EM201 2A step-down DC/DC converter module

1. Overview:
   This module is a compact high efficiency synchronous DC/DC step-down regulator designed for embedded, industrial, automation and education applications. With its bread-board friendly design it can be used in development stages of your project, and with its small footprint (15mm*15mm) it can serve its purpose on your PCB. This module will provide stable regulated output voltage, over a fairly wide input range with minimal ripple and almost no extra components needed.

2. Features:
   - 4.5V-18V input voltage range
   - Up to 3A transient output current, and 2A continuous current output
   - High conversion efficiency (above 85%), perfect for battery operated devices.
   - Compact footprint
   - Low Shutdown Current Less than 10 μA
   - Cycle-by-Cycle Overcurrent Limit
   - Hiccup-mode Overcurrent Protection
   - Non-Latch UVP and TSD Protections
   - Fixed Soft Start: 1.0 ms
   - Thermal shutdown
   - Industrial temperature range (-40°C to 125°C)

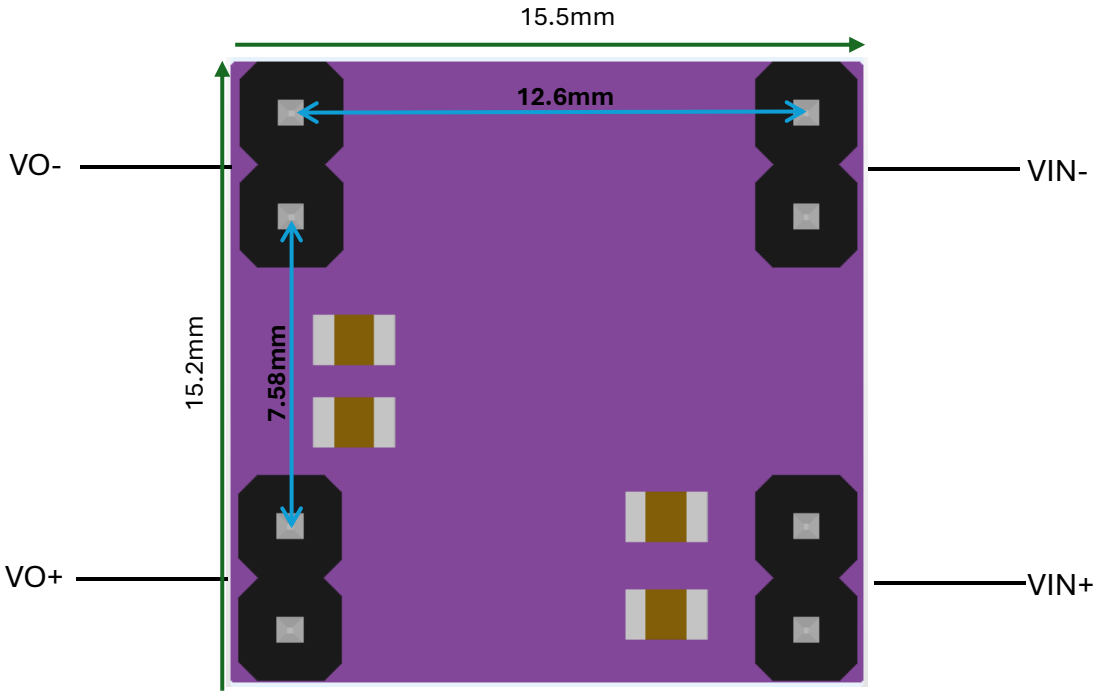
3. Absolute maximum ratings:
   - Input voltage: (2.7V to 19V)
   - Output transient current: 3A
   - Output continuous current: 2.5A (for less than 3 seconds)
   - Thermal shutdown temperature: 172°C
   - Operating junction temperature: -40°C to 150°C
   - Storage temperature: -55°C to 150°C

4. Recommended operating conditions:
   - Input voltage: 4.5V to 18V (input voltages below these values are achievable but will lead to increased output ripple)
   - Output current (continuous): 2A

- Output voltage: 1.0V to 6V (highest efficiency at 5V - 93%)
- Maximum operating temperature: -30°C to 125°C

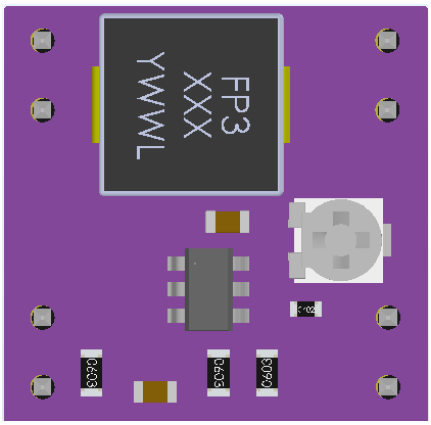
5. Electrical characteristics:
    - Output ripple: 50mv (adding a 100nf and a 10nf ceramic capacitor drastically reduces ripple stabilizes the output further)

6. Pinout and Dimensions:



pin headers are standard 2.54mm headers. Maximum height is 8.7mm (including headers)

Top view:



Side view: