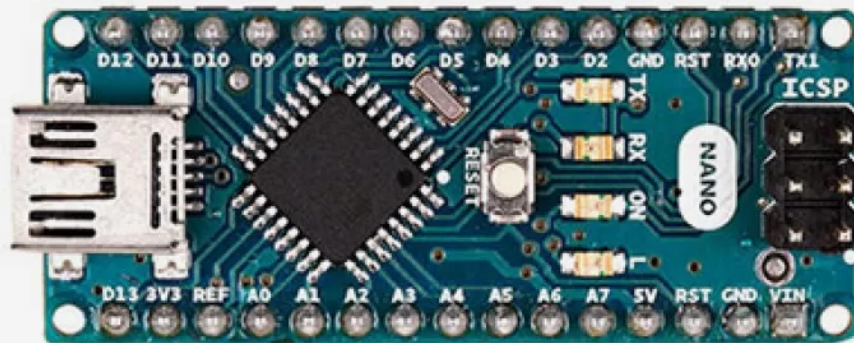


Arduino Nano Specifications/Functions

■ Arduino Arduino Basic Knowledge © 2020-12-30 ↻ 2022-12-11



In this article, we will explain in detail the specifications and functions of Arduino Nano.

The Arduino Nano is an even smaller Arduino board compared to the Arduino Micro. It can be used by inserting it directly into the breadboard.

In addition, the Arduino Nano Every is currently available, which has the same shape and footprint as the Arduino Nano, but with higher performance and lower cost.

For more information on the specifications and features of the Arduino Nano Every, please refer to the following article.

✓ Related Post



Arduino Nano Every Specifications/Functions

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Arduino Nano Specifications

Tech Specs

Arduino Nano

Tech Specs	Arduino Nano
Board Size	43.2×17.8mm
Microcontroller/ Clock Speed	ATmega328P/ 16MHz
SRAM (Main Memory)	2kB
Flash Memory	32kB
EEPROM	1kB
Operating Voltage	+5V
Input Voltage (recommended)	+7~+12V
Output Voltage	+5V, +3.3V
Digital I/O Pins	20
PWM Digital I/O Pins	6
Analog Input Pins	8
Analog Output Pins (DAC)	-
Rated Current per Pin	40mA/Pin
Program Writing Pins	Mini USB Type-B ICSP
Interface	UART I2C SPI

For the specifications of Arduino boards other than Arduino Nano, please refer to the following article.

