

# Specification

USB 2.0 camera module 3.14 Mpix



## General Description

This is 3.14 mega pixel and AF camera module with sensor on board, lens module and USB2.0 video/image process controller. It is designed for all kinds of electronic image processing.

The OV5640 is a low voltage, high performance, 1/4 inch CMOS image sensor that provides the full functionality of a single chip camera using OmniBSI™ backside illumination architecture in a small footprint package. It provides full-frame, sub-sample, windowed or arbitrarily scaled 8-bit/10-bit images in various formats via the control of the Serial Camera Control Bus (SCCB) interface.

## Features

- USB specification compliance
  - USB 2.0 and USB 1.1 compliance
  - USB video V1.1 compliance (UVC)
  - USB high speed, full speed auto switching
- Supports QXGA, SXGA, 1080P, 720P, VGA, CIF output formats.
- USB Video Class compliant, works with native driver in Microsoft Windows XP 32-bit/64-bit, VISTA 32-bit/64-bit, Windows 7 and Windows 8 system, also with Linux with UVC Video4Linux
- Auto Exposure (AE).
- Auto White Balance (AWB)
- Auto Flicker Correction.
- Color Correction.
- Gamma Correction.
- Dark Level Compensation.
- Auto Edge enhancement.
- Software controlled connection to USB bus for re-enumeration.
- Adjustable and dynamic frame rate control on USB transaction.
- Automatic frame rate adjustment when exposure in low light environment.
- Selective suspend to minimize power consumption.

**Edition: 06/2015**

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### Character:

- Total height: 80°: 13.00 mm +/- 0.10 mm
- The dimension of lens's seat: 8.0 × 8.0 mm.
- With IR Filter
- Working temperature: 0°C ~ 50°C
- Storage temperature: -40°C ~ 80°C

Parameter	SPEC.
Optical sensor	OV5640, 1/4 inch COMS sensor
Sensor resolution	2592 (H) x 1944 (V), QSXGA
Unit pixel size	1.4 um
Image area	3673.6 x 2738.4 micrometer
Color filter	RGB Bayer pattern
Shutter type	Electronic rolling shutter
Max. video frame rate	90fps@VGA, 30fps@720p
F Number	2.8
AEC / AGC/ white balance	Auto
Focus distance	Fix focus 30 cm - ∞
Interface	USB 2.0
Power	USB Bus Power
Dimensions (mm) (L x W)	60 mm x 8 mm
Operating temperature	0°C ~ 50°C
Operating system request	Windows XP, Windows 7/8
Max pixel rate	28 Mp/s
ADC accuracy	10-bit
USB 2.0 PHY	On Chip PHY
Power consumption suspend	90 mA ± 5 mA
operating	430 mA ± 5 mA @ 640x480

### Video capability

Standard	Resolution	fps
HVGA	320 x 480	30 fps
VGA	640 x 480	30 fps
XGA	1024 x 768	30 fps
720p	1280 x 720	30 fps
	1280 x 960	30 fps
	1600 x 1200	15 fps
1080p	1920 x 1080	15 fps
	2048 x 1536	15 fps

### System requirements

- Device with Microsoft Windows Vista/7/8 or Linux above kernel 2.6.15 with Video4Linux

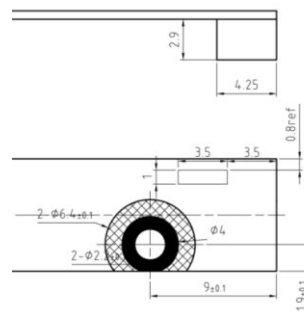
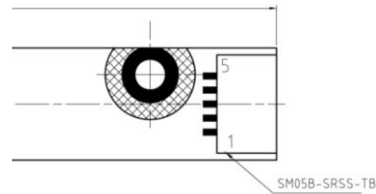
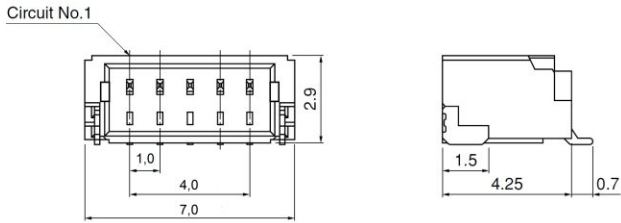
### Optical lens specification

Fied of view	F	Elements
D=170° / H=107° / V=80°	2.5	4

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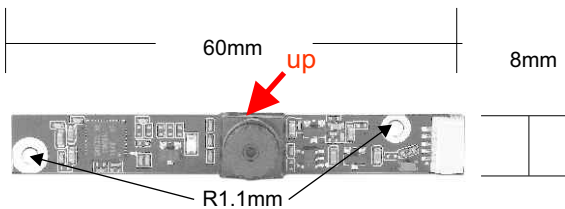
## Pin assignment



(5pin 1.0mm pitch) connector definition:

1. USB-D+
2. USB-D-
3. USB-5v
4. N/C
5. GND

## Structural diagram

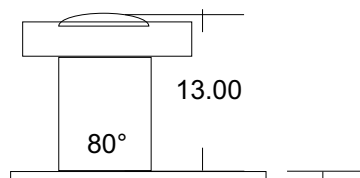


## Optional cable:

10cm Connector to Pin-Wires  
1.5M Connectors to USB type A



## lens height



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### **WEEE note**

The WEEE (Waste Electrical and Electronic Equipment) directive, which came into force on 13 February 2003, lead to a comprehensive change in the disposal of used electric products. It is the main purpose of this directive to avoid electric waste products (WEEE), while simultaneously promoting the re-usage, recycling and other forms of reconditioning in order to reduce the amount of waste. The WEEE logo on the product and the package shows that the product should not be disposed of with regular garbage. You are responsible for disposing all used electric and electronic devices at the corresponding collection sites. The separate collection and meaningful re-usage of electronic waste helps to deal with natural resources more economically. In addition, re-using electronic waste contributes to the preservation of the environment and human health. Additional information regarding the disposal of electric and electronic devices, their re-usage and the collection sites can be found at your local authorities, disposal companies, specialist shops and the manufacturer of the product.

### **RoHS conformity**

This product complies with the directive 2002/95/EC of the European parliament and the council from January 27th 2003 concerning the restricted use of dangerous substances in electrical and electronical devices (RoHS) as well as its modification. This product complies with the directive 2011/65/EU which becomes effective from January 3rd 2013.

### **Support**

If you have further questions, please contact  
your local distributor or our customer support : [support@ibt.ca](mailto:support@ibt.ca)

You can find current product information on our website at : [www.ibt.ca](http://www.ibt.ca)

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