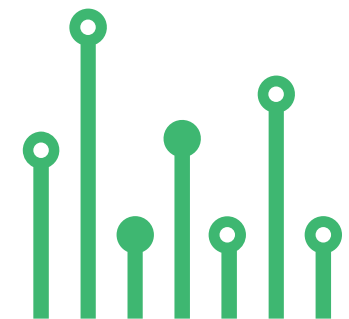


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POWER SUPPLY



Boost Converter
– Input 3.3V,
Output
5V@500mA



SKU: EL153899

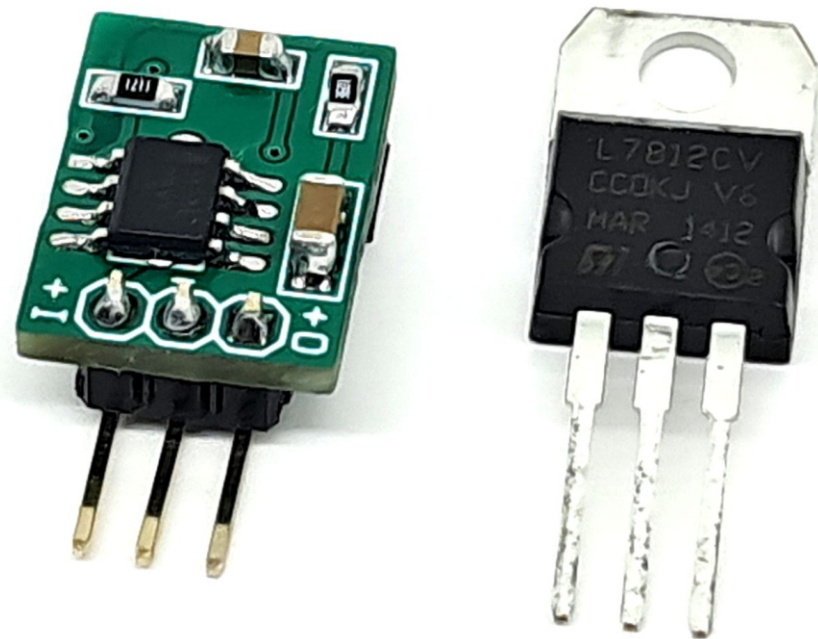
Boost Converter – Input 3.3V, Output 5V@500mA



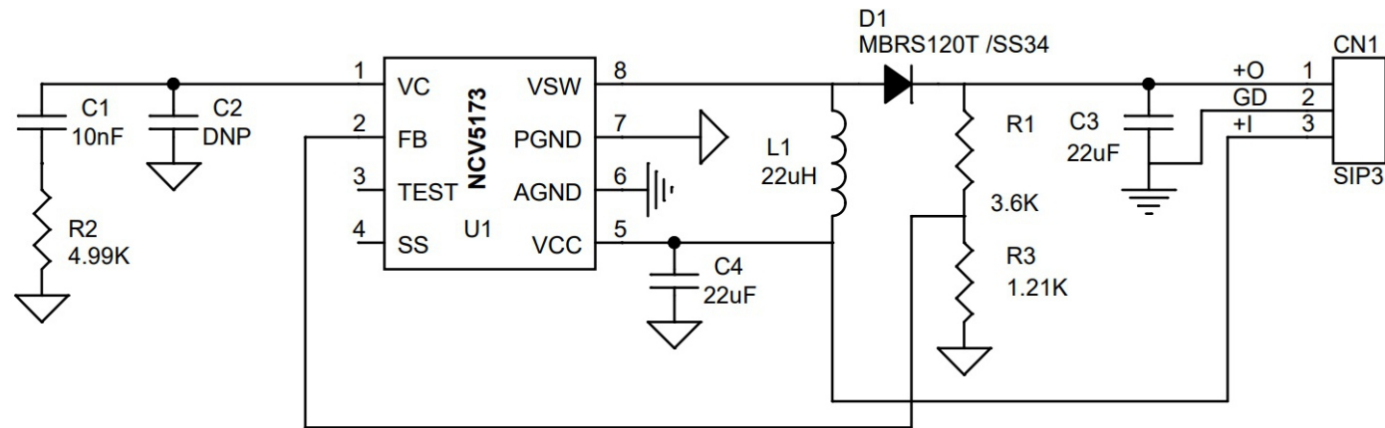
The project presented here is a compact, high-efficiency, low-cost, and low-EMI step-up DC/DC module designed to replace LDO regulators. This small module not only saves on solution size and cost but also eliminates the need for a heatsink, occupying the same space as a TO-220 package and being pin-to-pin compatible with TO-220 regulators, such as LM78XX. The module is built using the NCV5173 chip, a 560kHz regulator with high efficiency, and a 1.5A integrated switch. The ICs employ a current mode architecture, ensuring excellent load and line regulation, as well as a practical means for current limiting. The combination of high-frequency operation and a highly integrated regulator circuit results in an extremely compact power supply solution. The circuit design includes provisions for features such as frequency synchronization, shutdown, and feedback controls for positive voltage regulation. The project delivers 5V DC at 500mA from a 3.3V input supply.

