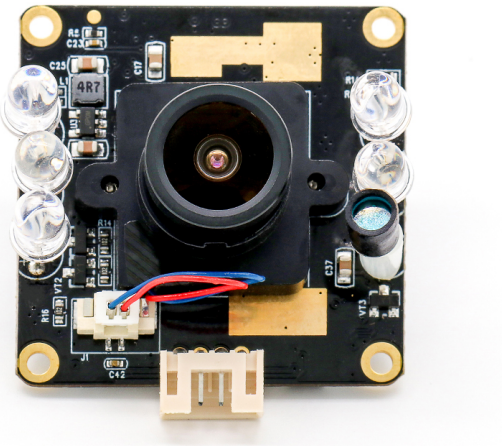
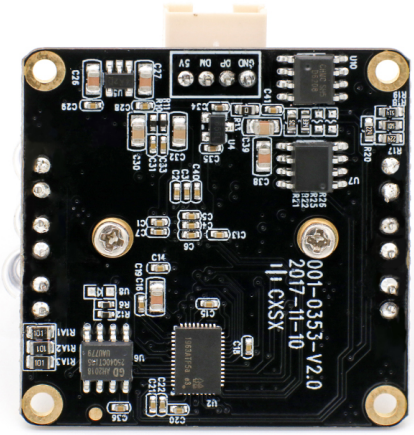
HAMPO-USB-0353-V1.0

2MP OMNIVISION OV2710 M12 Fixed Focus USB 2.0 Camera Module





HAMPO-USB-0353-V1.0 is a high speed 30ps embedded Usb Camera Module:G high fps 2 MP usb camera module with High Speed 1920X1080@30fps, to provide more stable and smooth recording quality. Full HD 1080P web cam board module are great suitable for recording conference/class/video streaming videos,etc. Support OTG optional.

Key Features:

- Night vision camera support IR-cut.
- 2MP FHD 1080P 30fps High-definition Mini Web Camera Module
- Free Driver Wide Angle Mini USB Camera Module
- Full HD Light Correction camera,switch automatically based on light condition.
- Plug&Play: UVC-compliant, just connect the camera to PC computer, laptop, Android device or Raspberry Pi with the USB cable without extra drivers to be installed.

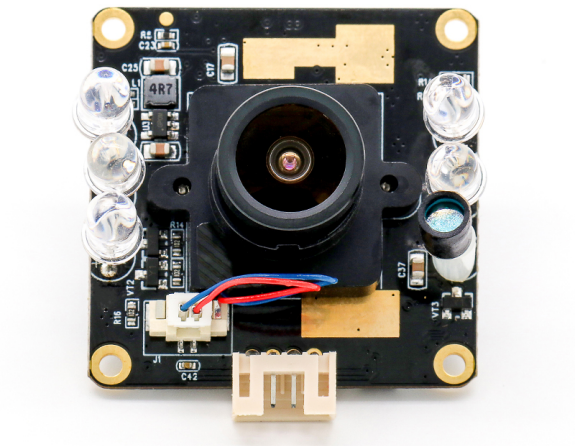
HAMPO-USB-0353-V1.0
2MP OMNIVISION OV2710 M12 Fixed Focus USB 2.0 Camera Module

Camera Module No.	HAMPO-USB-0353-V1.0
Resolution	2 MP
Frame Rate	30fps
Sensor Type	1/2.7"
Pixel Size	3.4um x 3.4um
EFL	3.2 mm
F.NO	2.5
Dynamic Range	69 dB
View Angle	96°(DFOV) 85°(HFOV) 50°(VFOV)
Lens TTL	14.78 mm
Module Type	Fixed Focus
Lens Model	HAMPO-LENS-9040
Interface	USB 2.0
Output Format	YUY2/MJPG
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	Digital Mic
Input Voltage	DC 5V
Working Current	Max 500mA
PCB Size	38mm*38mm
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	Five 850 infrared leds
Operating Temperature	-30°C to +85°C
Mount	M12*P0.5mm

