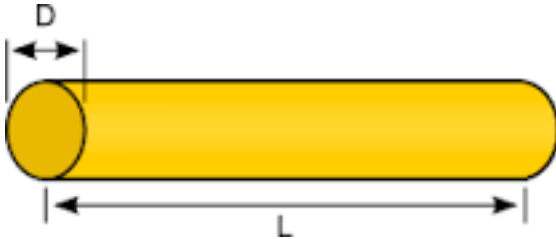


Buck Supply lab - Greg's Advanced Power Supply class

Using the Integrated LM2678T IC, we will construct this buck converter.

The coil is pre-wound by a previous class for your use. It's not exactly 22 microHenry but it is close to that. Remember the equation for Inductance?



$$L = \frac{N^2 \mu A}{l}$$

Type to enter text

Where,

L = Inductance of coil in Henrys

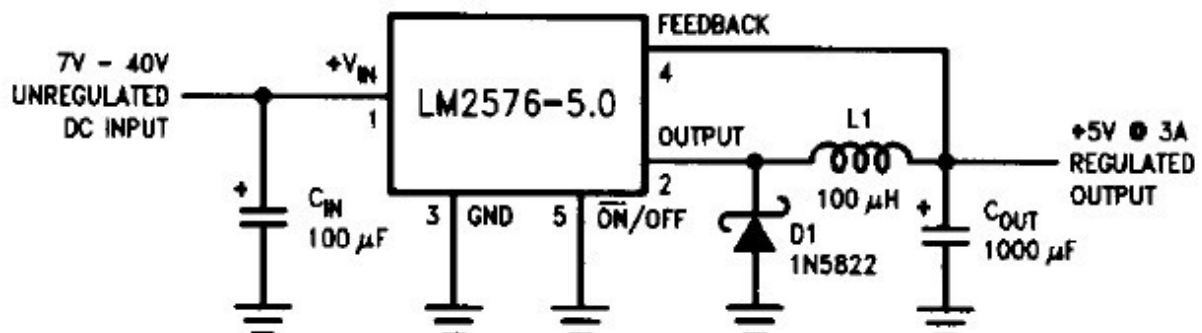
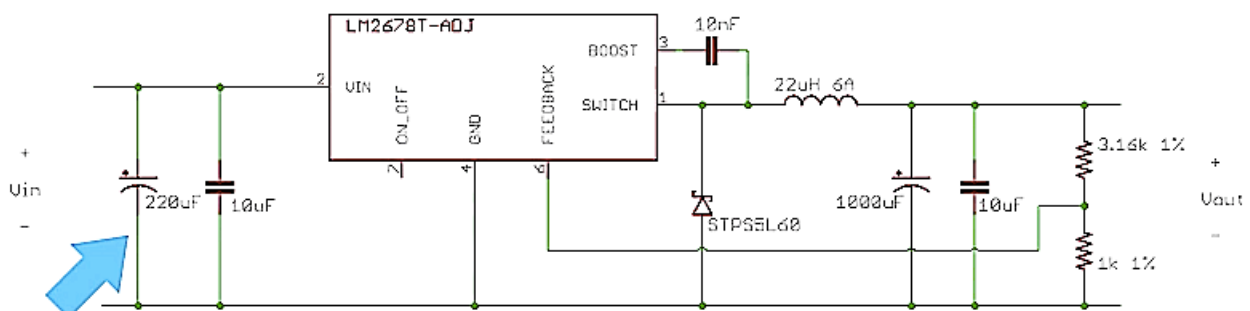
N = Number of turns in wire coil (straight wire = 1)