FEATURES

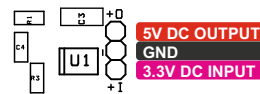
- Input Supply 3.3V DC
- Output 5V DC
- Continuous Maximum Load Current 500mA
- Operating Frequency 560Khz
- Input and Output 3Pin Header Connector
- Direct Mount on TO220/LM78XX Regulator
- PCB Dimensions 16.03MM X 12.02MM



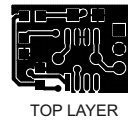
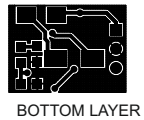
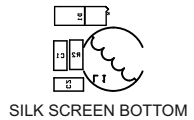
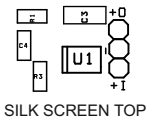
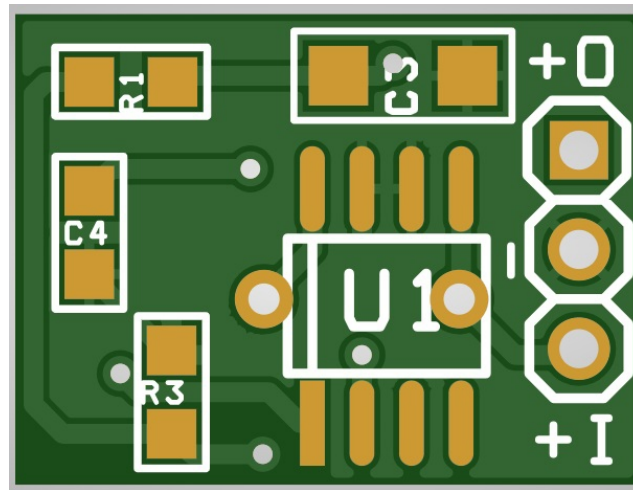
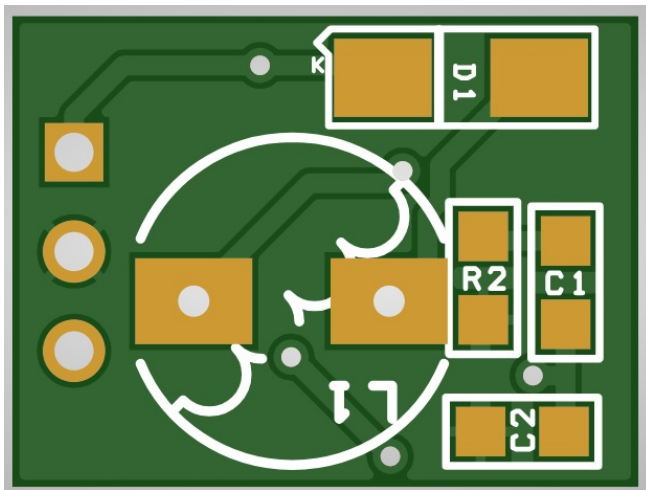
Schematic



Connections



PCB



PCB DIMENSIONS 16.03MMX12.02MM

Parts List

BOM						
NO	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	3 PIN MALE HEADER RIGHT ANGLE 2.54MM PITCH	WURTH	DIGIKEY	732-5336-ND
2	1	C1	10nF/16V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
3	1	C2	DNP			
4	2	C3,C4	22uF/6.3V X5R CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
5	1	D1	MBRS120T /SS34	ON SEMI	DIGIKEY	MBRS120T3GOSCT-ND
6	1	R1	3.6K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
7	1	R2	4.99K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
8	1	R3	1.21K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
9	1	U1	NCV5173 SOIC8	ONSEMI	DIGIKEY	488-NCV5173EDR2GCT-ND
10	1	L1	22uH 6-8MM	BOURNS	DIGIKEY	SRN6045TA-220MCT-ND



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