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

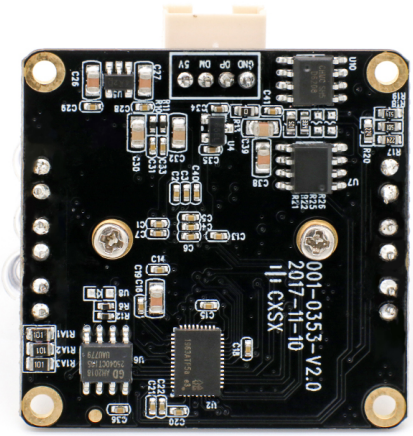
HI-SPEED CERTIFIED USB 2.0 Windows ANDROID Mac OS Linux Raspberry Pi

HAMPO-USB-0353-V1.0
2MP OMNIVISION OV2710 M12 Fixed Focus USB 2.0 Camera Module

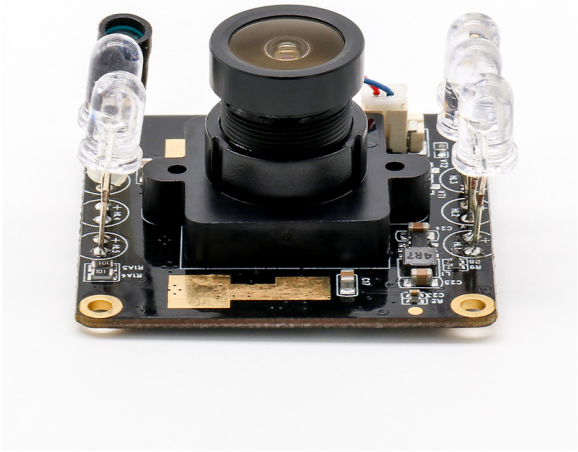


Top View

Side View



Bottom View



Side View

HAMPO-USB-0353-V1.0
2MP OMNIVISION OV2710 M12 Fixed Focus USB 2.0 Camera Module

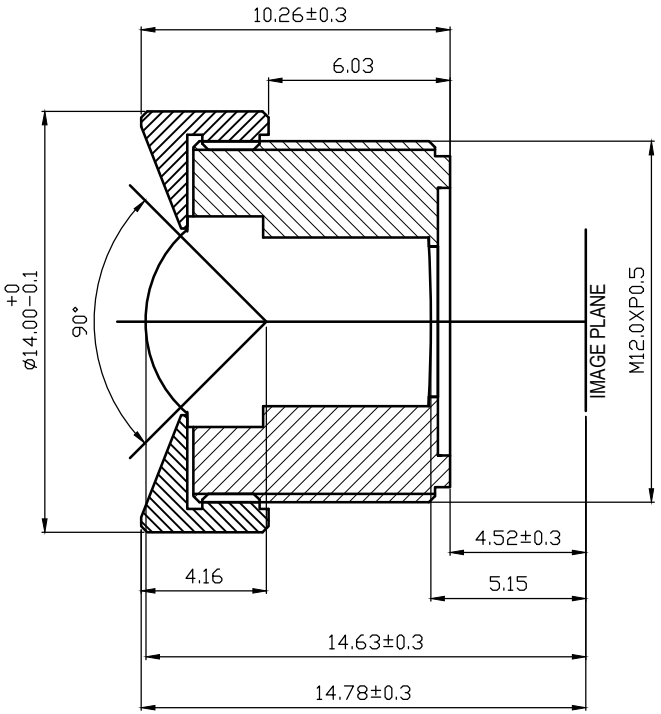
FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	**30 FPS**
	1024 x 768 (Super VGA)	**30 FPS**
	1280 x 720 (720P)	**30 FPS**
	1920x 1080 (2MP)	**30 FPS**
YUY2	640 x 480 (VGA)	**30 FPS**
	1024 x 768 (Super VGA)	**10 FPS**
	1280x 720 (720P)	**10 FPS**
	1920 x 1080 (2MP)	**5 FPS**

PRODUCT NAME :

1. SPECIFICATION :

		GC2093 1920*1080
1.SENSOR SIZE		
2.WAVELENGTH	λ=	–
3.FOCAL LENGTH (EFL)	f=	3.2 mm
4.F/NO (INFINITE)	F/NO=	2.5
5.BACK FOCAL LENGTH	BFL=	5.15 mm
6.FLANGE BACK LENGTH	FB=	4.52 mm
7.FIELD OF VIEW (DIAGONAL)	=	D=90°±5° H=79°±3° V=48°±3°
8.OPTICAL DISTORTION (DIAGONAL)	<	−9.8%
9.Thread Size		M12XP0.5−6g
10.Element		2G2P+IR
11.CRA		15°
12. NO IR FILTER SPEC.(Built−in,Others available)		

