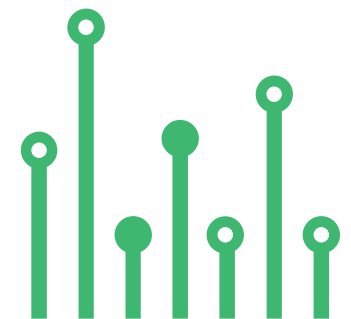


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POWER SUPPLY



# 12-95V Input-5V Output, High Voltage DC-DC Buck Converter

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SKU: EL148164

## POWER SUPPLY

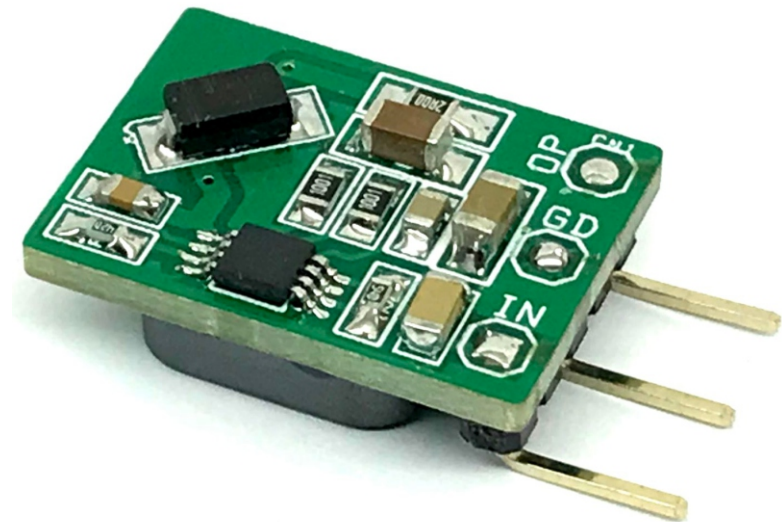
# 12-95V Input, 5V Output, High Voltage DC-DC Buck Converter



This is a versatile synchronous buck DC/DC converter built using the LM5008 chip. The operating input voltage range is 12V to 95V DC, providing 5V/120-350mA output. The regulator can provide a load current of up to 350mA, but it's advisable to draw only 120mA due to the small thermal area on PCB (small PCB). The default output of the converter is set to 5V. Output is adjustable by changing the feedback resistor values R1 and R4. Please refer to the datasheet of the LM5008 chip for more info.

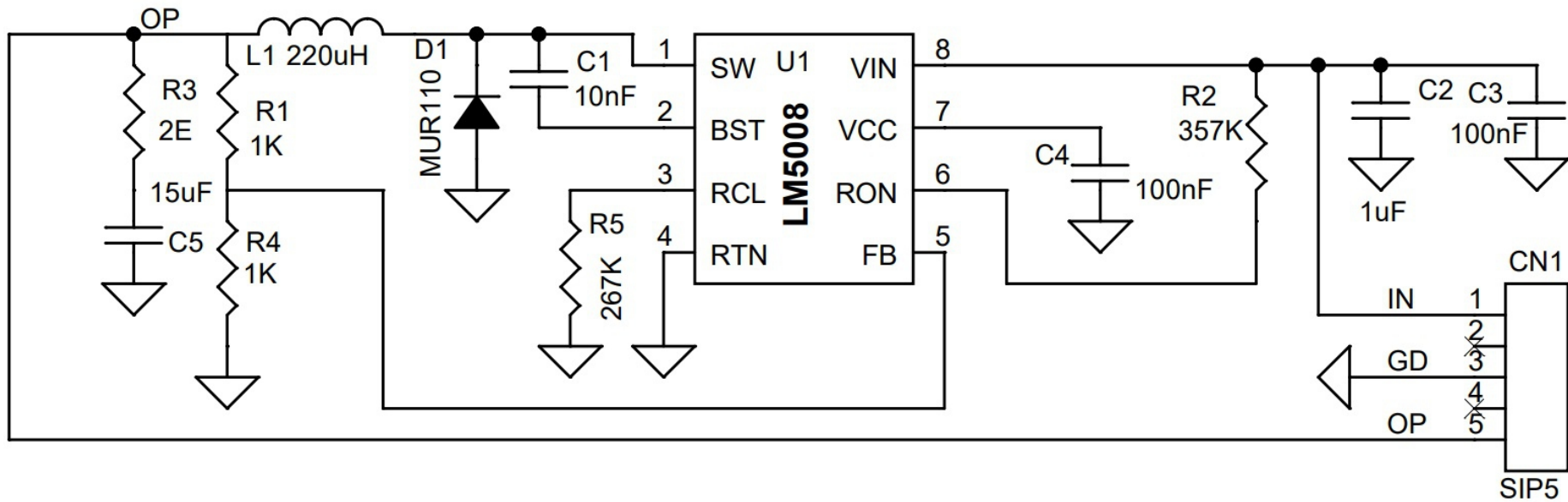
## FEATURES

- Operating Input Voltage Range of 12 V to 95 V
- Output 5V @ 120mA (Output Up to 350mA with fan)
- High Efficiency Operation
- Adaptive Constant On-Time Control Architecture
- Ultra-Fast Transient Response
- No Control Loop Compensation Required
- Nearly Constant Switching Frequency
- PWM On-Time Varies Inversely with Input Voltage
- Low Input Quiescent Current
- Inherent Protection Features for Robust Design
- Intelligent Current Limit Protection
- VCC and Gate Drive UVLO Protection
- Thermal Shutdown Protection with Hysteresis
- PCB Dimensions 20.64X14.92MM



