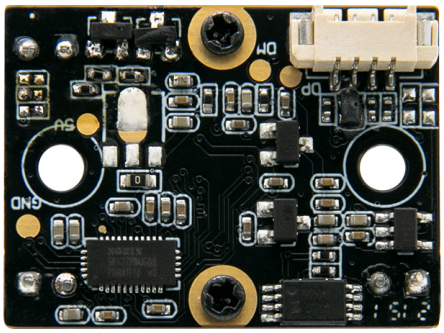
HAMPO-USB-1742-V1.0

1MP SP1405 M12 Fixed Focus USB 2.0 Camera Module



HAMPO-USB-1742-V1.0 is a is a high quality 720P mini camera module, based on the 1/4" SP1405 CMOS sensor, with an integrated 1280H×720V pixel array, which has the high and stable image quality.

The S-mount (M12) lens holder enables customers to choose different lens as per varies applications. This camera module is ideal solution for video doorbell, smart lock, charging pile, access robotic.

Key Features

- 2MP resolution (1920 x 1080) Full HD
- High speed USB 2.0 Plug and Play
- MJPG and YUV2 output format
- Low illumination
- Compact size
- UVC compliant to Windows, Linux, OS with UVC driver
- High cost effective USB camera module

HAMPO-USB-1742-V1.0
1MP SP1405 M12 Fixed Focus USB 2.0 Camera Module

Camera Module No.	HAMPO-USB-1742-V1.0
Resolution	1MP
Image Sensor	SP1405
Sensor Type	1/4"
Pixel Size	3.0 um x 3.0 um
EFL	2.28 mm
F.NO	2.0
Pixel	1280 x 720
View Angle	140°(DFOV) 110°(HFOV) 78°(VFOV)
Lens Dimensions	11.5 mm
Module Type	Fixed Focus
Lens Model	HAMPO-LENS-7007
Interface	USB 2.0
Output Format	MJPG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	/
Input Voltage	DC 5V
Working Current	Max 200mA
PCB Size	22mm x 30mm
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

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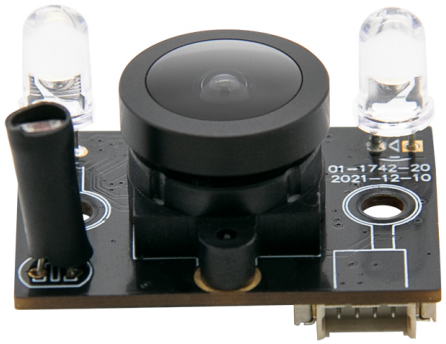

Top View

Side View

Bottom View

Mating Connector

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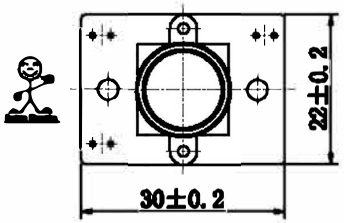
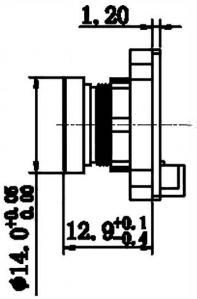
FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	**45 FPS**
	1024 x 768 (Super VGA)	**30 FPS**
	1280 x 720 (720P)	**30 FPS**
YUY2	640 x 480 (VGA)	**30 FPS**
	1024 x 768 (Super VGA)	**10 FPS**
	1280x 720 (720P)	**10 FPS**

RoHS

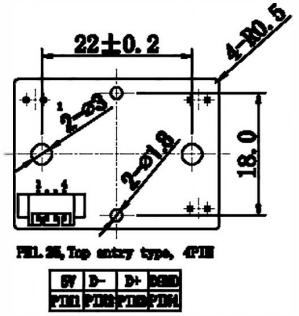
TOP VIEW

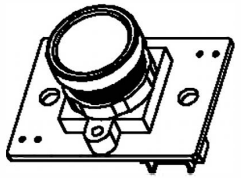


SIDE VIEW



BOTTOM VIEW





Lens parameter: 1D4P+IR

EFL: 1.7mm

F.NO: 2.2

View Angle: D142° , H110° , V85°

Distortion: <-18%

Chip Type: 1/4"