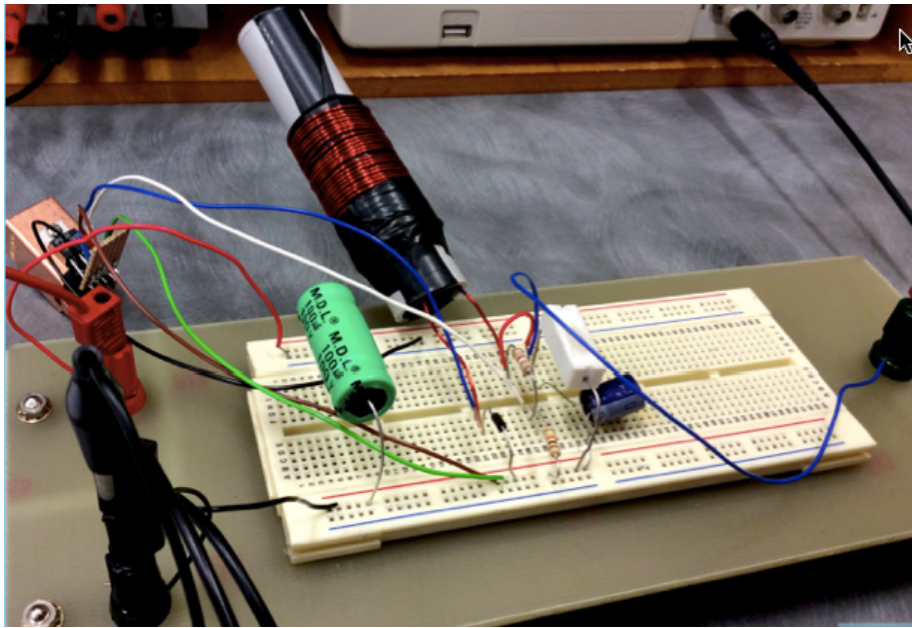
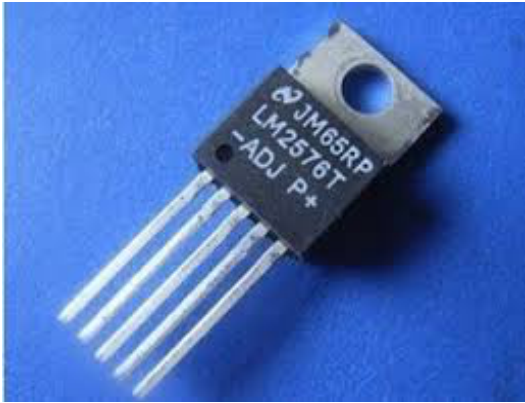
μ = Permeability of core material (absolute, not relative)

A = Area of coil in square meters

l = Average length of coil in meters

8-30V input, 5V out 3A continuous 5A peak DC-DC converter

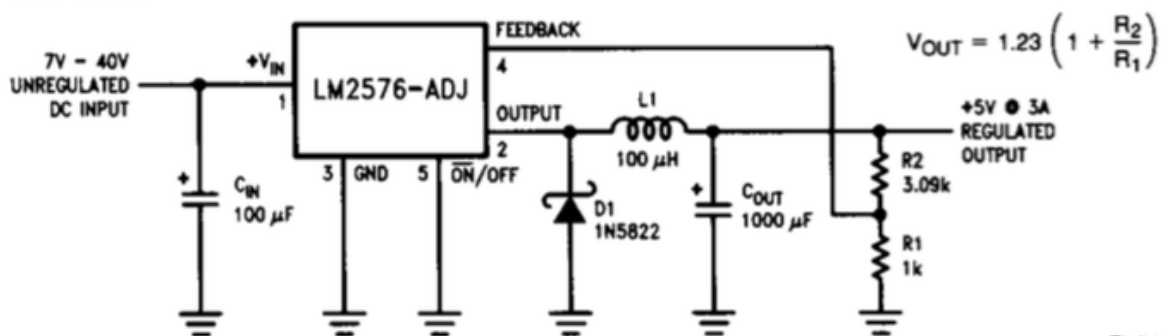




We are using an LM2576T adj regulator controller IC. We need to modify the Afromods circuit (1) from his youtube presentation to work with our ic.

