LM2574 Voltage Regulator Kit

Date:	06/04/15	Version:	1.0	By:	Matt Little

This is a step-down DC-DC converter based upon the LM2574 IC.

It can step down from 7-40V DC (for the normal voltage range) or 7-60V DC (for the high voltage range) to a regulated 5V DC.

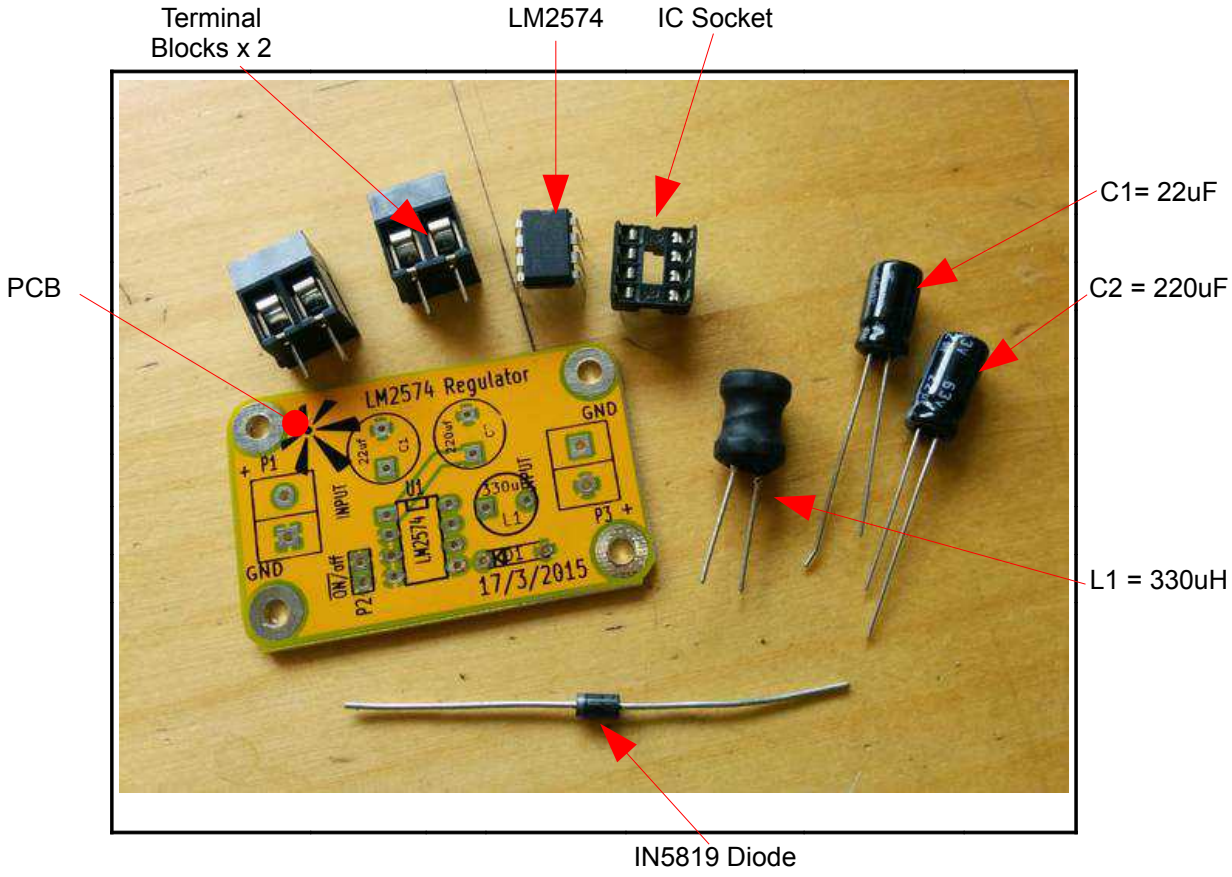
The maximum output current is 500mA.

As this is a DC-DC converter it does not get hot, even when stepping down from high voltages and supplying high currents.

It is a fully through-hole kit.

