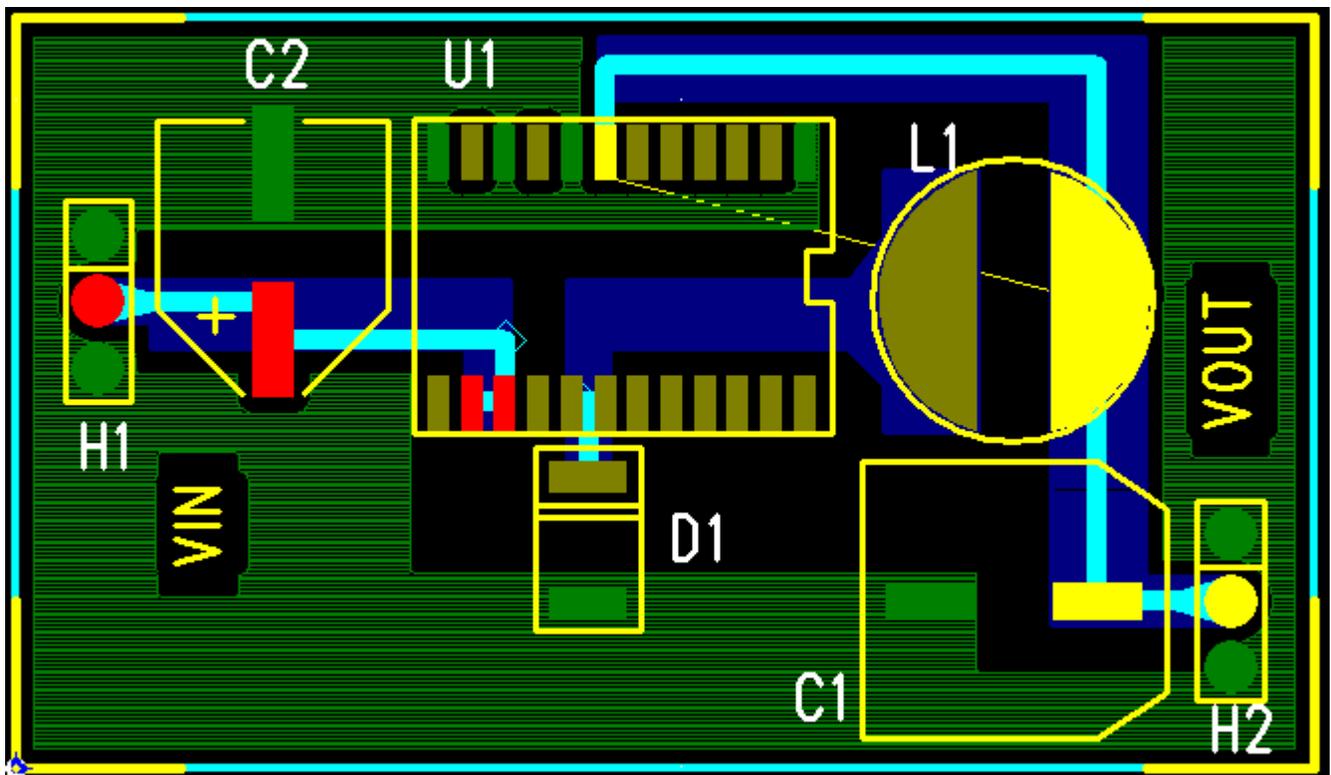


# Small Simple Switcher

BY

Michael T. Edwards

1-11-99



The reason I made this board is too be able to use one battery to drive my motors on a small robot. The input power from the battery could be anywhere between +7 volts D.C., and +24 volts D.C. The output from this board is a nice stable +5 volt D.C. suitable for driving microprosseccors, and logic circuits, it is capable of providing up to 1 amp of power. Which is more then enough to run most Microprocessor boards. Another nice feature is

its size. ( 1.2 inch X 1.9 inch). I tried to keep all the copper on one side of the board, so that any hobbyist could easily reproduce this board. I have included with this file both the 1:1 original Top Copper, and also a mirrored version. You only need to use one of these images, and it will depend on the method that you use to transfer the print out of this image to the circuit board. I hope you like this board, but if it doesn't work for you, remember that I put this here for free, and that I make no warranties or insurance's, and that I am not responsible for any damages that you might claim. Sorry I had to write that, but you know the few people that might assemble or not review the documentation, and want to seek damages for there smoked project, or home for that matter. I will go into methods of Printed Circuit Board production on my web page at <http://members.aol.com/grndplane/> but I won't get into it here. There is a table of contents below, which should help you understand the meaning of the layers of artwork you are looking at.

