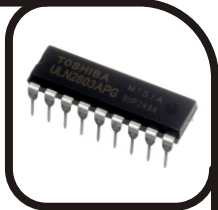
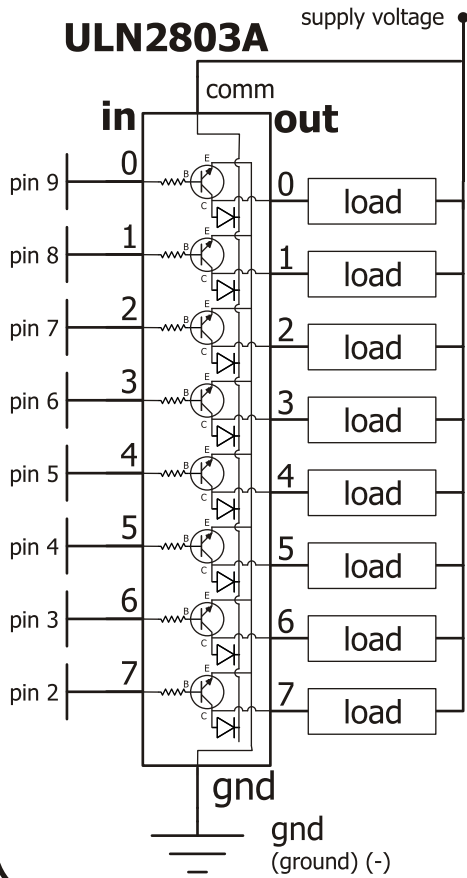


# Transistor Arrays (ULN2803A)



## The Schematic



## The Theory & Code

### the basics

The Arduino's digital pins are great for controlling small loads like LEDs, However if you want to control something bigger transistors are required. A ULN2803A is a really hand IC (integrated circuit) as it houses 8 high current transistors in a single package.

### to use

Connect the input pin to a digital pin on your Arduino. Then connect the negative lead of your load to the output. Finally connect the positive lead of your load to its supply voltage (0.5-30 volts). To turn your load on set the digital pin HIGH. To turn your load off pull the pin to LOW or set it to INPUT.

### flyback diodes

The ULN2803A also has fly-back diodes built in. This allows you to drive inductive loads with it (motors and relays) without worrying about damaging your Arduino.

∴ ULN2803A Datasheet <http://tinyurl.com/mv2598> ∴

## The Pin-out



## The Limits

∴Current Per Output∴

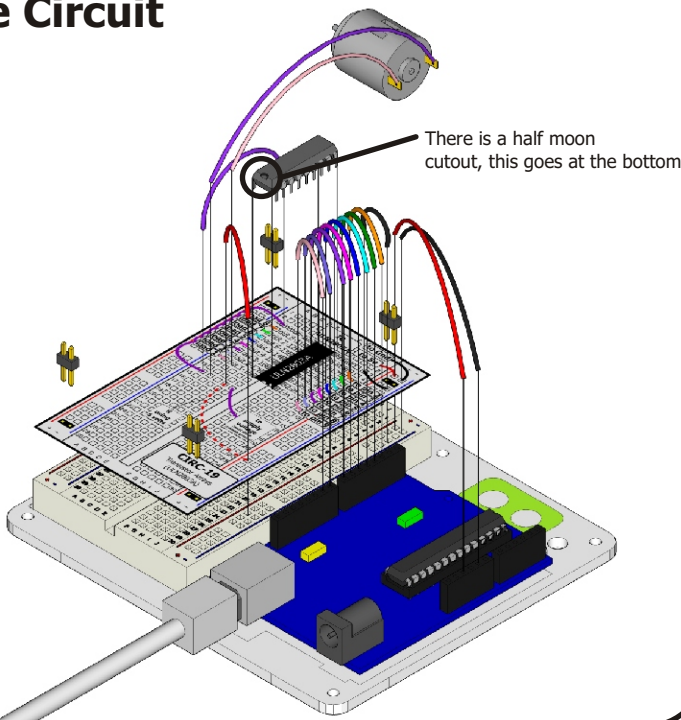
500 mA

∴Power Dissipation∴

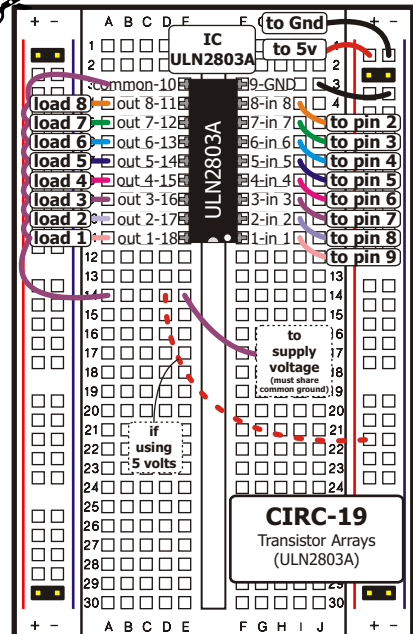
1.47 W

(this means under heavy loads the chip will get quite hot and may need additional heatsinking)

## The Circuit



## The Layout Sheet



∴ Instructions: print out, cut out, get making ∴  
∴ for more details visit: <http://tinyurl.com/mx1jb4> ∴