



General Description

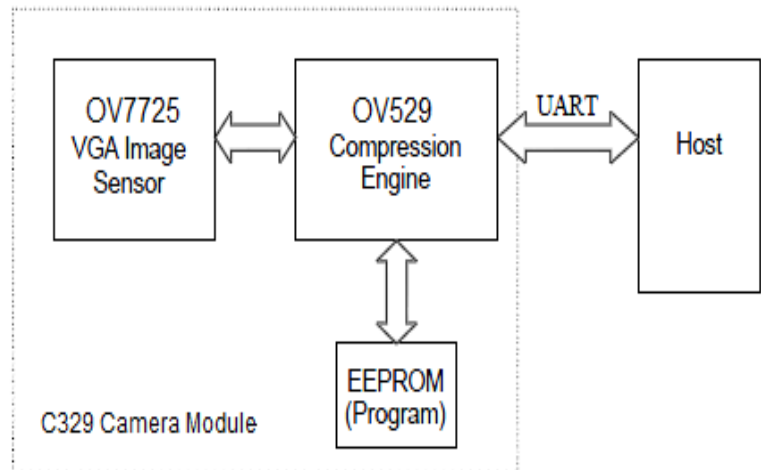
The C329 is a color VGA camera module which performs JPEG compression and can attach to a host via a RS232 interface. Users can send a Snapshot command from the host in order to capture an image. The image is then compressed by the board, stored in an internal buffer and transferred to the host through the serial port. Sensor used is a 1/4" OmniVision VGA sensor with an 8-bit YcbCr interface and 3.8 V/(Lux Sec) sensitivity. The OV529 Serial bridge contains an Embedded JPEG CODEC and controller chip that can compress and transfer image data from the Camera Sensor to an external device. The OV529 performs all imaging function like white balance, downsizing and compressed image storage. A Serial EEPROM provides the program code that gives the OV529 its interface and command set.

**C329-UART-CAMERA-BOARD
(lens sold seperately)**



Features

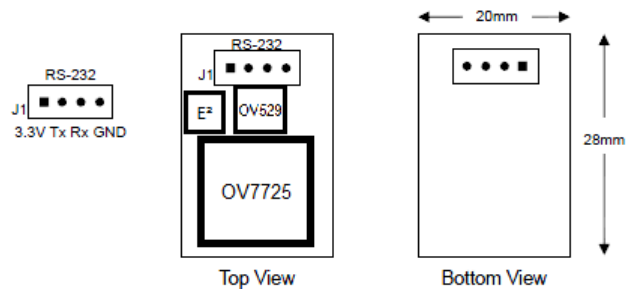
- Small Size, 20x28mm
- Adjustable resolution resolution, Max VGA
- 3.3V operation
- Low Power consumption 20mA passive, 80mA active
- UART Interface up to 921.6Kbps
- Power Saving Mode
- Multiple lens options
- Multiple interface options (SPI version available)



System Block Diagram

Following lenses are optionally available:

- f2.2mm F2.5 Lens & Holder (No IR cut filter) (BB221)
- f2.5mm F2.0 Lens & Holder (No IR cut filter) (BB289)
- f3.6mm F2.0 Lens & Holder (No IR cut filter) (BB232)
- f3.6mm F2.0 Lens & Holder (With IR cut filter) (BB291)
- f6.0mm F1.6 Lens & Holder (No IR cut filter) (BB224)
- f6.0mm F1.6 Lens & Holder (With IR cut filter) (BB270)



C329-UART board Layout and Serial Interface

Please see our web site for the complete user manual.

Singe Byte Timing

A Single RS232 Byte consists of a Start Bit, 8 Data Bits (LSB first) and a Stop Bit. The dormant state of the line is 1, a Start bit is always 0 while a stop bit is always 1.

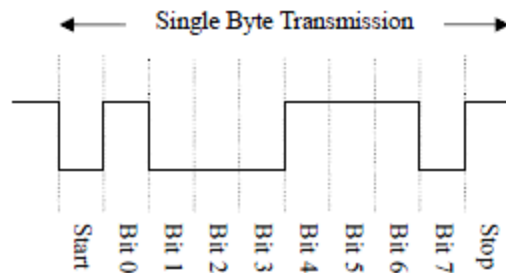


Figure 3 - RS232 Byte

Command timing

A Single command consists of 8 continuous RS232 bytes. For Example the SYNC command (FFFFFF0D00000000)

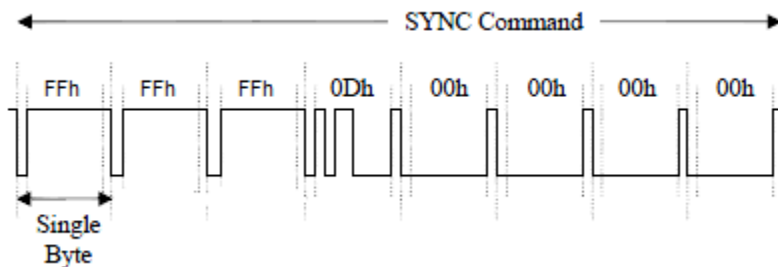


Figure 4 – C329 Sync Command timing Diagram

Code Implementation

Here is an example of how to SYNC with the C329:

- Send Get SYNC command. (FFFFFF0D00000000h)
- Wait 25ms
- Did we get ACK (FFFFFF0E0Dnn0000h)? If NO repeat above command up to 60 times.
- Did we get SYNC? If NO repeat above.
- Send ACK command.

Here is an example of how to establish communication with the C329 for the first time:

- Set Remote Baud Rate to 14,400 bps
- Get SYNC
- Change C329 Baud Rate with command (FFFFFF0101870107h)
- Set Remote Baud Rate to new BAUD (921,600) in this example.
- Get SYNC

Here is an example of the commands required to quickly capture and transfer an image form the C329 to an embedded system:

- Establish communication as above.
- Send command INIT (FFFFFFF0101870107h)
- GET ACK (FFFFFF0E01nn0000h)
- Send command SELECT IMAGE QUALITY (FFFFFF1000000000h)
- GET ACK (FFFFFF0E10nn0000h)
- Send command GET PICTURE (FFFFFF0405000000h)
- GET ACK (FFFFFF0E04nn0000h)
- GET ACK (FFFFFF0AnnL0L1L2h)
- GET Image Data

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