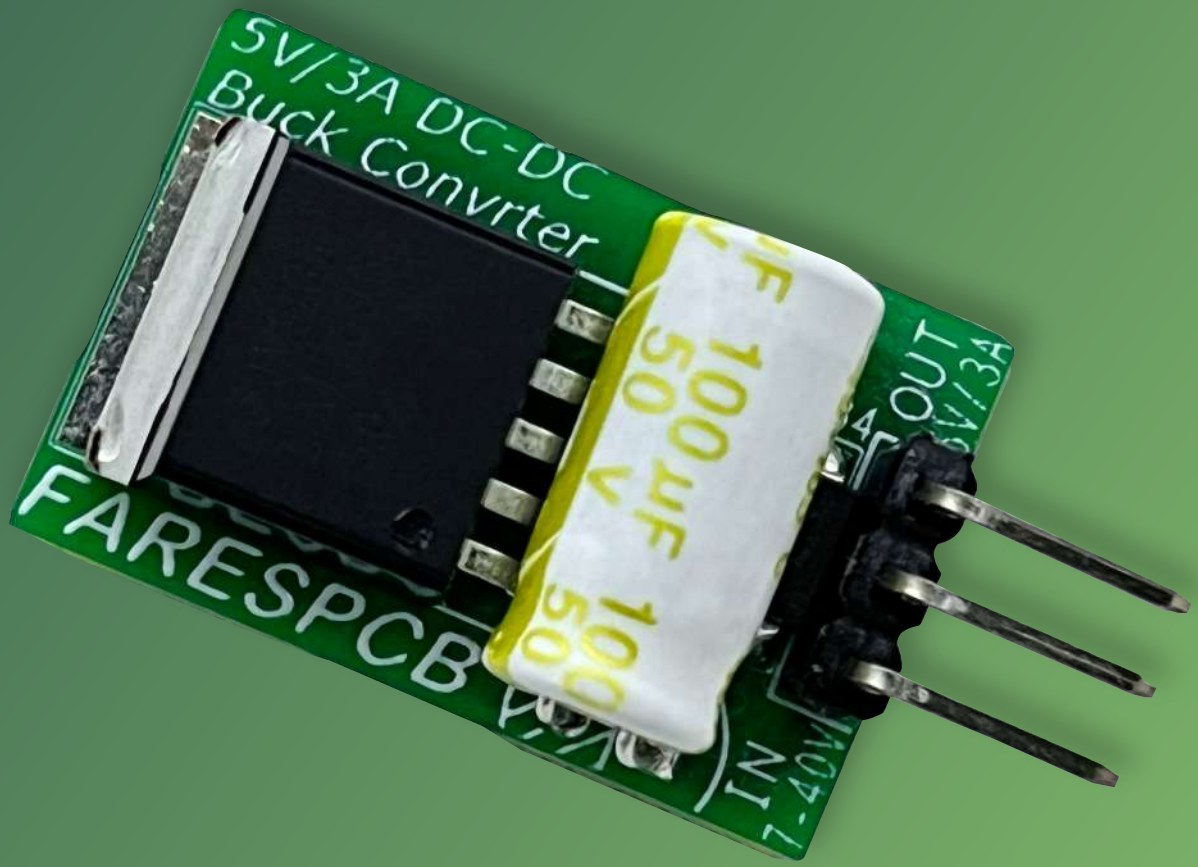
FARES PCB

For Electronic Solutions



5V/3A DC-DC Buck Converter Module (LM2596)

General Description

The 5V DC-DC Buck Converter Module is a compact and efficient power supply solution based on the LM2596 switching regulator. Designed as a direct drop-in replacement for the classic 7805 linear regulator, it offers a familiar pinout (IN, GND, OUT) while delivering much higher performance. With its ability to handle input voltages from 7V up to 40V, this module provides excellent flexibility for a wide range of applications.

Unlike traditional 7805 regulators that are limited to about 1A output current and often require large heatsinks to manage heat, this module can supply up to 3A continuous output current with conversion efficiency reaching 90%. This means less wasted energy, minimal heat dissipation, and no need for bulky cooling solutions, making it ideal for compact or battery-powered projects.

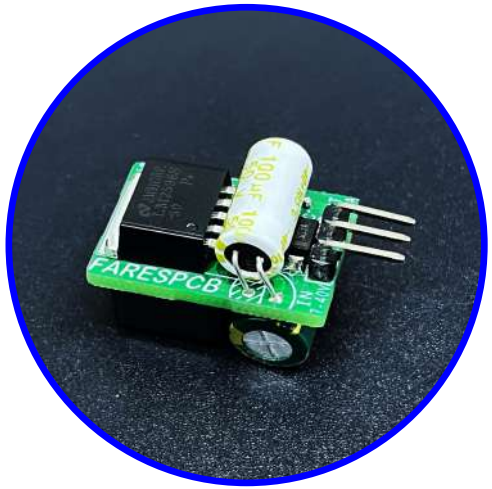
Thanks to its stable 5V regulated output, the module is perfectly suited for powering microcontrollers, development boards, sensors, and digital circuits. Its small form factor (23X19X15mm) makes it easy to integrate into DIY electronics, embedded systems, and industrial control applications where space and efficiency are critical.

Features

Direct 7805 Replacement: Pin-compatible with standard 7805 linear regulator (IN, GND, OUT).
High Current Output: Supports up to 3A continuous load current, much higher than the 7805 (1A max).
Wide Input Voltage Range: Operates from 7V to 40V DC, offering greater flexibility compared to linear regulators.
High Efficiency: Up to 90% conversion efficiency, significantly reducing heat generation.
Compact Size: Miniature PCB design for easy integration in projects with limited space.
Low Heat Dissipation: Minimal power loss thanks to switching regulator technology, eliminating the need for bulky heatsinks.
Stable Output: Provides regulated 5V output suitable for powering microcontrollers, sensors, and other digital circuits.
Dimensions(LXWXH): 23X19X15mm

Upgrade From Regulators to Buck Converters

5V/3A DC-DC Buck Converter



- High efficiency (80–90% or more)
- Runs cool under load
- Wide input range (up to ~40V)
- Output current Up to ~3A
- Low dropout voltage (close to 0.5–2V)
- Higher ripple (switching regulator)

7805 Linear Regulator (with Heatsink)

- Low efficiency (wastes excess voltage as heat)
- Generates significant heat, requires heatsink
- Narrow input range (needs ~8–20V)
- Output current typically ≤1A (limited by heat)
- High dropout voltage (~3V)
- Very low ripple (clean analog output)

Pinout Description

IN
Input Voltage
(7–40V DC)

OUT
Regulated Output 5V DC
(up to 3A)

GND
Ground (Common 0V)

Connect IN to the DC supply (7–40V), GND as common ground, and OUT provides a stable 5V regulated output.

For our full range of products, see our website at **http://www.fares-pcb.com**
If you have any technical questions about our products,
e-mail us at **www.support@fares-pcb.com**

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Information furnished by is believed to be accurate and reliable. However, **FARES PCB** assumes no responsibility arising from the use of the specifications described.

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