

SuperCap UPS Rasp Pi

Variant: [No Variations]

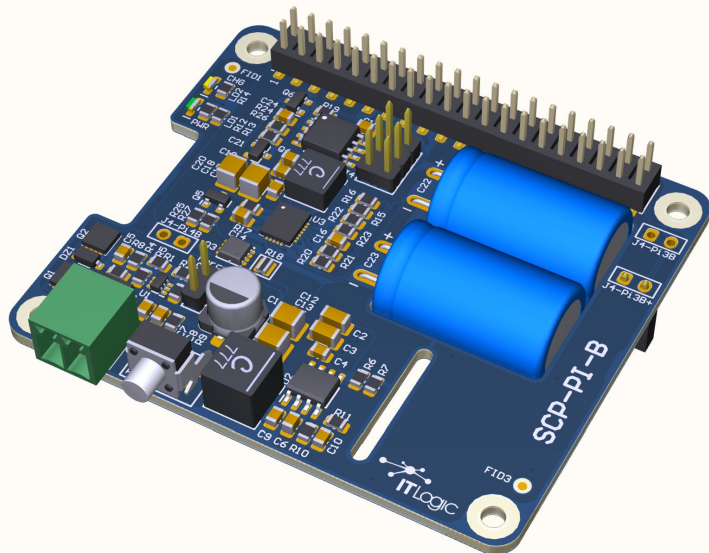
Revision: **B**

RELEASED Nov-17-2019

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DESIGN CONSIDERATIONS

RevisionHistory



BlockDiagram



DESIGN NOTE:
Example text for informational
design notes.

DESIGN NOTE:
Example text for critical
design notes.

DESIGN NOTE:
Example text for cautionary
design notes.

LAYOUT NOTE:
Example text for critical
layout guidelines.

Project: **SuperCap UPS Rasp Pi**

Revision: **B**

Title: **Cover Page**

Sheet: 1 of 5

Author: [acortellini](#)

Date: Nov-17-2019

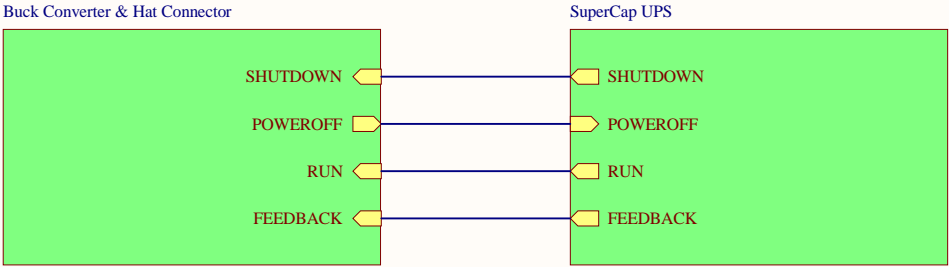
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REVISION HISTORY

