

ArduCam[®]

OV2640 Camera Shield for Arduino

Rev 2.1, Feb 2019

Introduction

Arducam-2MP-Plus is a high definition 2MP SPI camera which reduces the complexity of the camera control interface. It integrates 2MP CMOS image sensor OV2640, and has a miniature size as well as the easy-to-use hardware interface and open source code library. The Arducam mini can be used in any platforms like Arduino, Raspberry Pi, Maple, Chipkit, Beaglebone black, as long as they have SPI and I2C interface and can be well mated with standard Arduino boards. Arducam mini not only offers the capability to add a camera interface which some low-cost microcontrollers don't have, but also provides the possibilities to add multiple cameras to a single microcontroller.

Application

1. IoT cameras
2. Robot cameras
3. Wildlife cameras
4. Other battery-powered products
5. Can be used in MCU, Raspberry Pi, ARM, DSP, FPGA platforms

Features

1. 2MP image sensor OV2640
2. M12 mount or CS mount lens holder with changeable lens options
3. IR sensitive with proper lens combination
4. I2C interface for the sensor configuration
5. SPI interface for camera commands and data stream
6. All IO ports are 5V/3.3V tolerant
7. Support JPEG compression mode, single and multiple shoot mode, one time capture multiple read operation, burst read operation, low power mode and etc.
8. Well mated with standard Arduino boards
9. Provide open source code library for Arduino, STM32, Chipkit, Raspberry Pi, BeagleBone Black
10. Small form of factor

Functions

1. Single Capture Mode
2. Multiple Capture Mode
3. Short Video Capture Mode
4. External Hardware Trigger
5. JPEG compression
6. Normal Read and Burst Read Operation
7. Rewind Read Operation
8. Low Power Mode
9. Image Sensor Control

Pin Definition

Pin No.	PIN NAME	TYPE	DESCRIPTION
1	CS	Input	SPI slave chip select input
2	MOSI	Input	SPI master output slave input
3	MISO	Output	SPI master input slave output
4	SCLK	Input	SPI serial clock
5	GND	Ground	Power ground
6	+5V	POWER	5V Power supply
7	SDA	Bi-directional	Two-Wire Serial Interface Data I/O
8	SCL	Input	Two-Wire Serial Interface Clock

Key Specification

Image Sensor: OV2640
 Active array size: 1600×1200
 Shutter: rolling shutter
 Lens: 1/4 inch
 SPI speed: 8MHz
 Frame buffer Size: 8MByte
 Temperature: -10°C~+55°C
 Power Consumption: Normal: 5V/70mA, Low power Mode: 5V/20mA

Typical Wiring

The typical connection between Arducam shield and Arduino or etc platform is shown in the Figure 1.

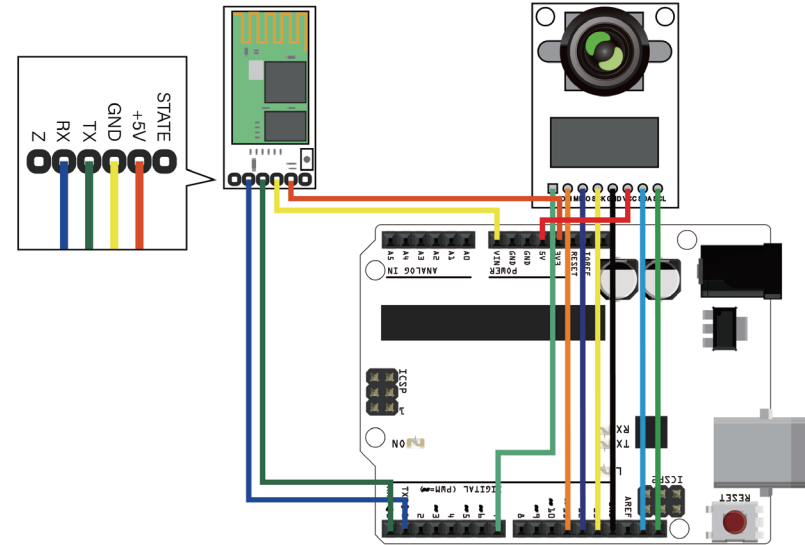
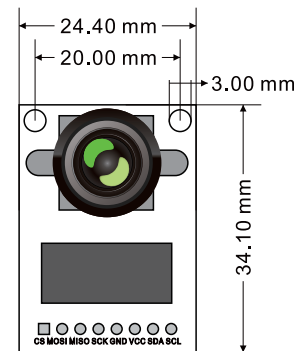


Figure 1 Typical Wiring

Mechanical Dimension



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