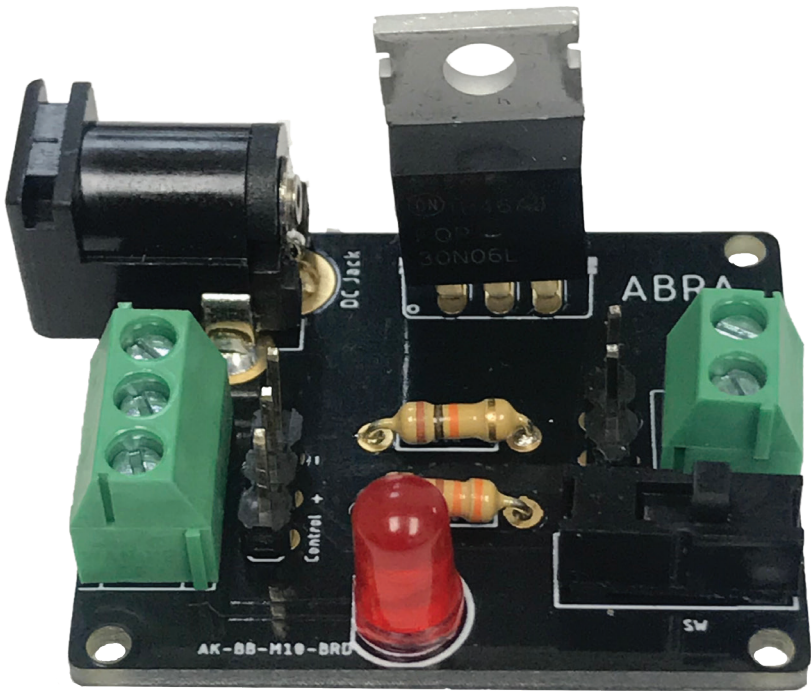


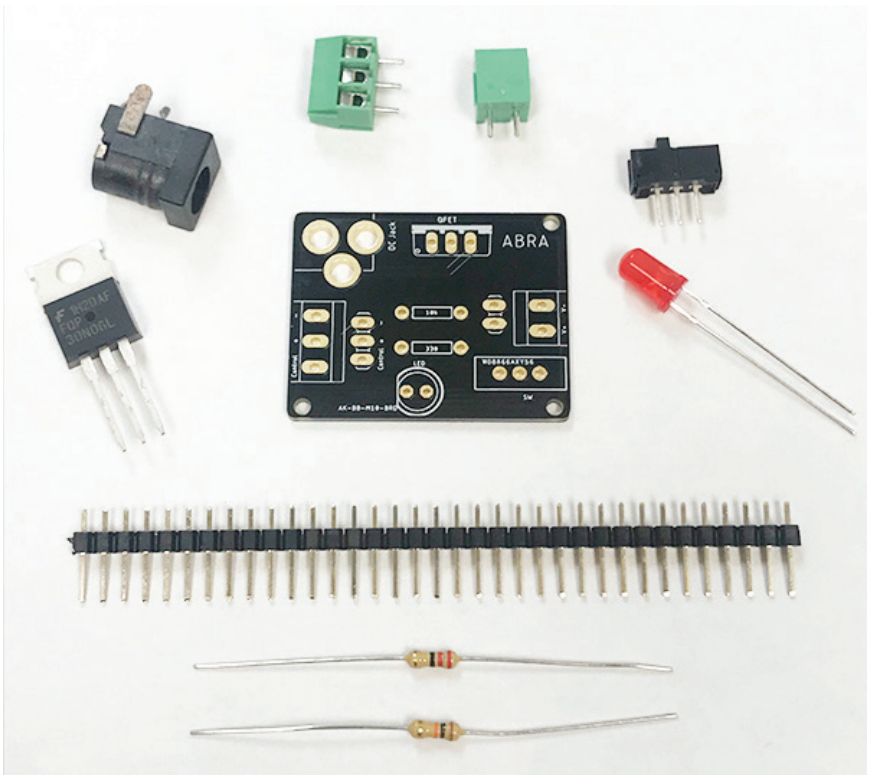
## DIY MOSFET FQP30N06L Power Control Module Soldering Kit



**AK-BB-M10**

# Kit Includes

Quantity	Description	Part Number
1	Main PCB	AK-BB-M10-BRD
1	N-Channel MOSFET	FQP30N06L
1	2.1mm DC Jack	31-155-0
1	2-pin 3.5mm Terminal Block	2444P-1
1	3-pin 3.5mm Terminal Block	2445P-1
1	Male Headers	SH-2
1	10K $\Omega$ Resistor	R1/4-10k
1	330 $\Omega$ Resistor	R1/4-330
1	On-Off Switch	SSW-120-BB
1	5mm Red LED	LED-5R



## Introduction

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In most Arduino projects, relays are the first choice to drive devices with a high current requirement. It requires a certain amount of current to drive the internal coil to pick-up contact. Although, when more than one device is needed, it is hard to drive more than one relay simultaneously.

