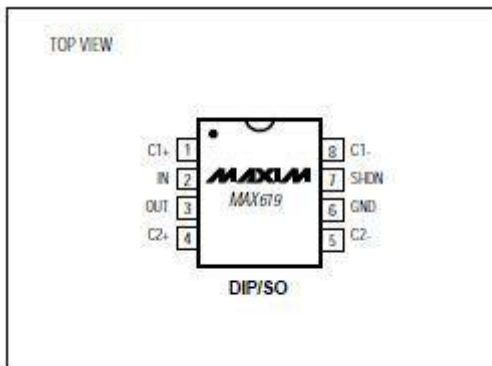


Electronics: MAX619

One of things I remembered doing a lot last semester at RPI was building various analog circuits in my free time. One of my good friends who's a lab technician for one of the labs at RPI, had reels of ICs that never been used. He even had 3 reels of Motorola's microprocessors that came out in the 1980s. However, one IC that I found extremely useful was the MAX619 IC. The Max619 IC accepts voltages between 2.7 and 3.6 volts, and converts it to 5 volts using charge pumping.

Max619 Pinout

To be honest, the pinout is really straight forward and I will not go into much detail.



C1+ (Pin 1) and C1- (Pin 8): This is where you connect your .22uF capacitor to.

In (Pin 2): This is where you connect your input voltage to. As I stated before, the input voltage range from 2.7 to 3.6 volts.

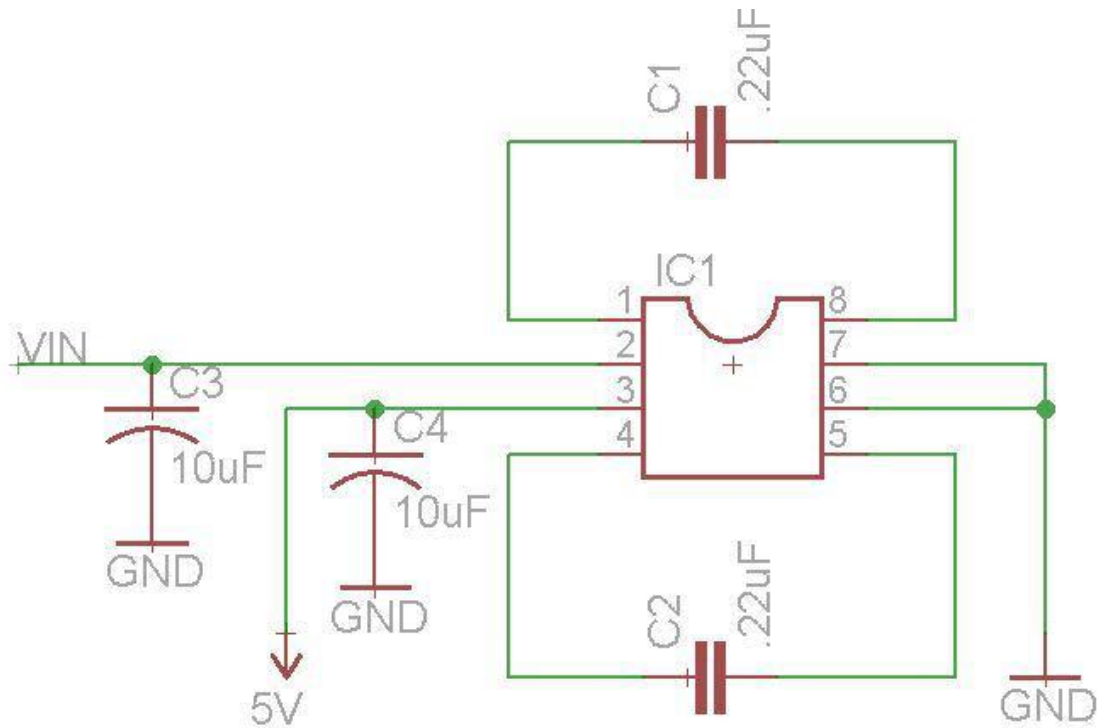
Out (Pin 3): 5V output of Max619

C2+ (Pin 4) and C2- (Pin 5): This is where you connect your second .22uF capacitor to.

GND (Pin 6): Connect this pin to 0V of your power supply

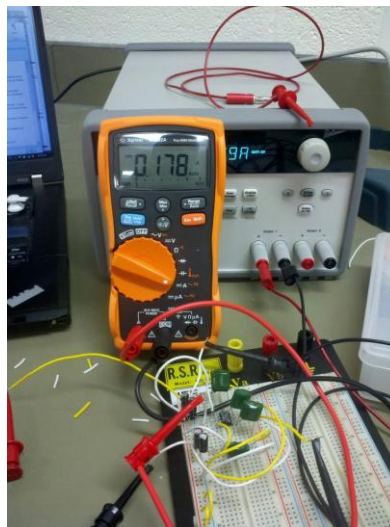
SHDN (Pin 7): To make sure the IC is properly working, connect this pin to 0V. Otherwise, the chip will not turn on.

Circuit Diagram



Although there's an example schematic in the datasheet, I decided to create a quick schematic in Eagle Cad to show where you should connect your capacitors to. Please note: the IC will not work if you connect a capacitor from C1+ to C2+ and from C1- to C2-.

Increasing Output Current



Although the voltage will increase from 2.7–3.6 volts to 5v, the output current will be really low. When I first tested the IC, I got around 90ma. If you need to power more

beefier devices, then you can connect two or more MAX619's in parallel. In fact, the picture above shows me building a two level multi-level DC to DC converter using two MAX619 ICs. The output current of the converter was around 180ma. Since you're increasing the output current of the device, you'll also increase the input current the device needs. My advice is to use the chip with hi-current batteries such as Lithuim Ion batteries.

Source: <http://coolcapengineer.wordpress.com/2013/01/18/electronics-max619/>