

The design is intended for one 3.7[V] Li-Ion 18650 battery cell

[illegible]

Max power dissipation = 60[mW]

U2
AP9101C

U2_VDD 5 VDD NC 4
6 VSS VM 2 VM

+VBAT
BT1
-VBAT

C3
100nF

R7 330R

D1
824500500

GND

R8
2K7

S D D S

Q1 Q2

NTR3C21NZ NTR3C21NZ

GND

Max power dissipation
on both transistors = 140[mW]
Max temp rise = 20[*C]

DW01-P can be placed instead of AP9101C
Change peripherals accordingly

Max power dissipation = 330[mW]
Max temp rise = 5[°C]

BOOST_IND L1 10uH
Max power dissipation = 60[mW]

Max power dissipation = 330[mW]
Max temp rise = 5[°C]

Max power dissipation = 100[mW]
Max temp rise = 10[°C]

Max power dissipation = 200[mW]
Max temp rise = 36[°C]

Vout = 5[V]
Max Current = 1[A]

After tests decide if bigger inductor is needed (22uH) and bigger output capacitor (22uF)

[illegible]

<u>BOOST_VIN</u>	TP1
<u>BOOST_EN</u>	TP2
<u>BOOST_IND</u>	TP3
<u>BOOST_FB</u>	TP4
<u>BOOST_SW</u>	TP5
<u>U2_VDD</u>	TP6
<u>DO</u>	TP7
<u>CO</u>	TP8
<u>YM</u>	TP9
<u>+VBAT</u>	TP10
<u>-VBAT</u>	TP11

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Vin = 5[V]
Vout = 5[V]
Max output current = 1[A]
Battery charge current = 1[A]
*For other charge currents change Rprog
** The max output current and power
are determined by the battery cell
MAKE SURE YOUR BATTERY CAN WITHSTAND THE MAX RATINGS

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Rechargeable 5[V] power bank

Designed by Shahar S.

Sheet: /
File: Battery Charger Rev 0.3.sch

Title: Main

Size: A3	Date: 7-Jul-2020
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Size: A3	Date: 7-Jul-2020	Rev: 0.3
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Size: A5	Date: 7 Oct 2020	Rev: 0.1
KiCad E.D.A. kicad (5.1.6)-1		Id: 1/1