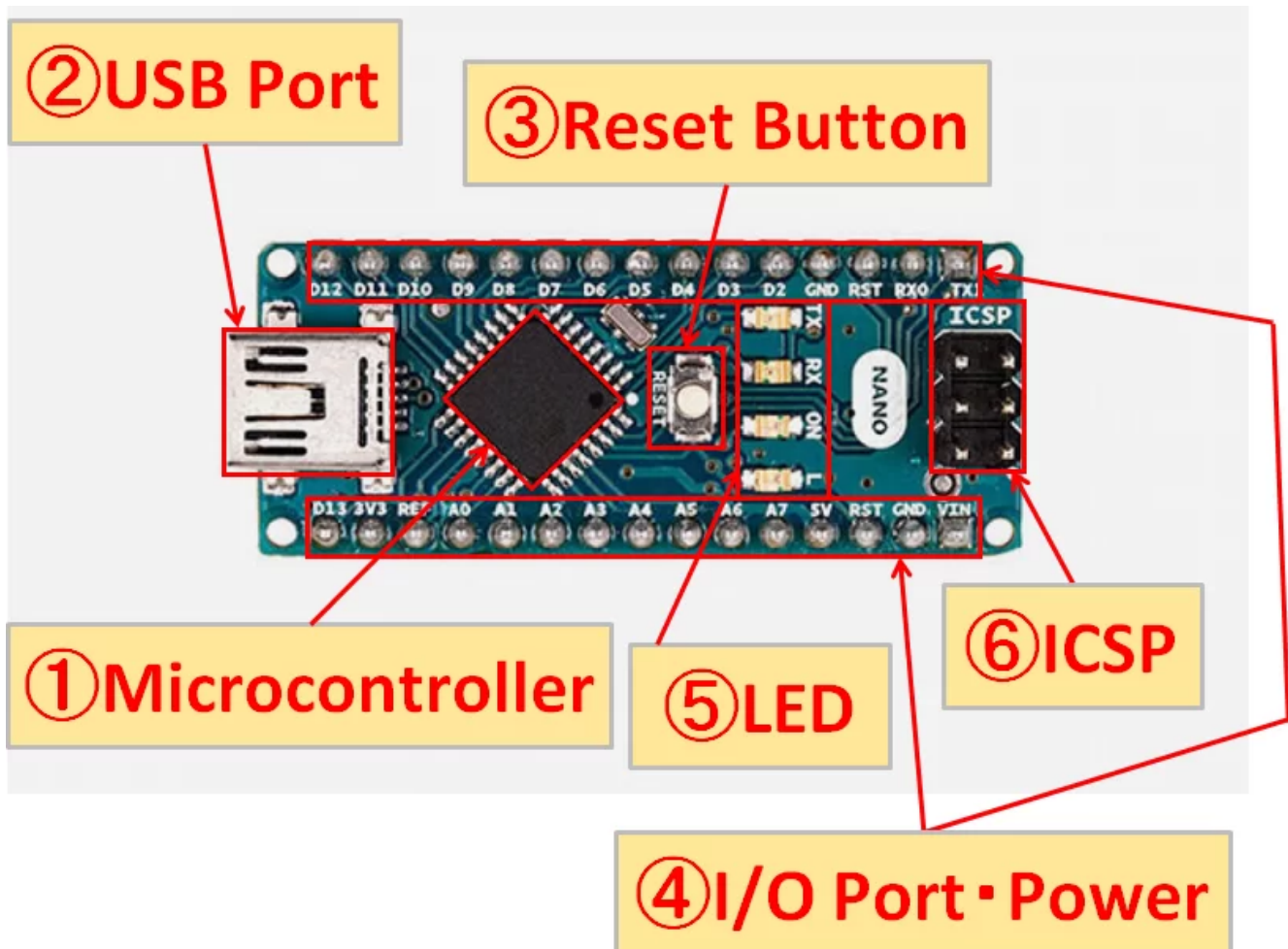
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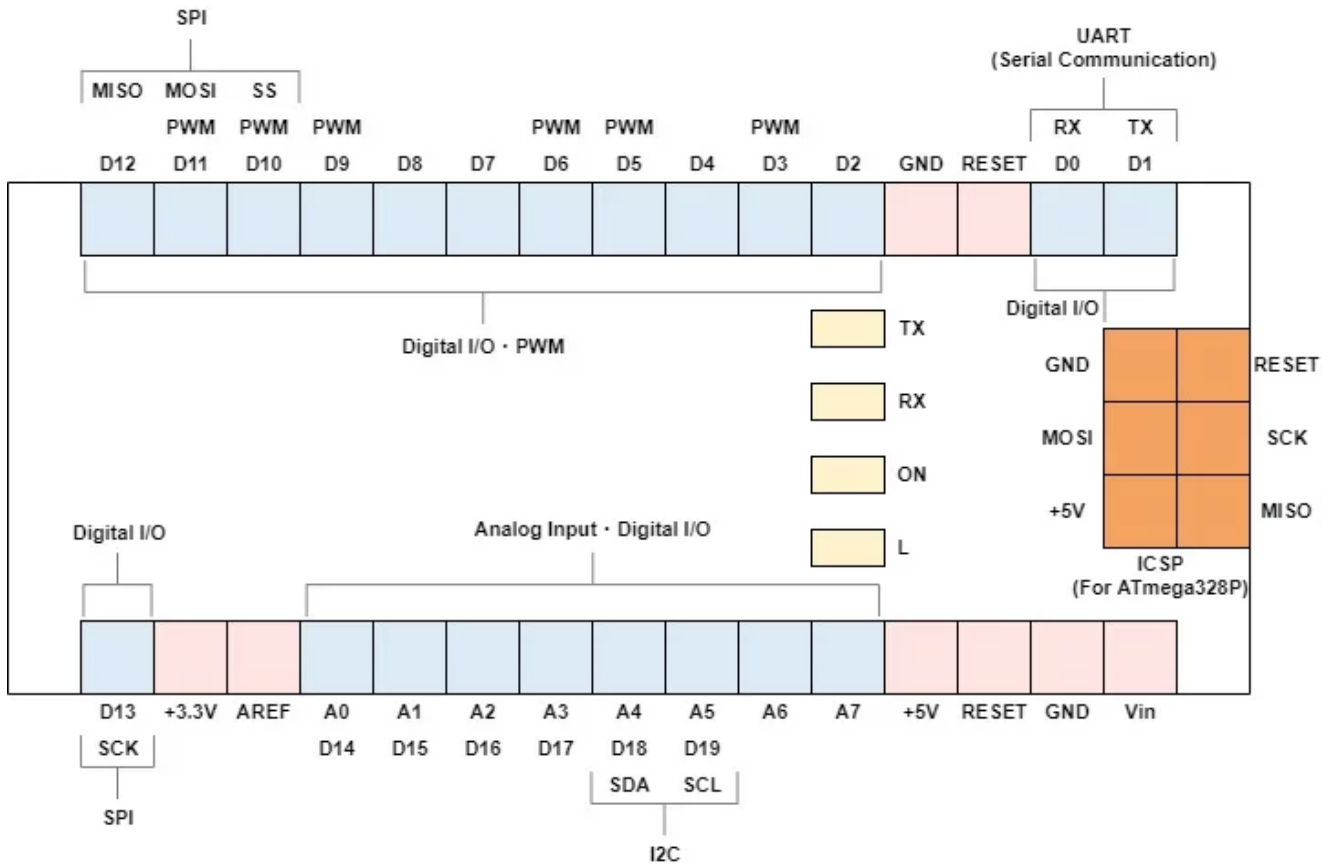
Arduino Boards Comparison

Arduino Nano Functions

Arduino Nano Appearance



Pin Header Placement/LED Placement



↑ [Click to enlarge.](#)

① Microcontroller (Microcomputer)

The microcontroller of the Arduino Nano uses “ATmega328P” from Microchip Technology(USA).

