

### Features

- ATmega328p core module
- Onboard 3.3V LDO
- Standard USB2Serial interface for uploading and debugging
- Onboard 2.4GHz RF Module (Optional)
- 100% Arduino development environment
- Vertical double row connector, minimum size on the main board
- Full UNO IO supported

### Parameters

**MCU:** ATmega328p 32K Flash 2K SRAM 10bit ADC

**Working Voltage :** 3.3V with onboard LDO

**Input Voltage:** DC 4.5 to 12V

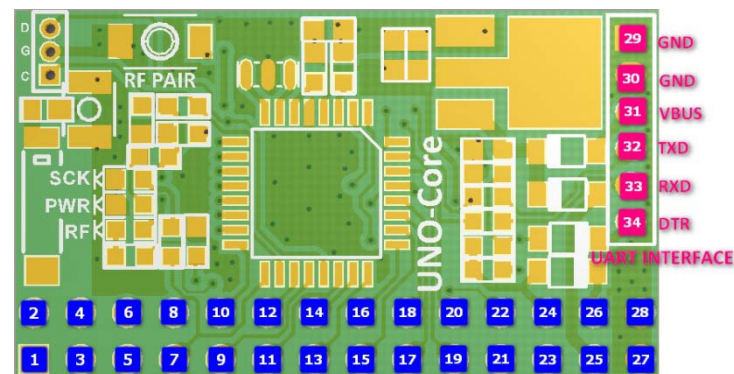
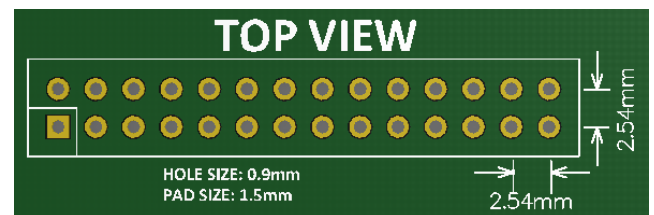
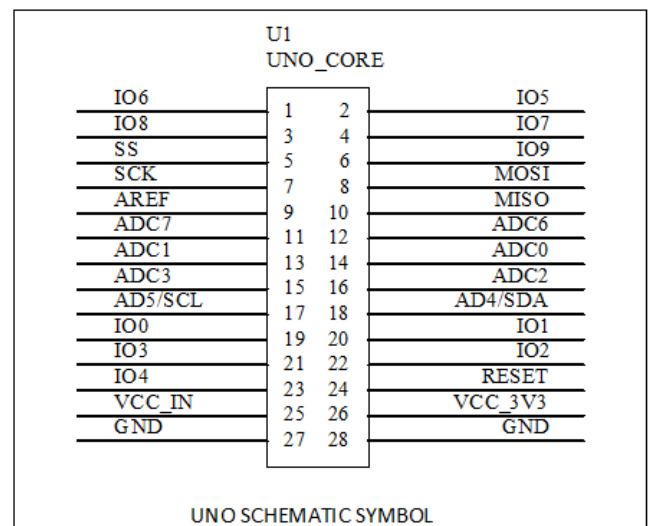
**3.3V Output Current :** 300mA MAX

**PCBA Size:** 20 x 35mm

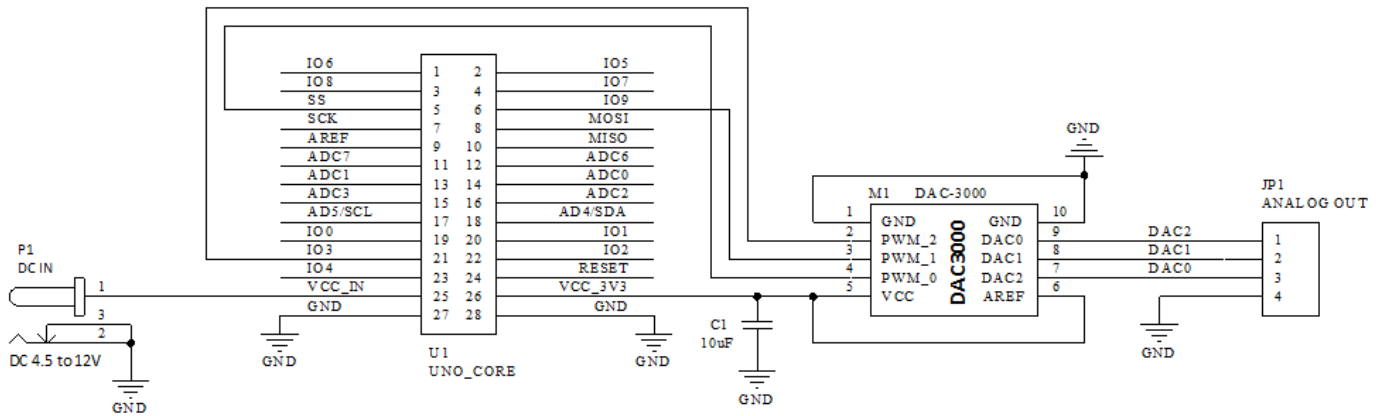
**Bootloader preprogramming :** Arduino UNO R3

