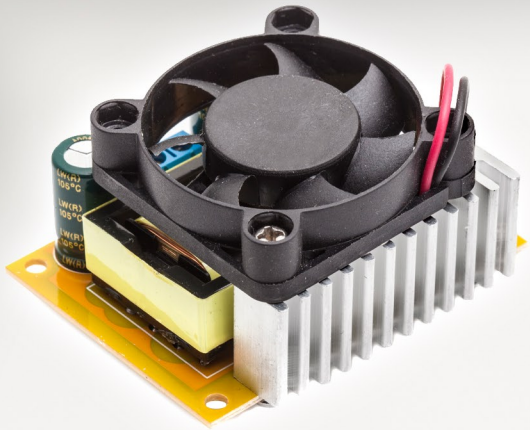
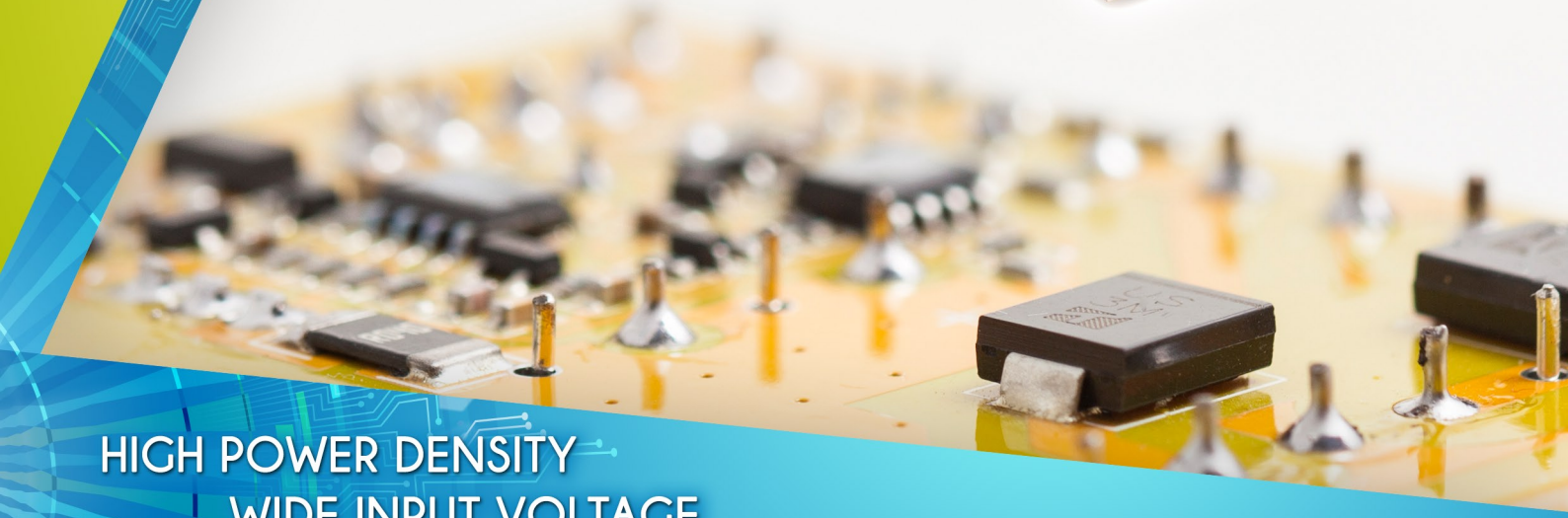
80J/S* DC ADJUSTABLE CCPS

REV1.0

WIDE INPUT DC-DC 800V CAPACITOR CHARGING POWER SUPPLY





HIGH POWER DENSITY
WIDE INPUT VOLTAGE
ADJUSTABLE OUTPUT

1000uF TO 300V IN 0.9 S
330uF TO 800V IN 1.3 S

APPLICATIONS

- PHOTOGRAPHY FLASH
- PULSED LASERS
- MEDICAL IPL DEVICES
- UV STERILIZATION
- PORTABLE SYSTEMS

THIS TURNKEY CAPACITOR CHARGING POWER SUPPLY (CCPS) IS YOUR CHOICE FOR ANY APPLICATION WHERE LOW/MEDIUM DC VOLTAGE IS AVAILABLE AND A FAST, RELIABLE, SIMPLE OPERATION CAPACITOR CHARGER IS NEEDED.

