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# **AX3022 Based Switching Regulator Adapter, Step-Down User's Guide**

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## **AX3022 Based Switching Regulator Adapter, Step-Down**

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### **NOTES:**

**Product Version** : **Ver 1.0**

**Document Version** : **Ver 1.0**

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## Chapter1.Overview

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### 1.1 Welcome

Thanks for using AX3022-based step-down switching regulator made by Sure Electronics. It is a stable DC-DC converter that consumes low power. A conversion board is provided to facilitate the use of this switching regulator.

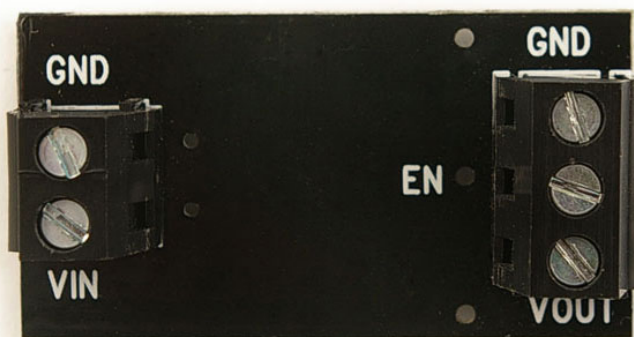
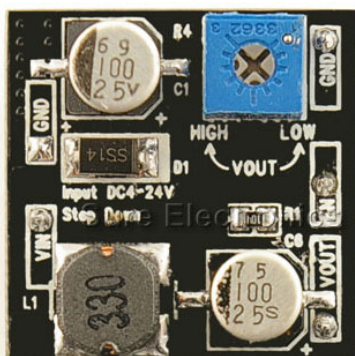


Figure 1

# Overview

## 1.2 Quick Start

1. To put it into use, you may connect DC-DC regulator and conversion board together, or directly integrate DC-DC regulator into a circuit.

2. Feed this regulator with DC supply. The allowable voltage ranges from 4V~24V. The positive and negative shall be connected to VIN and GND respectively. VOUT and GND shall be connected to load. By adjusting variable potentiometer R4, a DC voltage ranging from 2.5V~18V can be obtained for the load. As shown in fig 2.1, AX3022 is a step-down chip, so the output voltage cannot be larger than input voltage. Voltage can be output regularly when EN pin is suspended. In addition, you can connect EN and GND to turn off the voltage output.