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- SCHEMATIC
- PARTS LIST
- PARTS PLACEMENT
- TOP COPPER IMAGE
- (MIRRORED) TOP COPPER IMAGE
- DRILL SIZE AND LOCATIONS

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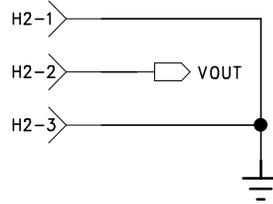
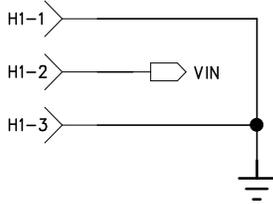
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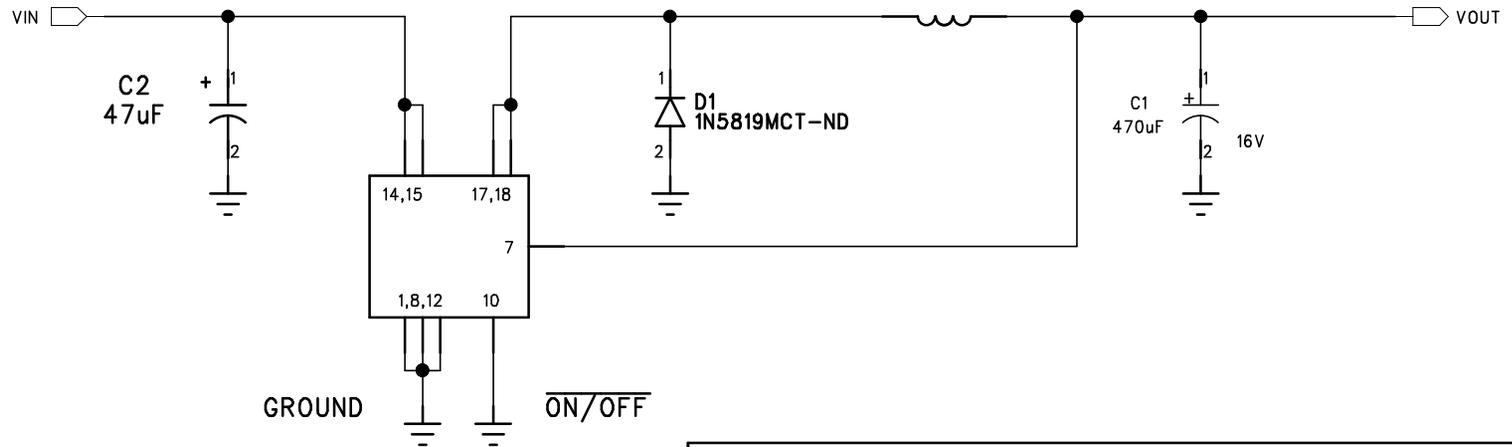
2

1



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

> 7.0 VDC  
< 25.0 VDC



C2  
47uF

U1  
LM2575HVM-5.0

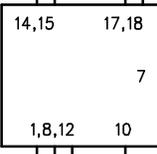
L1  
330uH

5.00 VDC  
1.0 AMP

C2  
47uF

D1  
1N5819MCT-ND

C1  
470uF  
16V



GROUND

ON/OFF

COMPANY: GRNDPLANE INC.

TITLE: SMALLER SIMPLE SWITCHER, 5 VDC, 1 AMP

DRAWN: MICHAEL EDWARDS	DATED: 10/10/98
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

CODE:	SIZE: A	DRAWING NO: 5VSWITCH	REV:
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SCALE: N/A SHEET: 1 OF 1

D

C

B

A

D

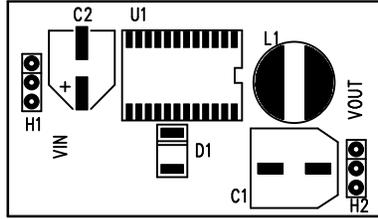
C

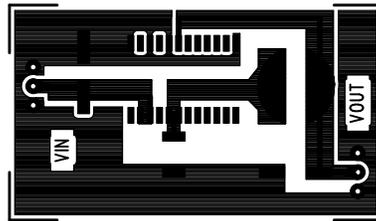
B

A

## Bill Of Materials for Small Simple Switcher

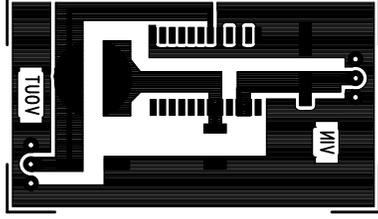
Qty	Ref	Description	MFR	OEM P/N	VALUE
1	D1	DIODE , SCHOTTKY, SMD, BARRIER RECT.	DIODES INCORPORATED	1N5819MCT-ND	1 AMP
1	C2	CAP, ELEC, 25V, 20%, 8x6.2, Low Impedance, 47uF,smt	PANASONIC	EEV-FC1E470P	47uF
1	C1	CAP, SMC 16V, 470uF	NIC COMPONENTS CORP.	NACE47116V8X10.8	470uF
1	L1	INDUCTOR, SMD POWER, HIGH DC CURRENT	BOURNS	SDR1006-331K	330uH
1	U1	VOLTAGE REGULATOR, STEP DOWN, 5V 1A	NATIONAL SEMICONDUCTOR	LM2575HVM-5.0	
2	H1-2	hdr, 3 pin, single-in-line, tin	MOLEX	22-03-2031	N/A





Top Copper ( Only Layer Needed )  
USE THIS PDF FOR PHOTO-RESIST BOARD  
USE THE MIRRORED TOP COPPER IF YOU ARE  
GOING TO USE PRESS-N-PEEL TRANSFER FILM

GOING TO USE PRESS-N-PEEL TRANSFER FILM  
USE THE MIRRORRED TOP COPPER IF YOU ARE  
USE THIS PDF FOR PHOTO-RESIST BOARD  
Top Copper ( Only Layer Needed )



SIZE	QTY	SYM	PLTD
42	6	Z	PLTD