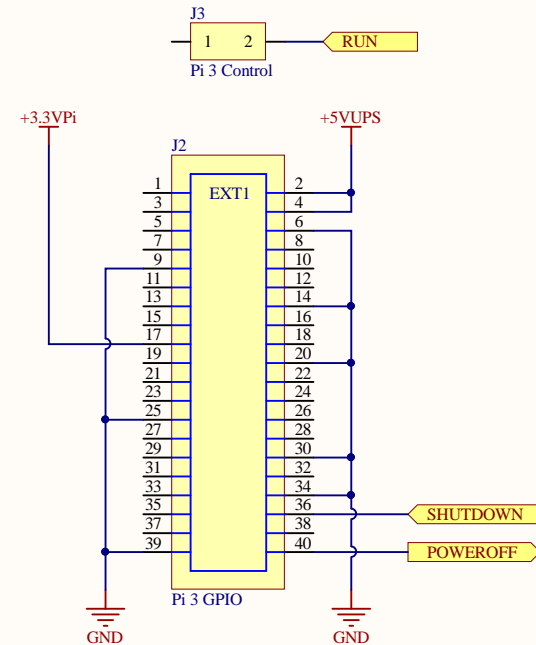
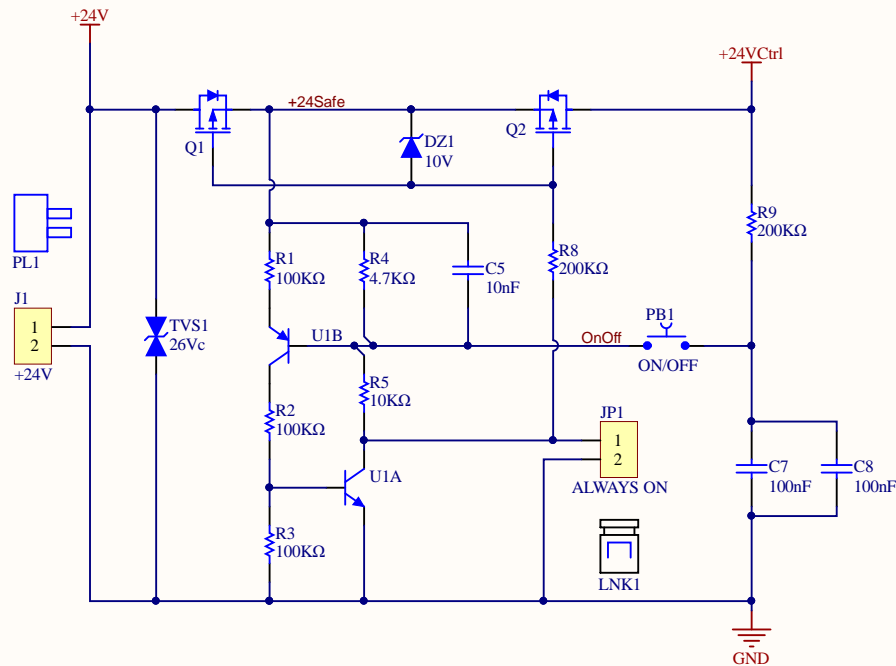
| <i>DATE</i> | <i>PAGES</i> | <i>REVISION</i> |
|--------------------|---------------------|--|
| Oct-08-2019 | N/A | Design forked from SCP-PI-RS485-D |
| Oct-12-2019 | 4 | Added latched power control with tactile switch button, P MOS and two complementary BJT |
| Oct-12-2019 | 4 | Added power supply minimum input voltage enable. Moved electrolytic to power control area. |
| Oct-12-2019 | 4 | Removed 7V power supply and RS485 Interface |
| Oct-12-2019 | N/A | Release A |
| Nov-15-2019 | 4 | Changed capacitor On-Off button from 100 nF to 200 nF. Changed series resitor from 400 K Ω to 200 K Ω , Increased releability on voltages above 20V. |
| Nov-15-2019 | N/A | Reannotate schematics |
| Nov-15-2019 | N/A | Release B |

BLOCK DIAGRAM

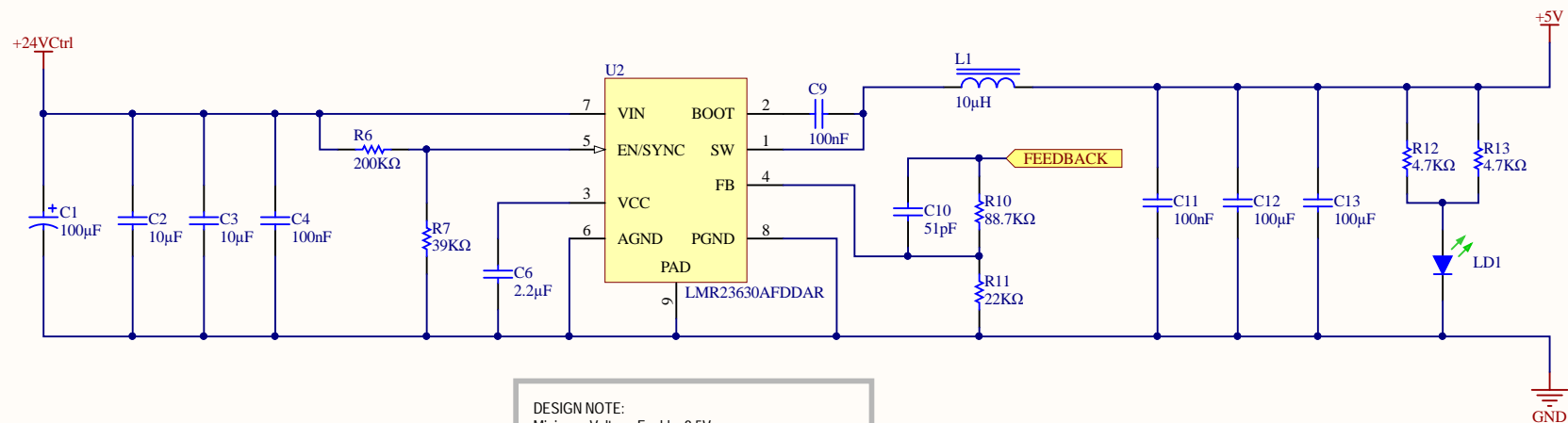


Local Fiducials

FID1 FID2 FID3



DESIGN NOTE:
To enable the self power-off add the following instruction at the end of the file /boot/config.sys:
dtoverlay=gpio-poweroff,gpiopin=21
dtoverlay=gpio-shutdown,gpio_pin=16,active_low=0



