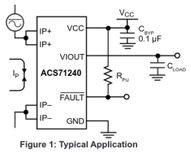


Figure 1: Typical Application

ACS712 Actually requires VCC = 5V, not 3.3V according to datasheet?

People on the internet indicate that they seem to work fairly fine on VCC=3.3V, though.

There is 3.3V version so we should use that one!

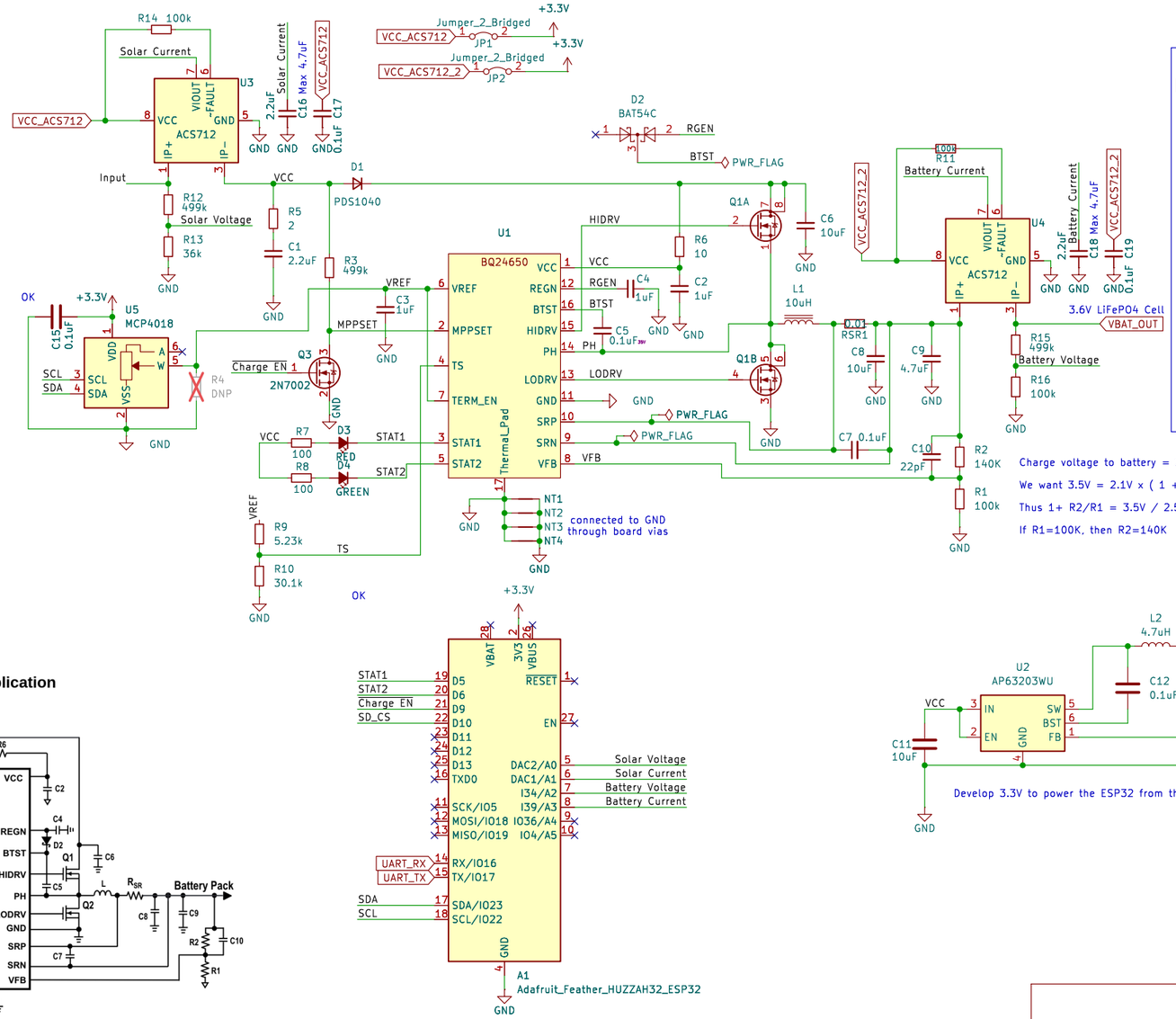
RSR1 sets max charge current:
I_MAX = 40mOhms / RSR1

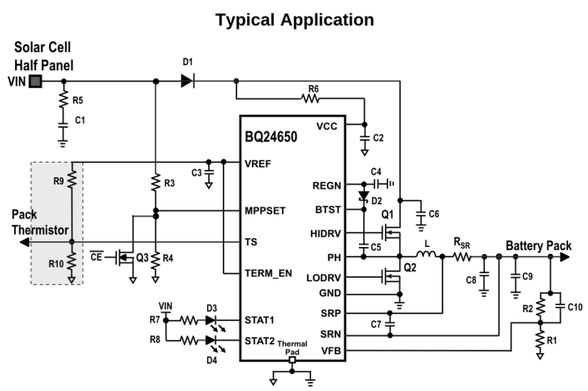
20mOhms thus limits to 2A

ACS712 on VCC=5V will have output on VIOUT to 3.3V ADC below 3.3V upto about 4A, or 7A if the 20A version of the ACS712 is used.

Thus we can use 10mOhms to allow upto 4A charging.
With a 10Ah LiFePO4 is his 0.4C, which is below the save limit of 1.0C

ACS712 Actually requires VCC = 5V, not 3.3V according to datasheet?





Adapted for 3.5V output voltage
Adapted for MEGAphone module format

Sheet: /
File: MPPT Charge Controller.kicad_sch

Title: MEGAphone MPPT Charge Controller

Size: A3	Date: 2025-08-11	Rev: 20250216
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