

## Description:

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Introduction to synchronous rectification technology:

Synchronous rectification is a new technology that uses a dedicated power MOSFET with very on-resistance to replace the rectifier diode to reduce rectification losses. It can greatly increase the efficiency of the DC/DC converter and there is no dead zone voltage caused by the Schottky barrier voltage. Power MOSFETs are voltage-controlled devices that have a linear relationship in volt-ampere characteristics during turn-on. When using a power MOSFET as a rectifier, it is required that the gate voltage must be synchronized with the phase of the rectified voltage to complete the rectification function, so it is called synchronous rectification. The synchronous rectification technology greatly reduces the rectification loss at the output end of the switching power supply, thereby improving the conversion efficiency and reducing the heating of the power supply itself.

Module nature: synchronous rectification non-isolated buck constant current constant voltage module CC CV charging module

Scope of application: high-power LED constant current drive, lithium battery charging (including ferroelectric), 4V, 6V, 12V, 14V, 24V battery charging, nickel-cadmium nickel-hydrogen battery (battery pack) charging, solar panels, wind turbines

Input voltage: 6-40VDC

Output voltage: continuously adjustable (1.2-35VDC) for longer than 32V (applicable for applications where the input voltage is higher than the output voltage cannot be boosted)

Output current: maximum 20A for 15A for a long time (power tube temperature exceeds 65 degrees, please add fan cooling, high voltage output, please derate)

Current limiting range: 0.2-20A (adjustment) module over 65 degrees, please add a fan.

The lowest voltage difference: 3V

Output current adjustment method:

1. Adjust the CV potentiometer and set the output voltage to the voltage you need according to your load requirements.
2. Set the CC potentiometer counterclockwise for about 30 turns (ie set the output current to the minimum), connect the LED, and adjust the CC potentiometer to the current you need. For battery charging, after the battery is discharged, it will be connected to the output and adjust the CC to the current you need. (Be sure to use the discharged battery when charging, because the battery is left in the battery.) More, the charging current is smaller.)

Specification:

Working frequency: 150KHZ

Conversion efficiency: up to about 96% Efficiency is related to pressure difference and usage environment

Output ripple: Ripple around 50mV (no noise) 20M bandwidth (for reference only) Input 24V measured

Working temperature: -10 °C to +75 °C) (Please pay attention to the power tube temperature for actual use. If the temperature is too high, please use heat dissipation or derating)

Potentiometer adjustment direction: clockwise (increase), counterclockwise (decrease)

Output short circuit protection: There is (instantaneous protection) constant current (current constant current cannot be short-circuited for a long time)

Input reverse connection protection: none,

Output anti-reverse perfusion: None, for the load self-charged or inductive load needs to add a 2-pole tube!

Wiring method: terminal block

Module size: 60\*53\*30MM

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## **Package Included:**

1\*300W power module



