

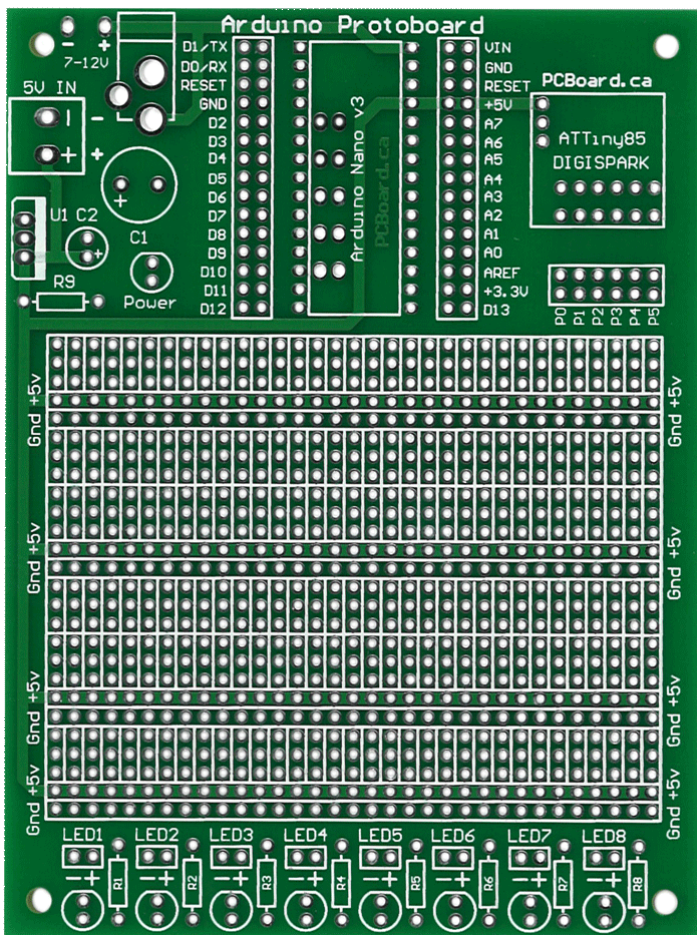
Proto Arduino

Arduino Prototype Board For Arduino Nano & ATtiny 85

Arduino Nano or ATtiny 85 Prototype Board

The **Proto Arduino** is a general-purpose prototyping platform. It is compatible with the Arduino Nano v3 or Digispark style ATtiny 85 processors boards. On-board features include a regulated power supply. Dedicated mounting provided for either an Arduino Nano or ATtiny 85 processor board. The prototyping surface offers over 850 plated-through holes. Mounting for eight LEDs along with dropping resistors is also provided.

The **Proto Arduino** is a high-quality prototype board with solder masks on both sides of the board. Plated holes along with a high-contrast silk-screen labeling component positions. Board size is 3 3/4" x 5" (95mm x 127mm) ready to fit into standard size project cases.



Parts List

Resistor 1/4 watt, 5% Carbon Film:
 [] (1) 220 Ω (red-red-brown-gold)..... **R9**

Capacitors:
 [] (1) 100uF 35v **C1**
 [] (1) 10uF 25v **C2**

Semiconductors:
 [] (1) LM7805 – 5-volt regulator TO-220 Case... **U1**
 [] (1) Red 5mm LED Power Indicator **Power**
 [] (1) Arduino Nano v3 Processor
 [] (1) Arduino ATtiny85 Processor

Sockets, Headers, Connectors:
 [] (2) 15-pin Female Header..... **Nano Socket**
 [] (2) 6-pin Female Header..... **ATTiny 85 Socket**
 [] (1) 3-pin Female Header..... **ATTiny 85 Socket**
 [] (1) 2.1mm or 2.5mm Coaxial Jack PCB.... **Power**
 [] (2) 15-pin Dual Row Male Headers
 [] (1) 6-pin Dual Row Male Headers

Optional:
 [] (8) Resistor **R1 to R8**
 [] (8) LED (3mm or 5mm)..... **LED1 to LED8**

Prototype Area

The prototype area provides maximum space and power options. Over 590 holes mounting holes in the prototype area complete with four sets **+5v** and **GND** power tracks. Processor pins are on separate pads for easy access during interfacing.

Optional 8 LED Display

At the bottom of the board, there are provisions for up to eight LEDs and dropping resistors. **LED1** to **LED8** can either be 3mm or 5mm LEDs. The dropping resistor should be 120Ω for White, Blue, Purple or Green LEDs. For Red or Orange LEDs, the dropping resistor should be 220Ω, 1/4 watt.

On-board Power Supply

Both the ATTiny 85 and the Nano processors support a regulated 5v DC power input. They also offer the ability for a power input with a 7 to 12v DC power source.

5v DC can be applied to the “**5V In**” connections on the board. 7 to 12v DC is applied to the board at either the power jack or to the “**7-12v**” power input port.

When 7-12v power is used, the regulators on the processor boards will regulate the power. It should be noted that that on-board regulators are for lower current operation.

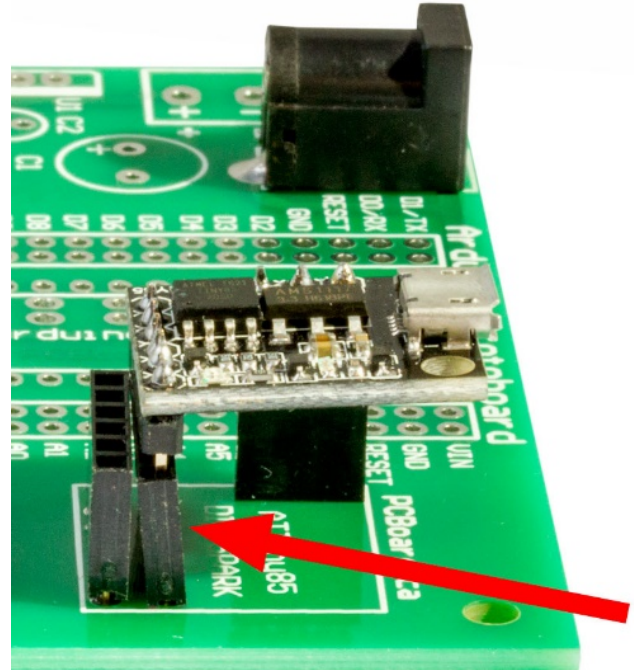
The **Proto Arduino** board also has an on-board regulator and power filtering circuit. When this is used, the board will provide regulated 5v to both processor sockets.

On-board Power Indicator

An LED for power indicating is included on the board. Resistor **R9** limits current flow through the LED. Although a handy option, the LED draws approximately 20mA of current. The LED will illuminate when 5v power is available to either Arduino module. It will also light when the on-board 5v power supply is used.

Precautions When Assembling the Board

The 3, 6 and 15 pin connectors for the processors can deform when soldering to the board. The cause of this is the heat required to solder them into place. Apply the connectors to the processor when soldering into the board. This will keep the pins and connector body straight during the installation process.



ATTiny 85 Mounting Consideration

The Proto Arduino design allows for usage with many manufactures of ATTiny 85 boards. Some designs have strayed from the original specifications. The pin spacing for the signal leads on the board can vary between various manufacturers. This variance can impede the installation into the proto board socket.

This can be overcome by slightly tipping the pins towards the bottom of the proto board. This solution has allowed us the flexibility to install all design variations in ATTiny 85 boards. This should be done when you are soldering the connector to the PCB.