THE MODULE CAN HANDLE HIGH REPETITION RATE PULSES THANKS TO ITS BUILT-IN ACTIVE COOLING, AND OFFERS GOOD VOLTAGE STABILITY BY PERIODICALLY TOPPING-UP THE CAPACITOR VOLTAGE.

- 12-28V WIDE RANGE INPUT VOLTAGE
- HIGH POWER DENSITY
- ACTIVE FORCED-AIR COOLING
- AUTO-REFRESH CAPACITOR TOP-UP
- 150-800V ADJUSTABLE OUTPUT VOLTAGE

ORDER CODE: 80JS-DC-ADJ-CCPS

*80J/S AT 24V INPUT, 330uF TO 800V IN 1.3s

MODULE INCLUDES
CHARGING UNIT ✔
CAPACITOR
TRIGGER COIL
FLASHLAMP

LIGHT YOUR IDEAS !

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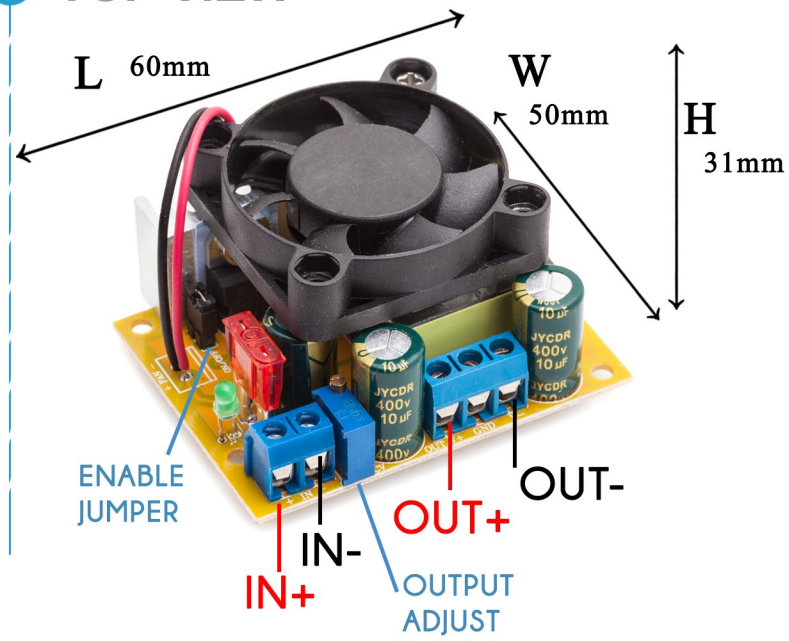
INTRODUCTION

This module is a compact, high power capacitor charger with an adjustable output of 150v to 800v. With a 12-28v range input voltage, it is ideal for use in battery-powered systems, up to 6S Lithium. The output voltage regulation ensures a steady target charging voltage according to the pre-set value, no matter the input voltage fluctuation.

As soon as the power source is applied and the ENABLE jumper is closed, the module starts charging the output capacitor, varying the switching frequency to efficiently adapt to different stages of the charge process. Once the capcitor reaches the target voltage, an automatic refresh will periodically top-up the voltage, to ensure the capacitor is always ready for your discharge process, even a long time after the charging.

TOP VIEW



SPECIFICATIONS

Input Voltage	DC 12v-28v
Input fuse	10A
Peak input power	160W
Charge rate (Typ.)	50-70 J/S
Output voltage (adj.)	150v-800v
Cooling method	Heatsink+40mm fan
Module protections	Over-voltage, Over-current
Isolation	Non-isolated output
Dimensions	60x50x31mm / 2.5x2x1.25 in.
Weight (inc. fan)	75 grams / 2.6oz

CURRENT DRAW

Please use a suitable power source that is rated according to the following current draw of the module (or higher).

Highest charge rate will be achieved by using a 24v power source

12v - 10A max. (peak)
18v - 7.2A max. (peak)
24v - 6.7A max. (peak)

PERFORMANCE

See page 3 for more details

1000uF	0 to 300v	0.9s
1000uF	0 to 500v	2.3s
1000uF	0 to 700v	4.1s
330uF	0 to 300v	0.3s
330uF	0 to 500v	0.6s
330uF	0 to 800v	1.3s

ORDERING INFO

PRODUCT CODE:
80JS-DC-ADJ-CCPS

PERFORMANCE

To show the charge rate under different input voltages, a 1000uF PhotoFlash capacitor was charged to 600v. (**FIG. A**)
As shown, under 300v output, the lower input voltage has some minor advantage, While above 300v - the charge rate increases dramatically as the input voltage is higher.