*Datasheet: www.ti.com/lit/ds/symlink/**lm2574**.pdf*

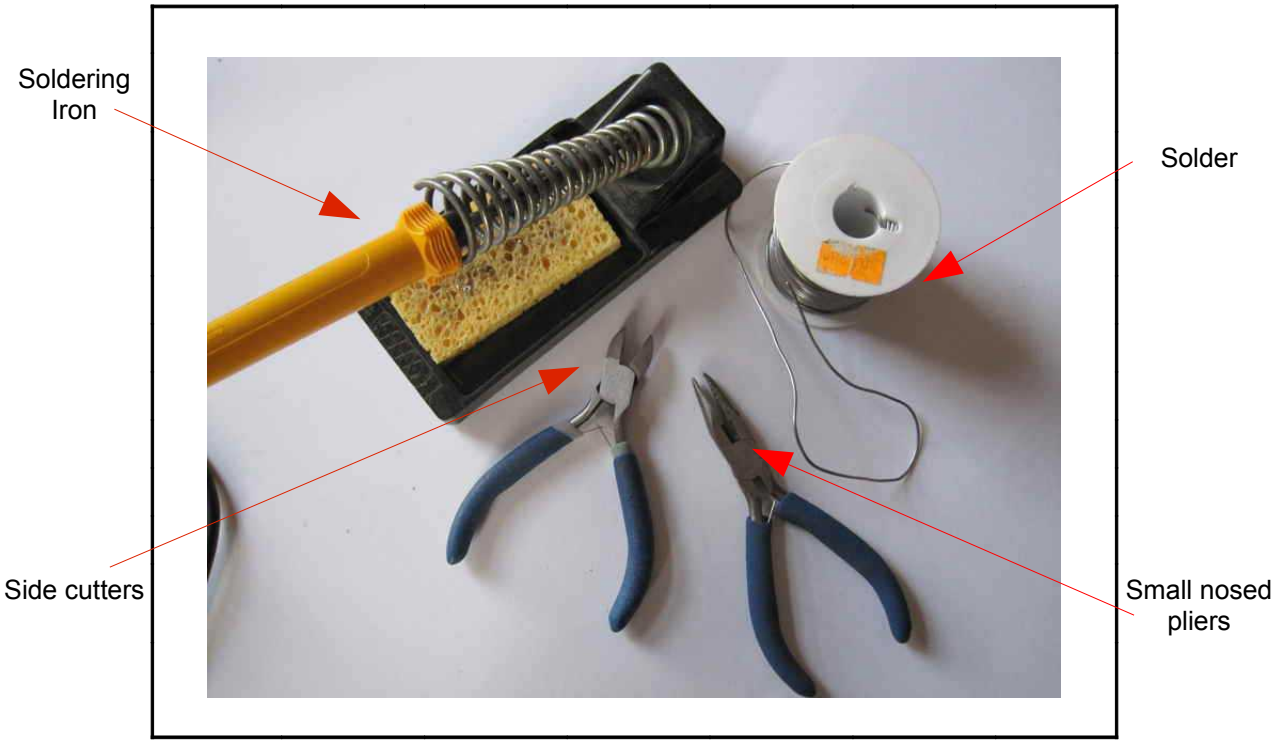
Parts included:



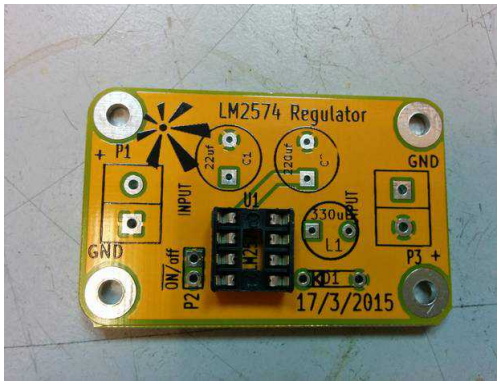
Parts list:

Reference	Description	Reference	Description
PCB	Circuit board	P1	Input 2 way terminal block
C1	22uF	P2	On/Off select (not implemented)
C2	220uF	P3	Output 2 way terminal block
D1	1N5819 Diode	U1	LM2574 IC
L1	330uH 0.5A		

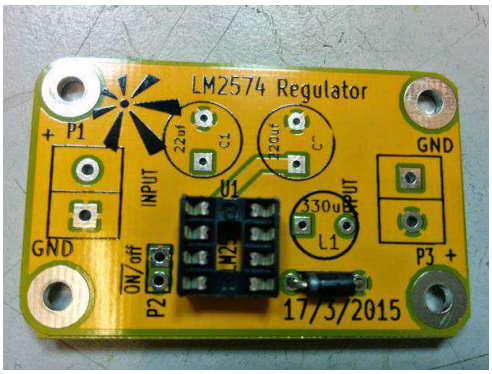
Tools required:



Instructions:

Step: 1	Solder the IC socket
Ensure the notch on the IC socket lines up with the notch shown on the silkscreen on the PCB.	