A microcontroller is a very important component in controlling electronic devices that correspond to the human “brain”.

In addition, various memories such as SRAM, Flash memory, and EEPROM are also built into the microcontroller.

②USB Port

By connecting the Arduino Nano to the USB port of your PC with a USB cable, you can communicate between the Arduino Nano and your PC.

Programs (sketches) created on the PC can be written to the Arduino Nano, and the Arduino Nano can be controlled from the PC via serial communication.

It also has the role of powering the Arduino Nano via USB, as it doesn't have a power jack like the Arduino Uno.

However, please note that the USB port is "Mini USB Type-B", which is becoming less popular.

③Reset Button

You can restart the Arduino Nano by pressing the reset button. Use this when you want to restart the program from the beginning or when the Arduino Nano behaves strangely.

④I/O Port • Power

| Digital I/O • PWM

Digital I/O • PW M	Explanation

Digital I/O • PWM M	Explanation
D0-D19	Digital input/output(0-19) HIGH(+5V)/LOW(0V)
PWM	0 to +5V analog output Analog output by switching between 0V and +5V at high speed

PWM and serial communication are shared with digital I/O. You can specify which one to use in the program.

| Analog Input

Analog Input	Explanation
A0-A7	Analog input(0-7) 10-bit A/D converter(1 step change every 4.8mV)

| Communication

Communication		Explanation
UART (Serial communication)	TX	Serial data transmission
//	RX	Serial data reception
I2C	SCL	Serial clock
//	SDA	Serial data transmission/reception
SPI	SS	Select device to control

Communication		Explanation
//	SCK	Serial clock
//	MOSI	Master ⇒ Slave data transfer
//	MISO	Slave ⇒ Master data transfer

| Power

Power	Explanation
Vin	The voltage of "②USB Port" is output, Power can be supplied from "Vin" without using the USB Port.
GND	Ground/Reference point
+5V	+5V voltage output
+3.3V	+3.3V voltage output

| Other

Other	Explanation
GND	Ground/Reference point
AREF	Analog input reference voltage (0 to +5V input), Not normally used
RESET	Reset (Same function as "③Reset Button")

⑤LED

LED	Explanation
ON	Lights up when the Arduino Nano is powered
TX	Blinks when sending via serial communication
RX	Blinks when receiving via serial communication
L	Connect to digital I/O No.13

Arduino Nano has 4 LEDs(chip parts). The “L” of LED is connected to the 13th digital I/O, and can be lighted up by setting the 13th pin to HIGH (5V) in the program.

⑥ICSP(For ATmega328P)

By connecting an ICSP-compatible writer(program writing device), you can write programs(sketches) directly to the “ATmega328P”, which is an Arduino Nano microcontroller(microcomputer).

However, since you can usually write programs(sketches) via the USB port, I think that it is rarely used for writing purposes.

In addition, it can also be used as an SPI terminal.

How to get technical data for Arduino Nano

Various technical materials of Arduino Nano can be obtained from the official

Arduino website.

Arduino Nano Technical Data

- EAGLE FILES
- SCHEMATICS: PDF Format

1

First, go to the Arduino official website from the link below.

Arduino



Arduino Nano

2

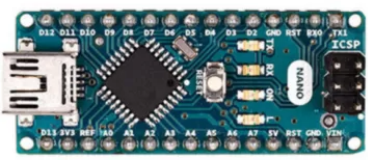
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- 8 bit
- AVR
- < 20 mA
- 5V
- Standard (~20)
- No battery

The classic Arduino Nano is the smallest board to build your projects with.



- OVERVIEW
- TECH SPECS
- DOCUMENTATION
- FAQ

The Arduino Nano is a small, complete, and breadboard-friendly board based on the ATmega328 (Arduino Nano 3.x). It has more or less the same functionality of the Arduino Due. It works with a Mini

Click "DOCUMENTATION"

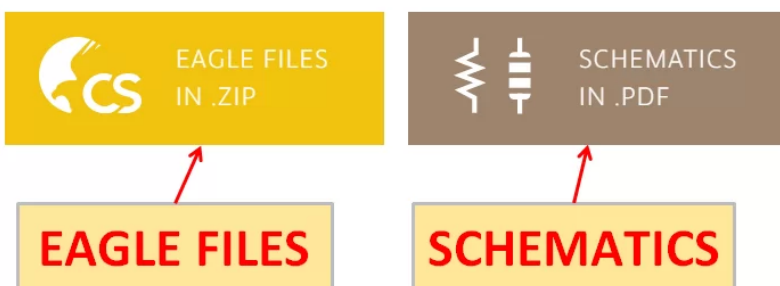
Click "DOCUMENTATION".

3

[OVERVIEW](#)[TECH SPECS](#)[DOCUMENTATION](#)[FAQ](#)

OSH: Schematics

The Arduino Nano is open-source hardware! You can build your own board using the following files:



Click each icon to download the “EAGLE FILES” and “SCHEMATICS”.