mbed LPC1768

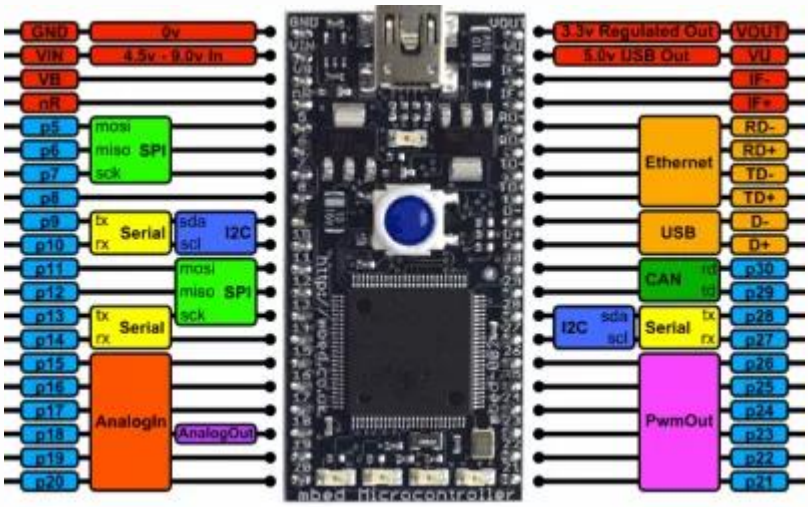
Rapid Prototyping for general microcontroller applications, Ethernet, USB and 32-bit ARM® Cortex™-M3 based designs

Overview

The mbed Microcontrollers are a series of ARM microcontroller development boards designed for rapid prototyping.

- Find out more about all mbed Microcontrollers

The mbed NXP LPC1768 Microcontroller in particular is designed for prototyping all sorts of devices, especially those including Ethernet, USB, and the flexibility of lots of peripheral interfaces and FLASH memory. It is packaged as a small DIP form-factor for prototyping with through-hole PCBs, stripboard and breadboard, and includes a built-in USB FLASH programmer.



It is based on the NXP LPC1768, with a 32-bit ARM Cortex-M3 core running at 96MHz. It includes 512KB FLASH, 32KB RAM and lots of interfaces including built-in Ethernet, USB Host and Device, CAN, SPI, I2C, ADC, DAC, PWM and other I/O interfaces. The pinout above shows the commonly used interfaces and their locations. Note that all the numbered pins (p5-p30) can also be used as DigitalIn andDigitalOut interfaces.

The mbed Microcontrollers provide experienced embedded developers a powerful and productive platform for building proof-of-concepts. For developers new to 32-bit microcontrollers, mbed provides an accessible prototyping solution to get projects built with the backing of libraries, resources and support shared in the mbed community.

Hello World!

Import program

HelloWorld - main.cpp

```
#include "mbed.h"

DigitalOut myled(LED1);

int main() {
    while(1) {
        myled = 1;
        wait(0.2);
        myled = 0;
        wait(0.2);
    }
}
```

Features

- NXP LPC1768 MCU
  - High performance ARM® Cortex™-M3 Core
  - 96MHz, 32KB RAM, 512KB FLASH
  - Ethernet, USB Host/Device, 2xSPI, 2xI2C, 3xUART, CAN, 6xPWM, 6xADC, GPIO
- Prototyping form-factor
  - 40-pin 0.1" pitch DIP package, 54x26mm
  - 5V USB or 4.5-9V supply
  - Built-in USB drag 'n' drop FLASH programmer
- mbed.org Developer Website
  - Lightweight Online Compiler
  - High level C/C++ SDK
  - Cookbook of published libraries and projects

The mbed NXP LPC1768 is one of a range of mbed Microcontrollers packaged as a small 40-pin DIP, 0.1-inch pitch form-factor making it convenient for prototyping with solderless breadboard, stripboard, and through-hole PCBs. It includes a built-in USB programming interface that is as simple as using a USB Flash Drive. Plug it in, drop on an ARM program binary, and its up and running!

Firmware

Make sure you have updated your firmware to the latest revision.

- mbed Interface Firmware