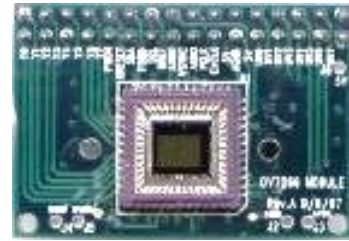


# C3188

## 1/3" Color Camera Module With Digital Output

### General Description

The C3188 is a 1/3" color camera module with digital output. It uses OmniVision's CMOS image sensor OV7610. Combining CMOS technology together with an easy to use digital interface makes C3188 a low cost solution for higher quality video image application.



The digital video port supplies a continuous 8/16 bit-wide image data stream. All camera functions, such as exposure, gamma, gain, white balance, color matrix, windowing, are programmable through I<sup>2</sup>C interface.

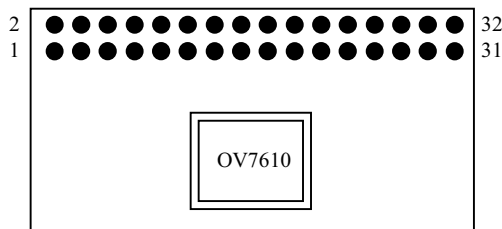
In combine with OV511, USB controller chip, it will be easily form a USB camera for PC application.

### Features:

- 307,200 pixels, VGA / CIF format
- Small size : 40 x 28 mm
- Lens: f=6mm (Optional)
- 8/16 bit video data : CCIR601, CCIR656, ZV port
- Read out - progressive / interlace
- Data format -YCrCb 4:2:2, GRB 4:2:2, RGB
- I<sup>2</sup>C interface
- Electronic exposure / Gain / White balance control
- Image enhancement - brightness, contrast, gamma, saturation, sharpness, window, etc
- Internal / external synchronization scheme
- Frame exposure / line exposure option
- Single 5V operation
- Low power consumption (<300mW)
- Monochrome composite video signal output

### Specification

Imager	OV7610, CMOS image sensor
Array Size	644 x 484 pixels
Pixel size	8.4 x 8.4 μm
Scanning	Progressive / interlace
Effective image area	5.4mm x 4mm
Electronic Exposure	500:1
Gamma Correction	0.45/1.0
S/N Ratio	42dB
Min Illumination	20lux @F1.4
Operation Voltage	5 VDC
Operation Current	200mW Active 100 μW Standby
Lens (Optional)	f6mm, F1.6



PCB Layout

### Pin Description

1~8	Y0~Y7	Digital output Y Bus.
9	PWDN	Power down mode
10	RST	Reset
11	SDA	I <sup>2</sup> C Serial data
12	FODD	Odd Field flag
13	SCL	I <sup>2</sup> C Serial clock input
14	HREF	Horizontal window reference output
15	AGND	Analog Ground
16	VSYN	Vertical Sync output
17	AGND	Analog Ground
18	PCLK	Pixel clock output
19	EXCLK	On chip video oscillator clock output
20	VCC	Power Supply 5VDC
21	AGND	Analog Ground
22	VCC	Power Supply 5VDC
23~30	UV0-UV7	Digital output UV bus.
31	GND	Common ground
32	VTO	Video Analog Output (75Ω monochrome)

### Application Example

- Video Conferencing
- PC Multimedia
- Video Phone
- Video Mail
- Still Image
- Machine Vision
- Process control

Note: Evaluation Board is available for C3188