

3V to 5V DC Output Step-Up DC-DC Converter using MAX668

The project presented here is a powerful constant-frequency, pulse-width modulating (PWM), current-mode step-up DC-DC switching regulator efficiently producing 5V from input voltages between 3V to 5V. The project can be used in a portable device that works with a battery. The module produces a peak current of up to 1A and output voltage of 5V DC.

The MAX668 current-mode PWM controllers operate in a wide range of DC-DC conversion applications, including boost, SEPIC, flyback, and isolated output configurations. Optimum conversion efficiency is maintained over a wide range of loads by employing both PWM operation and Maxim's proprietary Idle Mode control to minimize operating current at light loads. Other features include shutdown, adjustable internal operating frequency or synchronization to an external clock, soft start, adjustable current limit, and a wide (1.8V to 28V) input range.

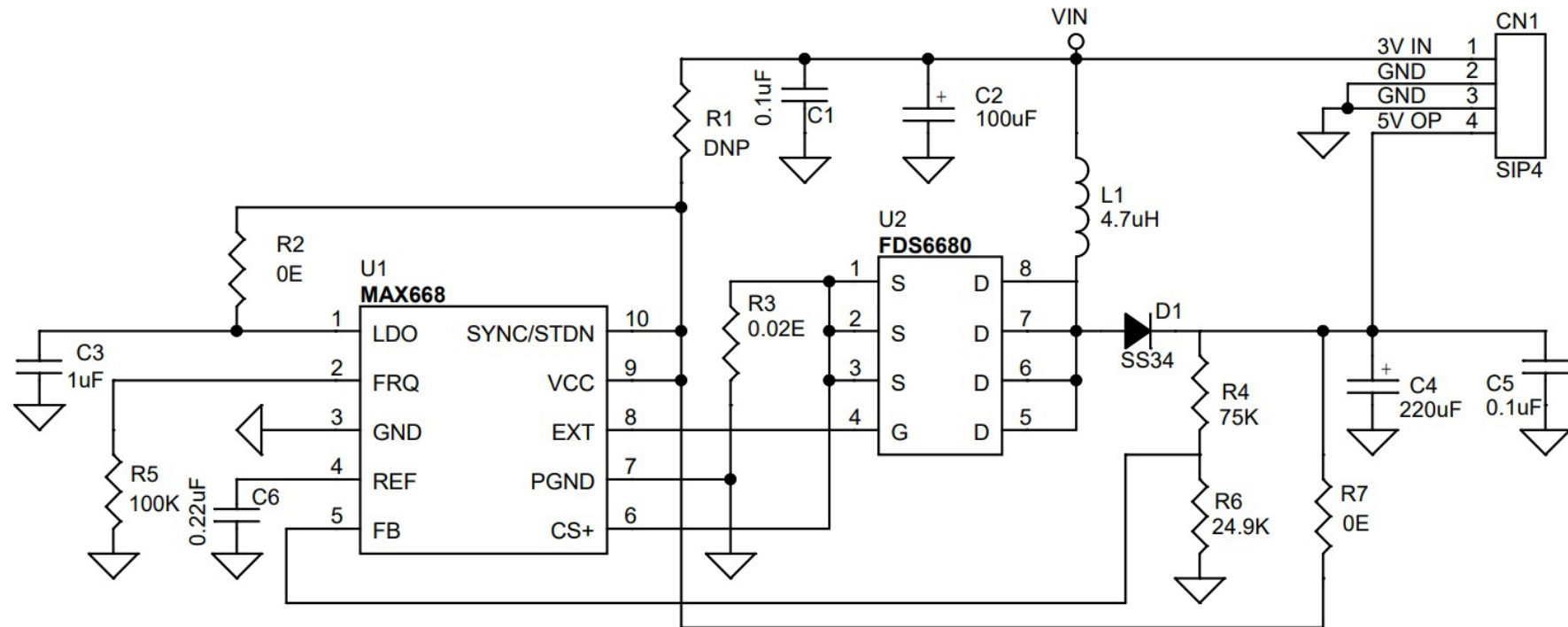
Connections Cn1

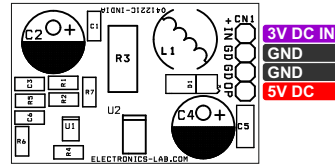
- Pin 1: 3V to 5V Input
- Pin 2: GND
- Pin 3: GND
- Pin 4: 5V DC Output

Features

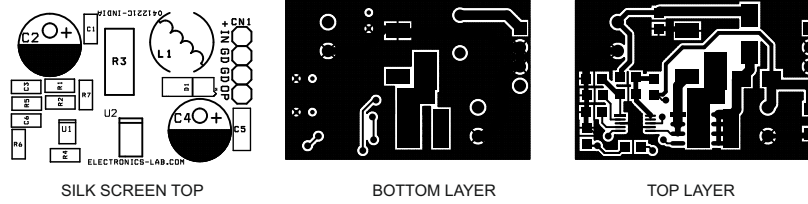
- Operating Supply 3V to 5V
- Output 5V DC @ 500mA (1Amp Peak)
- Operating Frequency 500Khz
- 4 Pin Header Connector for Input and Output
- PCB dimensions: 32.70 x 21.27 mm







BOM						
NO.	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	4 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	
2	2	C1,C5	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
3	1	C2	100uF/10V	WURTH	DIGIKEY	732-9197-1-ND
4	1	C3	1uF/10V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
5	1	C4	220uF/10V	WURTH		732-9418-1-ND
6	1	C6	0.22uF/10V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
7	1	D1	SS34	NEXT GEN	DIGIKEY	3372-SS34TR-ND
8	1	L1	4.7uH	EPCOS/TKD	DIGIKEY	495-1997-2-ND
9	1	R1	DNP			DO NOT INSTALL
10	2	R2,R7	0E SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
11	1	R3	0.025E 1% SMD SIZE 2512	MURATA/YAGEO	DIGIKEY	
12	1	R4	75K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
13	1	R5	100K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
14	1	R6	24.9K 1% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
15	1	U1	MAX668	MAXIM	DIGIKEY	MAX668EUB+-ND
16	1	U2	FDS6680 SO8	ON SEMI	RS COMPO.	671-0605



PCB DIMENSIONS 32.70MM X 21.27MM