General Description

The C328-7221 is VGA camera module which is specially designed for serial communication and working under low light condition. It performs as a JPEG compressed still camera and can be attached to a wireless or PDA host. Users can send out a snapshot command from the host in order to capture a full resolution single-frame still picture. The picture is then compressed by the JPEG engine and transferred to the host thru serial port.

Block Diagram
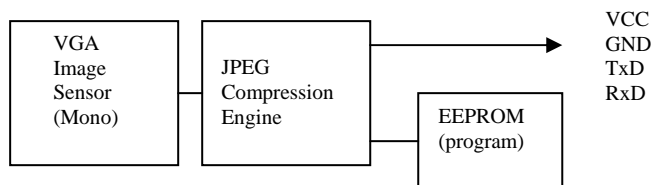
Features

- Small in size, 20x28mm
- Monochrome image sensor used
- 8-bit, 256-level grey level
- Sensitive to IR, good for night vision
- VGA resolution, down sample to QVGA
- 3.3V operation
- Low power consumption 105mA

- User friendly commands for control
- UART interface of up to 115.2Kbps
- Auto detect baud rate and make connection to the host
- Power saving mode
- Various lens options

Pin Description

Pin	Description
VCC	Power 3.3VDC
TxD	Data Transmit (3.3V)
RxD	Data Receive (3.3V)
GND	Power Ground

Connector specification: 2mm pitch, 4pin single row
Reference part no: Suyin 190600
Mating connector: Suyin 140600
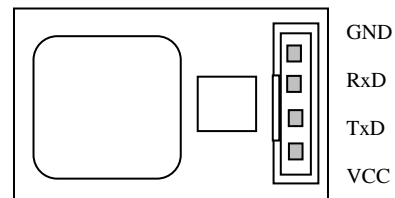
Bottom View

Command Summary

Detail Command control, please refer to the user's manual. Please note the command set is same as C328-7640, only some parameters are different.

1.	Initial	To configure the image size
2.	Get Picture	Get Picture type
3.	Snapshot	Set snap shot image type
4.	Set Package Size	Set the package size to transmit data from module to Host
5.	Set Baudrate	Change the baud rate
6.	Reset	Reset the whole system or reset the state machine
7.	Power Off	To enter sleep mode
8.	Data	Set the data type and length for transmitting data to host
9.	SYNC	Sync signal to connect between host and module
10.	ACK	Command to indicate the communication success
11.	NAK	Command to indicate the communication fail with error code

Electrical Specification

V$_{DD}$ = 3.3V+10%, TA = 0 to 25°C

| Symbol	Parameter	Condition	Min	Typ	Max	Unit
V$_{DD}$	DC supply voltage		3.0	3.3	3.6	V
Io	Normal Operation Current	Operating		105		mA
Is	Suspend Current	Suspend		1.4		mA
V$_{IH}$	High level input voltage	TTL	2.0			V
V$_{IL}$	Low level input voltage	TTL			0.8	V

Lens Specification

Description	C328V-2225BW	C328V-2520BW	C328V-3620BW	C328V-6016BW
F/#	2.5	2.0	2.0	1.6
Focal length (mm)	2.2	2.5	3.6	6.0
Field of View Diagonal (deg)	120	102.4	71.8	39.8
Filter Option IR-cut filter	NA	NA	NA	NA
Total height from PCB H (mm)	18	24	21	20
Diameter of lens cap D (mm)	15	14	14	14

Board Measurement

Note: All lens holder are with 14x14, thread of 12mmx0.5, height H will be varied from different lens spec.
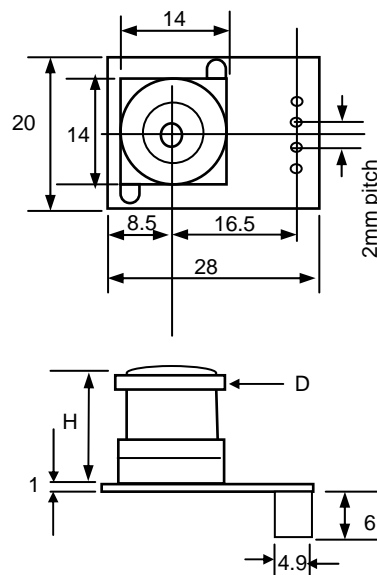
Note: In order to facilitate people for better understanding the communication with the module, we have developed an EV kit, C328-EV232, for user to run under PC Windows environment. However, this module is not designed for PC application. Such PC evaluation is only for better understanding of command control.