2. OPTICAL LAYOUT :



REV	DESCRIPTION	DATE	NAME
①			
②			
③			
④			

VIEW	REV	OO	
SCALE	1:1	DRAWN	
DATE	2021.06.29	CHECKED	
BORDER	A4	APPROVED	

applications

- notebook computers
- high-end video conferencing
- security

ordering information

- **OV02710-A68A** (color, lead-free)
  68-pin CSP3

features

- programmable controls: gain, exposure, frame rate, image size, horizontal mirror, vertical flip, cropping, windowing, and panning
- automatic image control functions: automatic exposure (AEC), automatic gain control (AGC), automatic white balance (AWB) and automatic black level calibration (ABLC)
- serial camera control bus (SCCB)
- lens correction (LENC)
- deffective pixel correction (DPC)
- digital video port (DVP) parallel output interface
- integrated auto focus filter
- support for digital video port (DVP)
- support for one lane MIPI interface (up to 800 Mbps)
- support for output formats: 8-/10-bit RAW RGB
- support for image sizes: 1080p @ 30 fps, cropped 720p @ 60 fps, and VGA @ 60 fps
- support for black sun cancellation
- embedded one-time programmable (OTP) memory
- on-chip phase lock loop (PLL)
- built-in 1.5V regulator for core

key specifications

- **active array size:** 1920x1080
- **power supply:**
  analog: 3.0~3.6V (3.3V typical)
  core: 1.425~1.575V (1.5V typical)
  I/O: 1.7~3.6V (1.8V typical)
- **power requirements:**
  active: 350 mW
  power down: 70 µA
- **temperature range:**
  operating: -30°C to 70°C (see **table 8-2**)
  stable image: 0°C to 50°C (see **table 8-2**)
- **output interfaces:** 10-bit parallel / one-lane MIPI
- **output formats:** RAW RGB (10-bit)
- **lens size:** 1/2.7"
- **lens chief ray angle:** 23.6° (see **figure 10-2**)
- **input clock frequency:** 6 ~ 27 MHz
- **scan mode:** progressive
- **maximum image transfer rate:**
  1080p: 30 fps
  cropped 720p: 60 fps
  VGA: 120 fps
  QVGA: 240 fps
- **sensitivity:** 3300 mV/(Lux-sec)
- **shutter:** rolling
- **S/N ratio:** 39 dB
- **dynamic range:** 69 dB
- **maximum exposure interval:** 1096 tline
- **pixel size:** 3 µm x 3 µm
- **dark current:** 20 mV/sec @ 60°C
- **well capacity:** 13 Ke^-
- **fixed pattern noise (FPN):** 1% of $V_{PEAK-TO-PEAK}$
- **image area:** 5856 µm x 3276 µm
- **package dimensions:** 7465 µm x 5865 µm

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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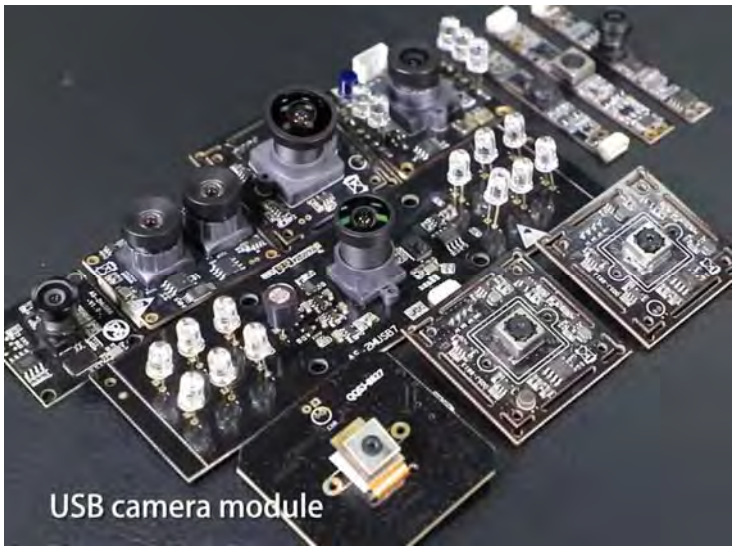
Company HAMPO

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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