### Pin Descriptions

Pin No.	Symbol	I/O	MCU Function	Arduino Function
1	IO6	DIO	PD6/AIN0	#D6
2	IO5	DIO	PD5/OC0B/T1	#D5
3	IO8	DIO	PB0/CLKO/ICP1	D8
4	IO7	DIO	PD7/AIN1	D7
5	SS	DIO	PB2/SS/OC1B	#SS/D10
6	IO9	DIO	PB1/OC1A	#D9
7	SCK	DIO	PB5/SCK	SCK/D13
8	MOSI	DIO	PB3/OC2A/MOSI	#MOSI/D11
9	AREF	AI	AREF	AREF
10	MISO	IO	PB4/MISO	MISO/D12
11	ADC7	DIO/AI	ADC7	A7
12	ADC6	DIO/AI	ADC6	A6
13	ADC1	DIO/AI	PC1/ADC1	A1/D15
14	ADC0	DIO/AI	PC0/ADC0	A0/D14
15	ADC3	DIO/AI	PC3/ADC3	A3/D16
16	ADC2	DIO/AI	PC2/ADC2	A2/D16
17	ADC5	DIO/AI	PC5/ADC5/SCL	A5/D18
18	ADC4	DIO/AI	PC4/ADC4/SCL	A4/D17
19	IO0	DIO	PD0/RXD	D0/RX
20	IO1	DIO	PD1/TXD	D1/TX
21	IO3	DIO	PD3/OC2B/INT1	#D3
22	IO2	DIO	PD2/INT0	D2
23	IO4	DIO	PD4/SCK/TO	D4
24	RESET	DI	PC6/RESET	RESET
25	VCC IN	P	DC 4.5 to 12V IN	
26	VCC 3V3	P	3.3V OUT, need to Limit current within 300mA	
27,28	GND	P	GND	
29 to 34	UART	---	UART INTERFACE, Connected to USB2Serial Light For Uploading	



### Application Schematic



This schematic is demonstrated how to using UNO Core create 3-ch analog voltage , here we need a PWM to DAC module DAC-3000 , UNO Core use AnalogWrite function to create 3 ch PWM signal and DAC-3000 will converter the PWM to analog output , the output is:  $V_{out} = (1-PWM\%) * V_{ref}$  . in here the DAC output range is 0 to 3.3V.

The Pin24 (VCC\_3V3) connected onboard LDO's output, it will share 3.3V with the module circuit , so the VCC\_3V3 Load current have to limited within 300mA , otherwise it will lead the 3.3V unstable , or damaged the module.

The UNO Core have a onboard RF module design(LC-2000) , the LC-2000 is a 2.4GHz RF UART module , it can be make UNO Core communication via 2.4GHz RF connection, but not all version will be install this module, Please notice the description, we have module number as below:

- UNO Core** : without RF Module
- RF UNO Core** : with RF Module

### Upload sketch and communication

**RF UNO Core** can be uploading sketch and communication via 2.4GHz RF connection , user need a USB Dongle on PC side and we call it LC-2000U , we will release this product in Jan.2016.

Both **RF UNO Core** and **UNO Core** have a onboard UART connector , it's a 6-Pin 2.0mm Female connector, user can be use stand USB2Serial Light cable to upload and communication with a 2.5mm to 2.0mm convertor. We also provide **UC-2102** kit for this usage.

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