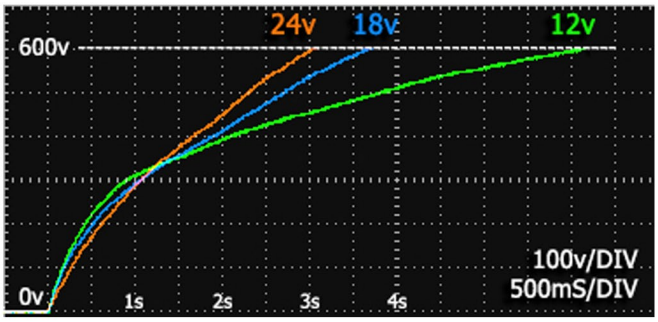


FIG. A: Charge rate of a 1000uF capacitor at different input voltages

When the target charge voltage is high, the output capacitor is relatively small, and the input voltage at 24v, high charge rates can be reached.
As this example shows, a 330uF cap was charged to 800v (~105 Joules) in slightly over 1 second
That is about 81 Joules/Second.

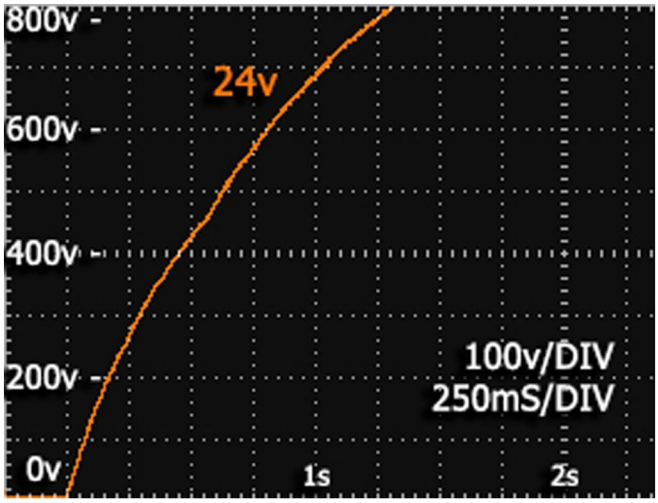


FIG. B: Charge rate of a 330uF capacitor at 24v input

CURRENT DRAW

Current draw from power source was measured on the same setup of charging 1000uF to 600v.
The figures below show the module current draw at 12v, 18v and 24v input voltage.

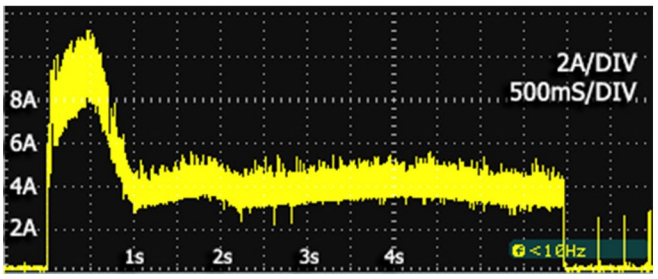


FIG. C: Input Current at 12v

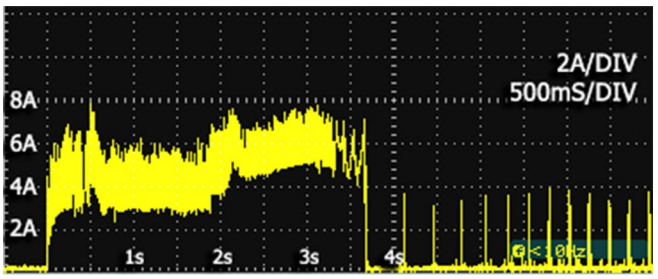


FIG. D: Input Current at 18v

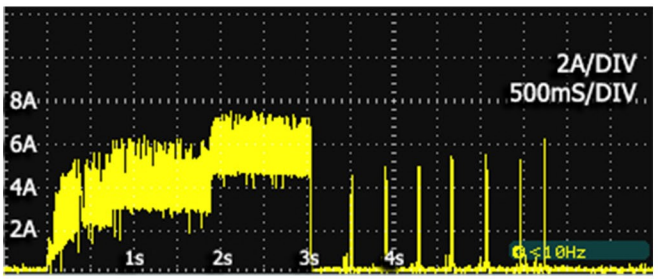


FIG. E: Input Current at 24v

TYPICAL APPLICATION