DESIGN NOTE:
Minimum Voltage Enable: 9.5V
Minimum Voltage Disable: 7.0V

Project: **SuperCap UPS Rasp Pi**

Revision: **B**

Title: **Buck Converter**

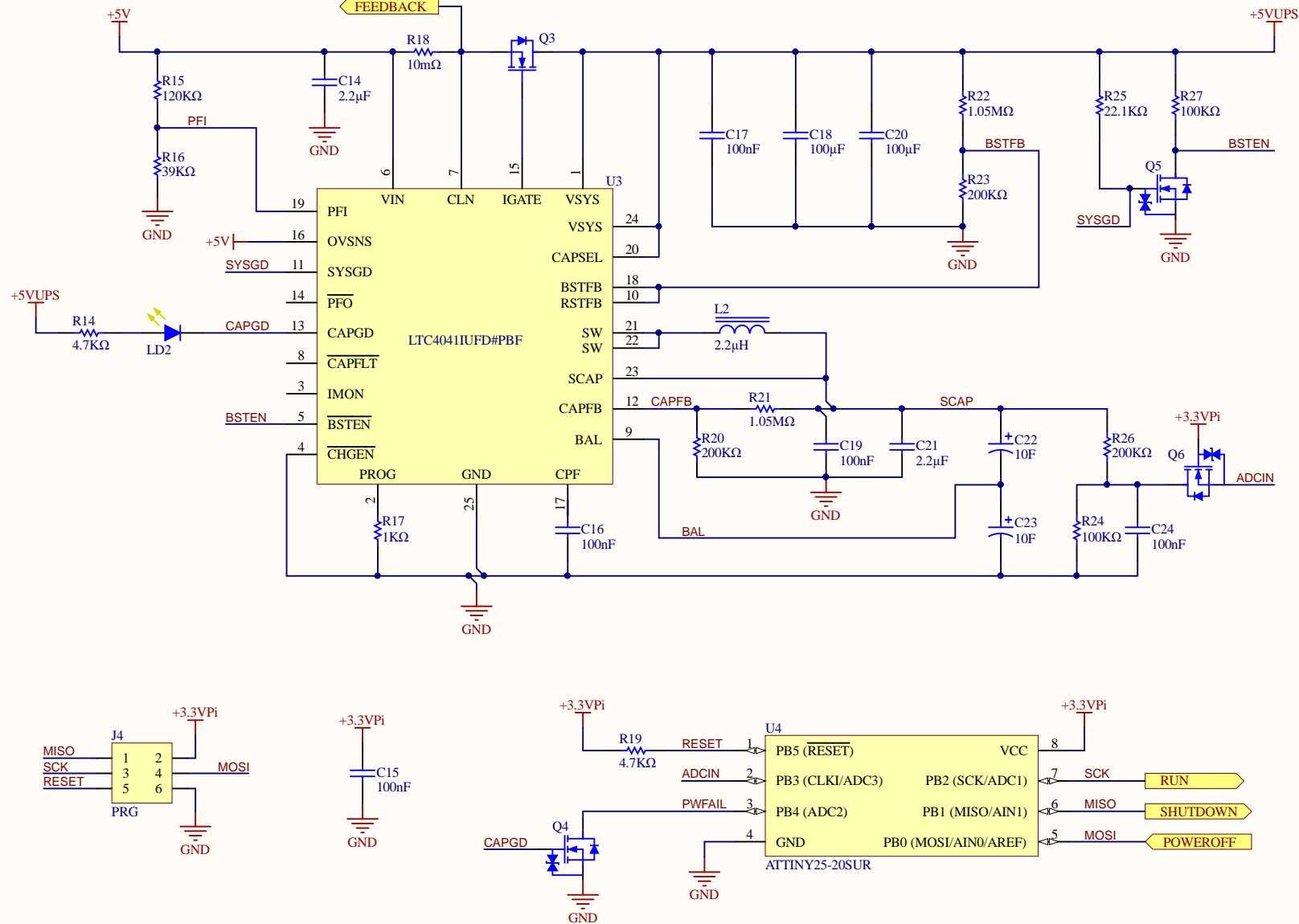
Sheet: 4 of 5

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Date: Nov-17-2019

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DESIGN NOTE:
Maximum Capacitor Charge Current: 2 A
Capacitor Charge Voltage: 4.8 V
Minimum Backup Time: 220 ms
Power Failure Threshold: 4.85 V
SYSGD Threshold: 4.6 V

DESIGN NOTE:
Do not program the ATTiny25 with the Raspberry Pi connected.
Most Programmers have a supply voltage of +5V which will damage the GPIO pins.

Project: *SuperCap UPS Rasp Pi*

Revision: *B*

Title: **SuperCap UPS**

Sheet: 5 of 5

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