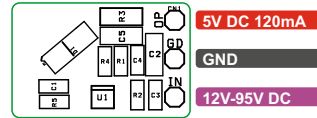
The LM5008 350-mA step-down switching converter features all of the functions needed to implement a low-cost and efficient buck regulator. This high-voltage converter has an integrated 100-V N-channel buck switch and operates over an input voltage range of 9 V to 95 V. The device is easy to implement and is provided in the 8-pin VSSOP and the thermally enhanced 8-pin WSON packages. The converter uses a hysteretic control scheme with a PWM on-time inversely proportional to  $V_{IN}$ . This feature allows the operating frequency to remain relatively constant. The hysteretic control requires no loop compensation. An intelligent current limit is implemented with forced off-time, which is inversely proportional to  $V_{OUT}$ . This scheme ensures short-circuit protection while providing minimum foldback. Other protection features include: thermal shutdown, VCC undervoltage lockout, gate drive undervoltage lockout, and maximum duty cycle limiter.

# Schematic



# Connections

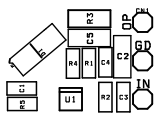
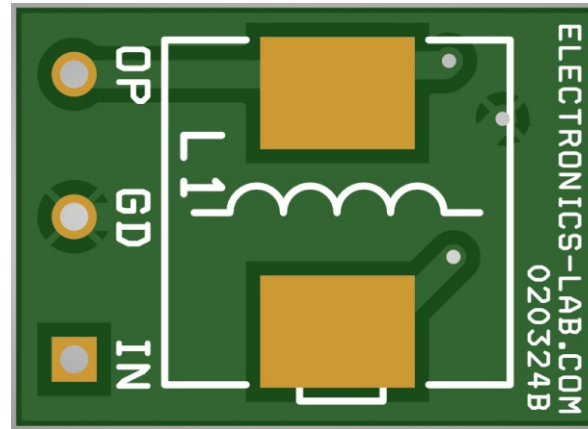
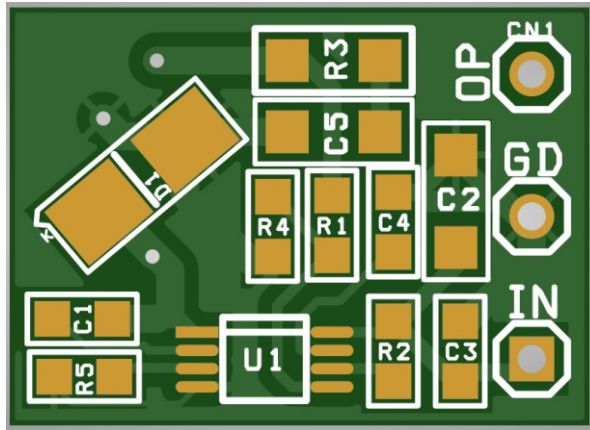
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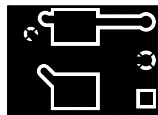
## Connections

Cn1: Pin 1 = DC Input 12V to 95V, Pin 2 = NC, Pin 3 = GND, Pin 4 = NC, Pin 5 = OP

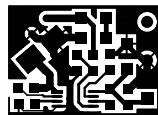
# PCB



SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 20.64X14.92MM

# Parts List

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BOM						
NO.	QNTY.	REF	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	5 PIN MALE HEADER RIGHT ANGLE 2.54MM	WURTH	DIGIKEY	732-5318-ND
2	1	C1	10nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
3	1	C2	1uF/100V CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
4	2	C3,C4	100nF/100V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
5	1	C5	15uF/25C CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
6	1	D1	MURA110	ONSEMI	DIGIKEY	MURA110T3GOSCT-ND
7	1	L1	220uH	BOURNS	DIGIKEY	SRN1060-221MCT-ND
8	2	R1,R4	1K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
9	1	R2	357K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
10	1	R3	2E 1% SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
11	1	R5	267K 1% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
12	1	U1	LM5008 8VSSOP	TI	DIGIKEY	296-LM5008MM/NOPBCT-ND



# Notes

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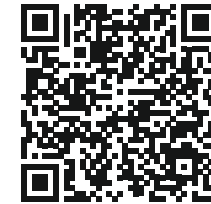
## APP

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### Android App

DOWNLOAD

Android App launched in 2017 and has 100k+ downloads - rated with 4.5 stars.



SCAN QR CODE





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