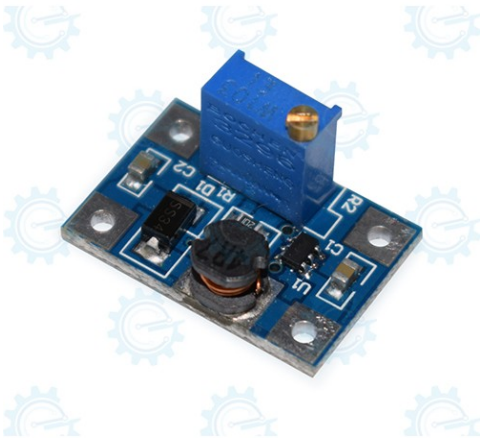
B6286 Step Up Adjustable boost converter

Technical Manual Rev 1r0



This module B6286 Step Up adjustable boost converter accepts input voltage from 2V to 24V, and adjustable output 2V to 28V boost regulator module. Typical Applications for Single cell battery Operated devices, Single cell (AA,AAA) Phone battery Charger, Small Size Solar Chargers for cellphones. Can be used as Breadboard/Lab power supply.

Features:

- Integrated 80mOhms Power MOSFET
+2 to 24V Input voltage
- Up to 28V adjustable
- 1.2MHz Fixed Switching Frequency (higher frequency: small inductor and small capacitor)
- Internal 4A Switch Current Limit
- Adjustable Output voltage
- Internal Compensation
- Automatic Pulse Frequency Modulation Mode at Light Loads
- Up to 96% Efficiency

General Specifications:

Input Supply Voltage: 2V to 24V
Outputs voltage: Up to 28V Adjustable (Input must be lower than output voltage)
Recommended Ouput voltage: 26V
Recommended Operating current: <1A
Maximum Operating Current: 2A
Converter Efficiency: Up to 93%
Regulator Chip: B6286
Size: 31mm x 18 mm x 6.7mm
Weight: 3.5g

Output voltage and Current Test:
Results:

IN =5V, VOUT 12V @ 200mA – 93% efficiency
VIN =5V, VOUT 12V @ 800mA – 88% efficiency
VIN =13V, VOUT 18V @ 1700mA – 94% efficiency
VIN =13V, VOUT 18V @ 300mA – 96% efficiency

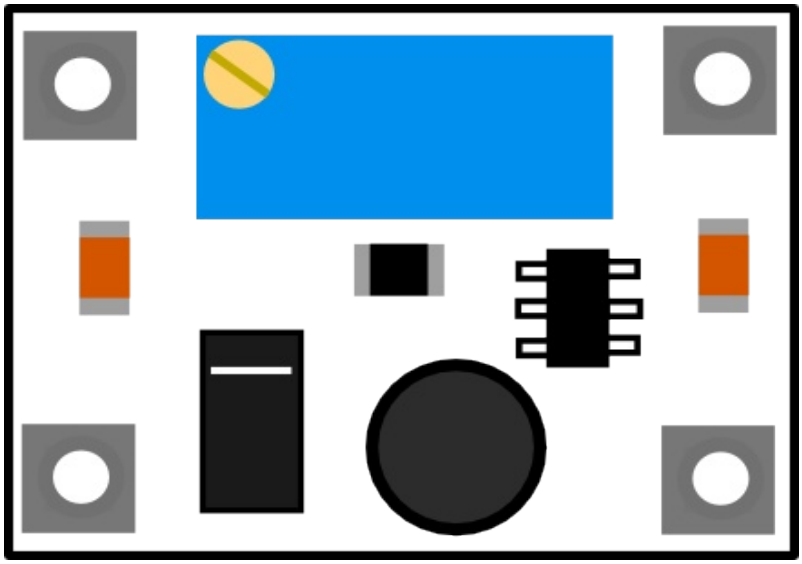


Figure 1. PCB Top Layer Guide

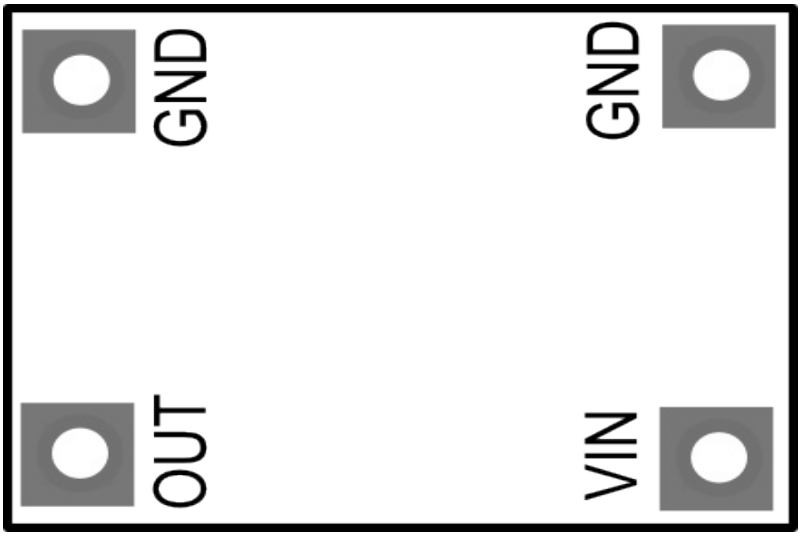
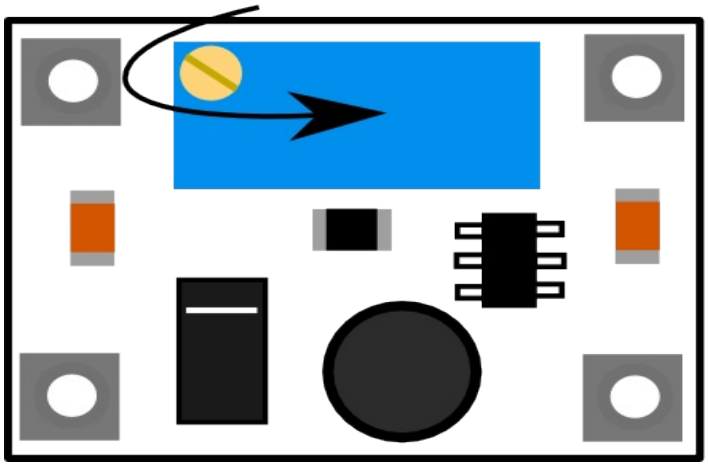


Figure 2. PCB Bottom Layer Guide

Output voltage increasing



Output voltage decreasing