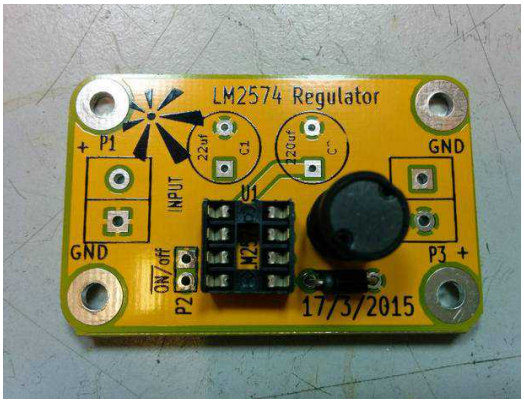
Step 2	Solder the diode



Check the orientation of the diode.
The silver line should line up with the arrow mark on the PCB silkscreen.

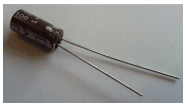
Step 3	Solder the inductor

The inductor can be inserted in either direction.



Step: 4	Solder the capacitors

Identify and then solder in the capacitors.

Value	Ref	Photo
22uF	C1	
220uF	C2	

Check the orientation on capacitors C1 and C2.

On the capacitor:
The white line on the side signifies negative side.
The longer lead signifies positive.

	On the PCB: The round pad on the PCB signifies negative. The square pad on the PCB is positive.

Step: 5	Solder the terminals
There are two 2-way terminal blocks, one for the input voltage and one for the output supply. Solder these so that the screw terminals are facing outwards, away from the PCB, so you can insert wires easily.	

Step: 6	Insert the LM2754 IC
	Carefully insert the 8 pin LM2574 IC. Ensure all the legs fit into the socket. Sometimes this can be helped by slightly squeezing the IC legs before inserting, or using an IC insertion tool.

Step: 7	Test and use!

Contact details:

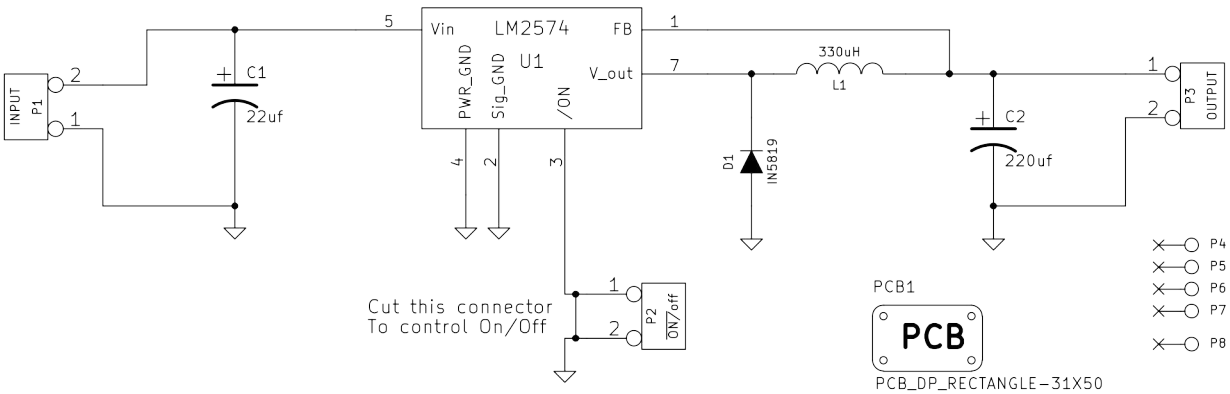
This kit has been designed and produced by:

Renewable Energy Innovation.
info@re-innovation.co.uk
www.re-innovation.co.uk
Hopkinson Gallery
21 Station Street
Nottingham
NG7 6PD

We would like you to be happy with this kit. If you are not happy for any reason then please contact us and we can help to sort it out. Please email info@re-innovation.co.uk with any questions or comments.
If any parts are missing from your kit then please email info@re-innovation.co.uk with details, including where the kit was purchased.

More technical information can be found via www.re-innovation.co.uk.

Circuit schematic:



PCB Design: