300W DC step-down converter DC-DC 8A 5-40V to 1.2-35V power module step-down

Note:

(the maximum current is 8A, the maximum input voltage is 40V, and the maximum output voltage is about 35V)

(Since the manufacturer of 12A current chip stopped production, the current of the replacement chip was reduced from 12A to 8A (the maximum current in the actual test was about 9A), the input voltage was increased from 32V to 40V, and the output voltage was increased from 28V to 35V. It can supply power for 10 series of high-power LEDs.

QS-2405CCBD-8A Power module

Size: 65 (L) * 47 (W) * 23.5 (H) mm

Typical applications:

Adjustable power supply (8A power enough), high-power LED drive, LED display drive, lead battery charging, lithium battery charging, on-board power supply. On board notebook power supply (step-down), regulated power supply, low-voltage system power supply, (for example, 12V battery for children's toy car is reduced to 6V), 24V to 12V 8A \ \ \ \ 12V to 5V 8A \ \ \ \ 24V to 5V 8A \ \ \ \ 24V to 19V or 20V, etc., with a wide range of applications.

1. The fixed rotating lamp current is 0.1 times of the constant current value (used to identify whether the battery is full when charging);
2. The special reference IC and high-precision sampling resistance are used to make the constant current more stable (the temperature drift is less than 5% when the constant current is 5A from 20 degrees to 60 degrees). Especially suitable for LED drive
3. The output current is large, and the maximum output current can reach 8A, meeting most needs.
4. 4A high frequency capacitor can effectively reduce the output ripple and improve the working stability
5. Double heat sink design, MOS Schottky diode independent heat sink, good heat dissipation and no influence on each other
6. Large size iron silicon aluminum magnetic ring is adopted at all costs to improve work efficiency, and pure copper double wires are used to reduce heating and improve efficiency.
7. 3296-Series multi turn potentiometer, high voltage and current regulation accuracy and good stability.
8. Special current sampling resistor has high current sampling accuracy, good stability and small temperature drift. LED is required.
9. Two color indicator light, the working state is clear at a glance. It is necessary for charging.
10. The voltage and current can be adjusted. It has good effect as an adjustable power supply, large 8A current and sufficient power.

Module parameters

Module nature: Non isolated step-down constant current and constant voltage module (CC CV) charging module

Scope of application: High power LED constant current drive, lithium battery charging (including ferroelectricity), 4V, 6V, 12V, 14V and 24V battery charging, nickel cadmium nickel hydrogen battery (battery pack) charging, solar panel and wind turbine generator
Input voltage:7-32V(Without constant current (5-32v)
Output voltage:
(1) Continuously adjustable (0.8-28V)
(2) Fixed output (any choice between 0.8-28V). Please tell the shopkeeper when buying. (for the time being, it is only for batch customers, and all samples are sent to adjustable types)
(3) If you need higher voltage, please contact directly.

Output current: Maximum 12a (if the power tube temperature exceeds 65 ℃, please add a fan for heat dissipation. Generally, no fan can be added in the open environment within 24V to 12V 6A)
Constant current range:0.2-8A(adjustable)（Without constant current (not available)
Rotating lamp current: Constant current value * (0.1),Linkage between rotating lamp current and constant current value. For example, the constant current value is 3a and the rotating lamp current is set to constant current0.1Times (0.1 * 3A = 0.3A), when the constant current value is adjusted to 2A, the rotating lamp current is constant current0.1Times (0.1 * 2A = 0.2A)
The secondary version is fixed at 0.1 times (the actual lamp turning current is approximate, but not very accurate) to indicate whether it is fully charged.
Minimum differential voltage:1V

Output power: The maximum power is about 300W. If the power tube temperature exceeds 65 ℃, please add a cooling fan and or larger heat sinks.
Conversion efficiency: Up to about 95% (the higher the output voltage, the higher the efficiency)
Operating frequency:300KHZ
Output ripple:20MBandwidth (for reference only)
Input 24V output 12V 5A ripple about 50mV (excluding noise)

Operating temperature: Industrial grade (- 40 ℃ to + 85 ℃) (please pay attention to the power tube temperature in actual use. If the temperature is too high, please strengthen heat dissipation)
No load current: Typical 20mA (24V to 12V)
Load adjustment rate :± 1% (constant pressure)
Voltage regulation rate: ±1%
Constant current accuracy and temperature: In the actual test, the temperature on the module changes from 25 degrees to 60 degrees, and the change of constant current value is less than 5% (constant current value 5A)
Dynamic response speed:5% 200uS
Potentiometer adjustment direction: Clockwise (increase), counterclockwise (decrease), the potentiometer close to the input is voltage regulation (CV), and the potentiometer close to the output is current regulation (CC)

indicator light: Two color indicator light, The indicator light during charging is red, the indicator light after charging is green (green without load) and the indicator light without constant current is red.
Output short circuit protection: Yes, constant current (currently set constant current value)
Input reverse connection protection: None,
Output anti backflow: None.
Wiring mode: Terminal block
Battery charging method:
1. Determine the floating charge voltage and charging current of the battery you need to charge, and the input voltage of the module;
2. Adjust the constant voltage potentiometer to adjust the output voltage to about 5V.
3. Measure the output short-circuit current with the current capacity of 10A on the multimeter, and adjust the constant current potentiometer to make the output current reach the predetermined charging current value;
4. Adjust the constant voltage potentiometer to make the output voltage reach the floating charge voltage;
5. Connect the battery and test to charge.
(steps 1, 2, 3 and 4 are that the module input is connected to the power supply and the output is unloaded without battery.)

LED Application method of constant current drive:
1. Determine the working current and maximum working voltage you need to drive the LED;
2. Adjust the constant voltage potentiometer to adjust the output voltage to about 5V.
3. Measure the output short-circuit current with the current capacity of 10A on the multimeter, and adjust the constant current potentiometer to make the output current reach the predetermined led working current;
4. Adjust the constant voltage potentiometer to make the output voltage reach the maximum working voltage of LED;
5. Connect the LED and test the machine.
(steps 1, 2, 3 and 4 are that the module input is connected to the power supply, and the output is not connected to the LED light under no-load.）