Array Size: 720P

Thread Size: M12*P0.5

NOTE

1. Sensor :SP1405-A35A 1/4 INCH 720P CMOS IMAGE SENSOR 35PIN;

UNSPECIFIED TOL:		SIGNATURE	DATE	R & D Center	DONGGUAN HANPO ELECTRONIC TECHNOLOGY CO.,LTD	
.XXX ± 0.005	DWN. BY	MIKE	2022.06.17			
.XX ± 0.05	CHK. BY			PART NAME	USB Camera	
.X ± 0.1	APP. BY			DWG NO	2.03.1742.025	
∠ ± 0.5'	MATERIAL	/	SCALE	UNIT / SHEET	SIZE	PART NO.
	TREATMENT	/	1:1	mm / 1/1	A4	/

1/4 Inch 720p CMOS Image Sensor
SP1405

Specification

Version Commercial 1.2

2019.09.23

SuperPix Micro Technology Co., Ltd

1/4 Inch 720p CMOS Image Sensor Part Number SP1405

SP1405 is a 1/4 inch 720p format CMOS digital image sensor. A 1280 x 720 active image array with a Bayer color filters are embedded into it, which makes SP1405 be able to provide up to 30fps@1280x720 mode, 45fps@640x480 mode, and 60fps@640x360 mode. Integrated proprietary technology assists to cancel Fixed Pattern Noise (FPN), eliminate smearing, and reduce blooming. This product is used in video surveillance or traffic sign recognition. It provides full-frame, sub-sampled, cropped images in various formats and parameters are programmable through a standard I^2C interface. The default mode and programmable mode of it allow a more convenient way for controlling the parameters of frame size, exposure time, gain value, and so on. 10-bit (default) raw data can be output though the parallel interfaces and a single lane MIPI interface with transfer rate of up to 360Mbps. The SP1405 is a RAW sensor that contains a variety of highly improved analog signal processing circuits, such as windowing, offset, mirror and flip, auto black level calibration, bad pixel correction, etc. With these remarkable features, the SP1405 becomes the best-in-class image sensor, and will bring users vivid pictures and excellent experience. Please contact us with no doubt to find out more.

Function list

- CMOS Image Sensor

Applications

- Security Surveillance
- Traffic Sign Recognition
- Video Surveillance
- Motion camera
- IP camera

Ordering information

SP1405-A35A (color, lead-free)

35-pin CSP

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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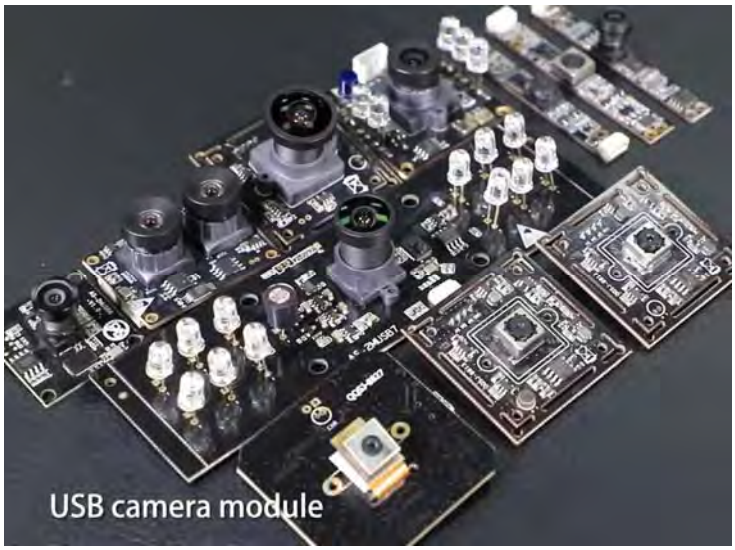
Company HAMPO

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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