

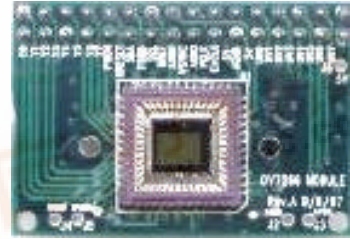
C3188A 1/3" Color Camera Module With Digital Output

General Description

The C3188A 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 C3188A 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 I²C interface.

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

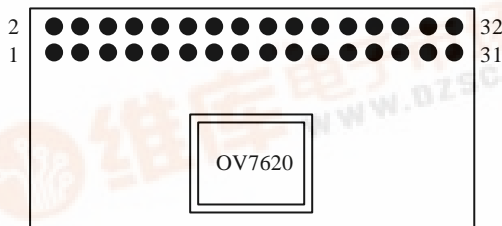


Features:

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
I²C 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 μ 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 μ 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 ² C Serial data |
| 12 | FODD | Odd Field flag |
| 13 | SCL | I ² 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 Ω monochrome) |

Application Example

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

Note: Evaluation Board is available for C3188A