



**General Description**

The C3038 is a 1/3" color sensor module with digital output. It uses OmniVision's CMOS image sensor OV6630. Combining CMOS technology together with an easy to use digital interface makes C3038 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.

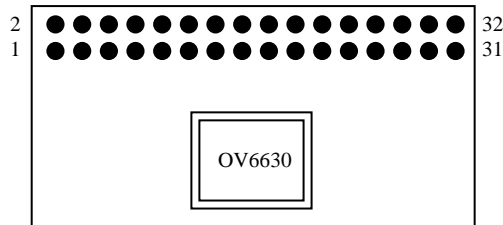


**Features:**

- 101,376 pixels, CIF/QCIF format
- Small size : 40 x 28 mm
- Lens: f=4.9mm (Optional)
- 8/16 bit video data : ITU601, ITU656, ZV port
- Read out - progressive
- 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
- Wide dynamic range, anti blooming, zero smearing
- 3.3V operation
- Low power dissipation
- Monochrome composite video signal output (50Hz)

**Specification**

Imager	OV6630, CMOS image sensor
Array Size	356 X 292 pixels
Pixel size	9 X 8.2 μm
Scanning	Progressive
Effective image area	3.1mm x 2.5mm
Electronic Exposure	500:1
Gamma Correction	0.45/0.55/1.0
S/N Ratio	>48dB
Min Illumination	3lux @F1.2
Operation Voltage	3.3 VDC
Operation Current	<20mA Active 10 μA Standby
Lens (Optional)	f4.9mm, F2.8 FOV34.4x20.7° f3.7mm, F2.0 FOV43.7x25.8°



PCB Layout (Top view)

**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	External clock input (need to remove crystal)
20	VCC	Power Supply 3.3VDC
21	AGND	Analog Ground
22	VCC	Power Supply 3.3VDC
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