The MOSFET power controller is a module that can drive a large current device. It works as a MOSFET relay or MOSFET driver. When you give it a digital high-level signal (3.3 to 10V), the MOSFET turns on. Compared to the relay module, this MOSFET power controller is compatible with Arduino, Raspberry Pi, and other microcontrollers that support 3.3 to 10V logic.

The Vin port supports 5 to 36V; up to 10A input. Also MOSFET supports quick ON-OFF switch, the switching frequency is 1KHz. This is good for controlling a robot. This Kit includes a switch, an indicator LED, a 2.1mm DC barrel jack and two terminal blocks.

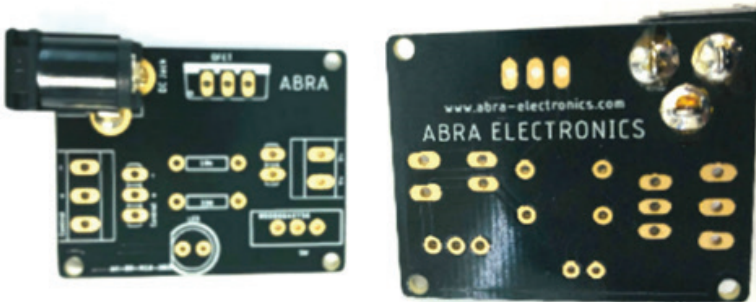
## Assembly

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Before starting the assembly, heat up your soldering iron.

### Step 1:

First, you will start soldering the 2.1mm jack. place and solder the jack as shown in the pictures below.



## Step 2:

Now you will solder the MOSFET, the switch and the headers.

### NOTE:

1. We provided the 40-pin header, you will have to break it into the required pins.
2. Place The MOSFET with the labels facing inward the bottom of the board as shown below.
3. You can place the switch in any direction.



## Step 3:

Next, Solder the 2-pin and 3-pin terminal blocks. Make sure the input of the terminal blocks are facing outwards. This makes it easier to wire up the connections later on.

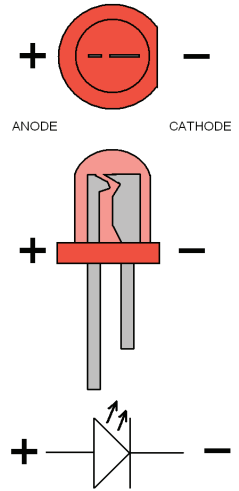
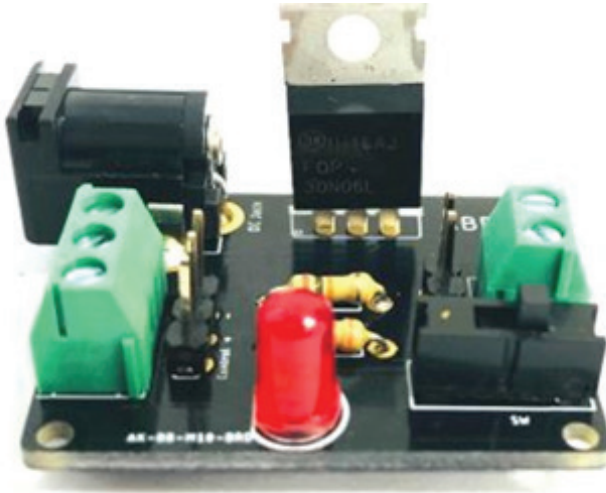


#### Step 4:

Finally, solder the LED and the resistors to the board. The resistor values are marked on the board.

#### NOTE:

The longer lead of the LED indicates the positive (+) pin while the shorter one is the ground (-). Please solder them according to their polarity.