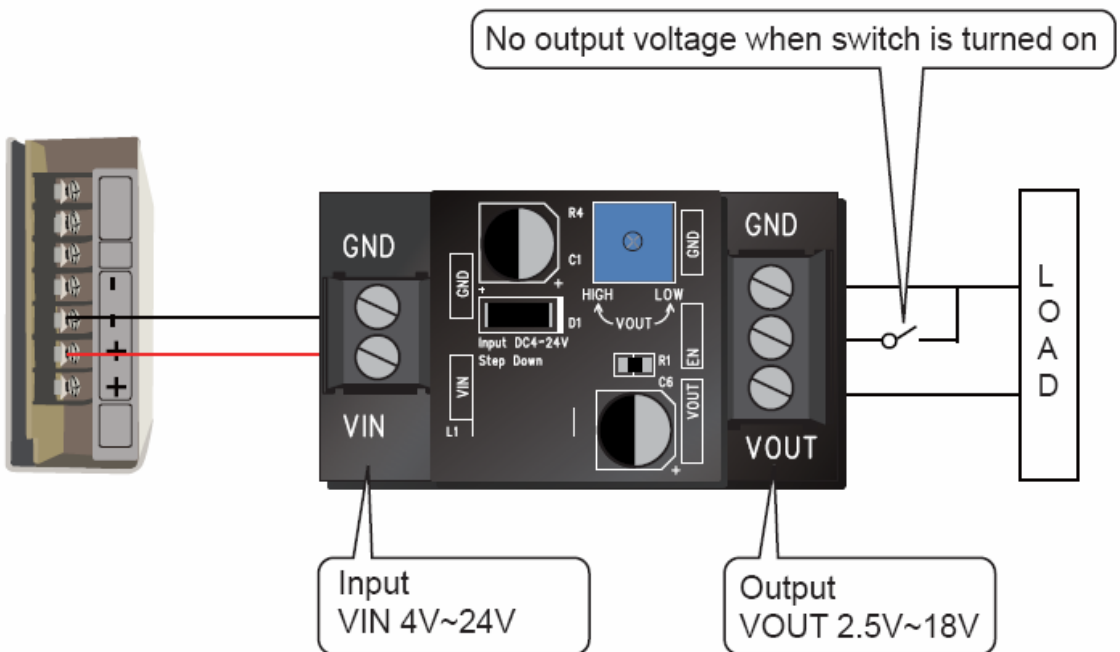


Figure 2

## Chapter2.Hardware Description

### 2.1 Technical Parameter

1. Maximum output current: 1.5A
2. Scope of input voltage: 4v~24V
3. Scope of output voltage: 2.5V~18V
4. Maximum output power: 10W
5. High level applied on EN (2V~Vcc) , low level (<0.5V)
6. Current-limit, thermal shut-down and short circuit protection are available

Input voltage	Input current (A)	Output voltage	Output current	Cyc RMS Maximum (mV)	PK-PK Maximum (mV)	Efficiency (%)
12V	0.17	3.3V	500mA	44.6	186	80.88
12V	0.4	3.3V	1A	30.8	240	68.75
12V	0.25	5V	500mA	44.4	154	83.33
12V	0.51	5V	1A	6.4	192	81.7
12V	0.44	9V	500mA	19.6	142	85.23
12V	0.9	9V	1A	19.2	182	83.33
24V	0.09	3.3V	500mA	90.6	380	76.39
24V	0.19	3.3V	1A	85.6	416	72.37
24V	0.13	5V	500mA	42.3	240	80.13
24V	0.25	5V	1A	42.9	294	83.33
24V	0.22	9V	500mA	77.0	266	85.23
24V	0.44	9V	1A	83.6	316	85.23
24V	0.28	12V	500mA	67.2	252	89.29
24V	0.61	12V	1A	60.9	290	81.97

Note: the above-mentioned data are obtained by the input of DC linear power

# Hardware Description

## 2.2 Port Definitions

Pin Name	Function
VIN	Positive input of DC power supply
GND	GND pin of input/output
EN	Voltage output when suspended, Connected to GND will turn off voltage output
VOUT	Voltage positive output

## 2.3 Mechanical Drawing

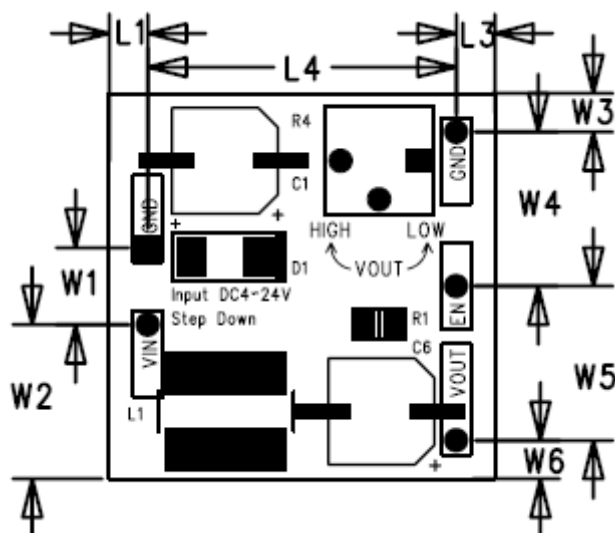


Figure 3

Symbol	L1	L2	L3	W1	W2	W3	W4	W5	W6
inch	0.10	0.80	0.10	0.20	0.40	0.10	0.40	0.40	0.10
mm	2.54	20.32	2.54	5.08	10.16	2.54	10.16	10.16	2.54

Appendix1: PCB Layout

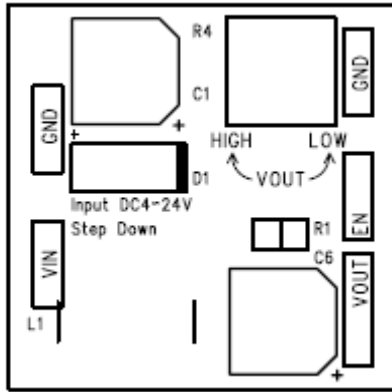


Figure 4

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## Chapter3.Contact Us

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