

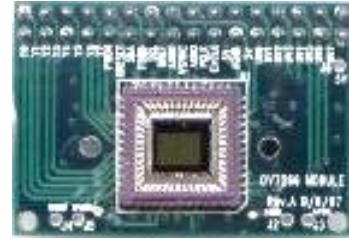
# C38A

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

### General Description

The C38A is a 1/3" color camera module with digital output. It uses OmniVision's CMOS image sensor OV7620. Combining CMOS technology together with an easy to use digital interface makes C38A 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.

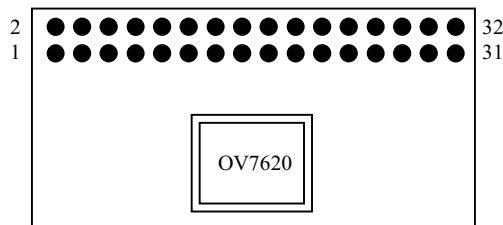


### Features:

326,688 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  
Built in 10bit 2 ch A/D converter  
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  
Single 5V operation  
Low power consumption (<120mW)  
Monochrome composite video signal output (60Hz)

### Specification

Imager	OV7620, CMOS image sensor
Array Size	664x492 pixels
Pixel size	7.6 x 7.6 $\mu$ m
Scanning	Progressive / interlace
Effective image area	4.86mm x 3.64mm
Electronic Exposure	500:1
Gamma Correction	128 curve settings
S/N Ratio	>48dB
Min Illumination	2.5lux @F1.4
Operation Voltage	5 VDC
Operation Current	120mW Active 10 $\mu$ W Standby
Lens (Optional)	f6mm, F1.6



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 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 (75 $\Omega$ monochrome)

### Application Example

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

Note: Evaluation Board is available for C38A