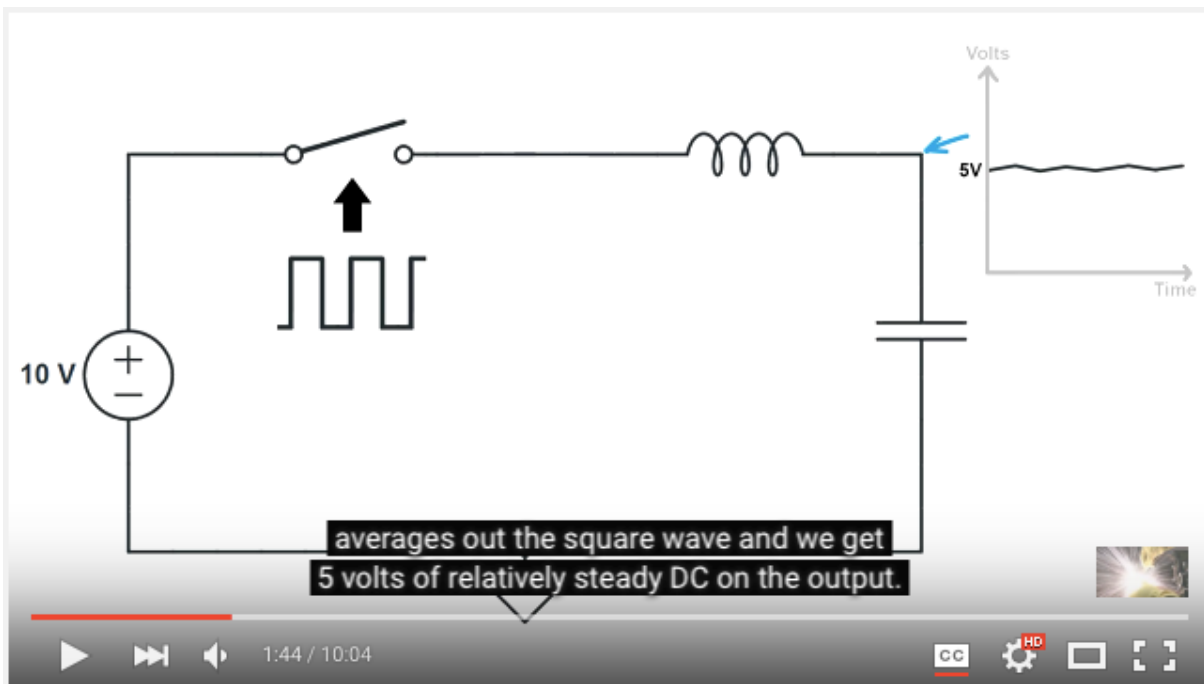
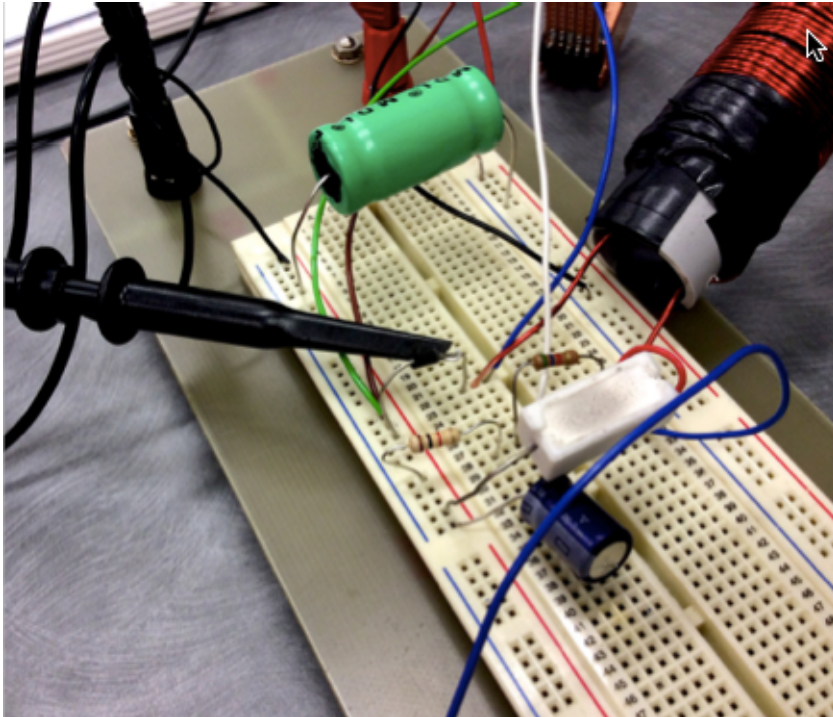
So, we had some 25mm conduit and we calculated how many turns of wire we need over a set length to get the 22 microHenry approximately Inductance.

There are some photographs here of the way in which the breadboard will be laid out.



TL/H/11052-1

From the data sheet with voltage divider.



Switch mode power supply tutorial: DC-DC buck converters



Afrotechmods ✓

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