# Connections

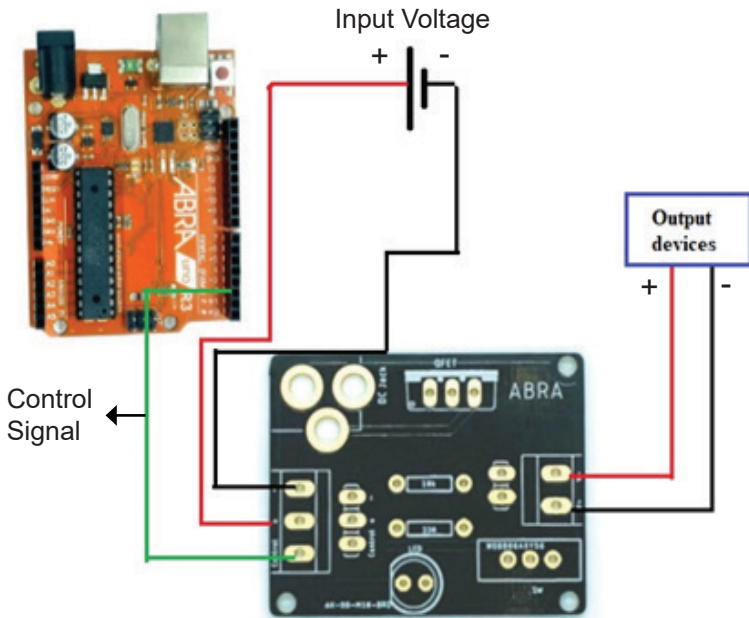
## NOTE:

You can use the M2 Mounting holes provided to mount the board.

- The two terminal blocks are used for connections. You can use the 2.1mm DC jack to power up the board. Alternatively, the 3-pin header can also be used for that purpose.
- The 2-pin terminal block and the header are used for the output.
- The control pin on the 3-pin header and the terminal block should be connected to a digital pin on your Arduino or microcontroller.

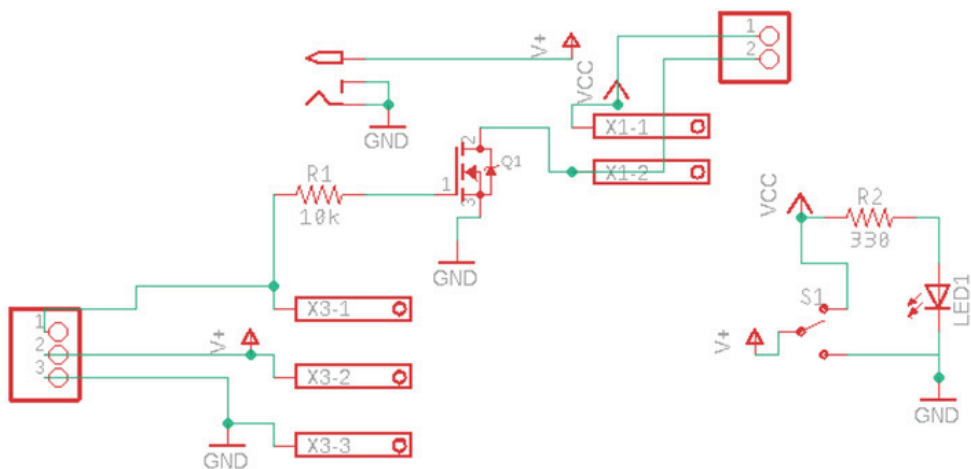
Note: The maximum output current can reach to 10A.

Now you can switch on the power.

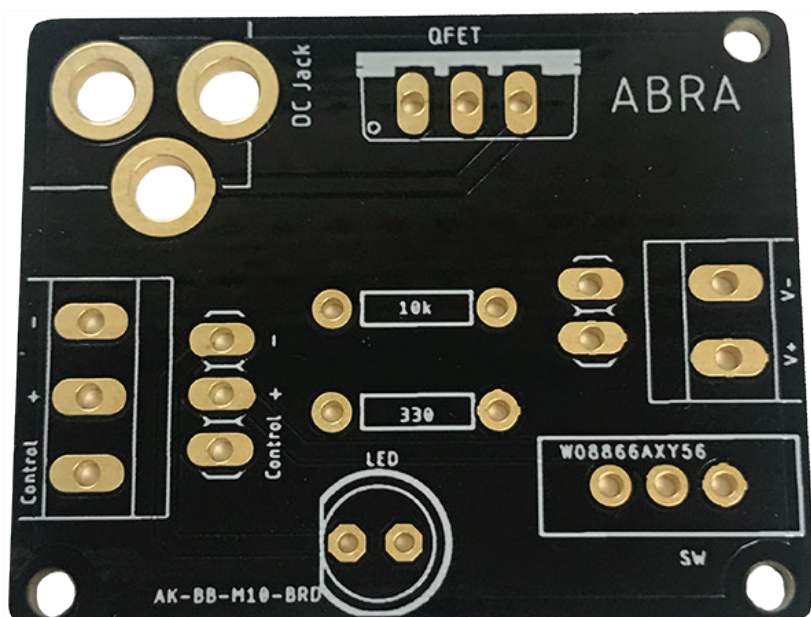




## Schematic



## Board Layout



## Application

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This device is an intermediate between a microcontroller and high-power devices. It can be used in many applications like controlling DC motors, stepper motors, LED strips, etc.

Below is an example of how we used the MOSFET power control kit to light up a 26V DC LED.

