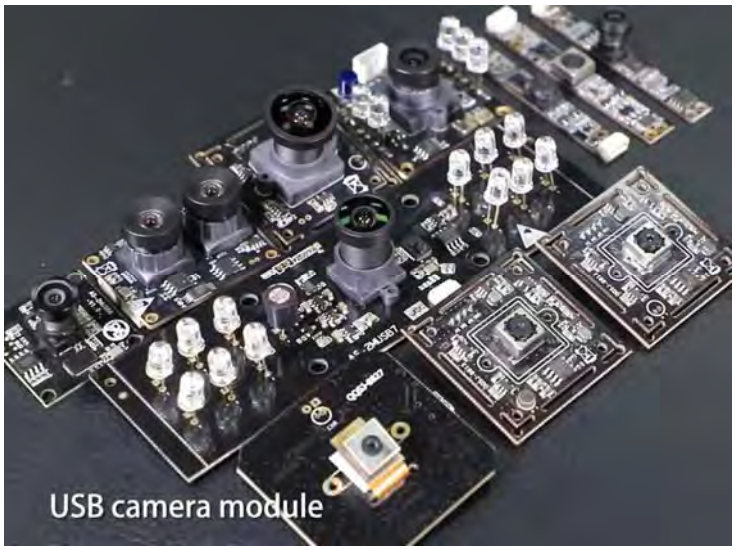
Company HAMPO

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 subsequential events.

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