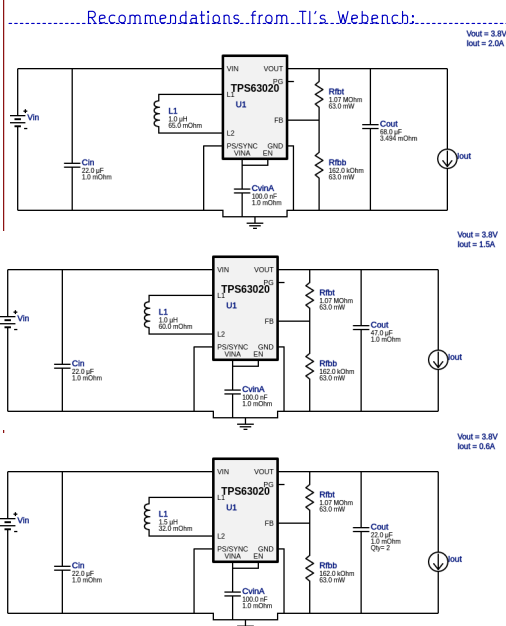
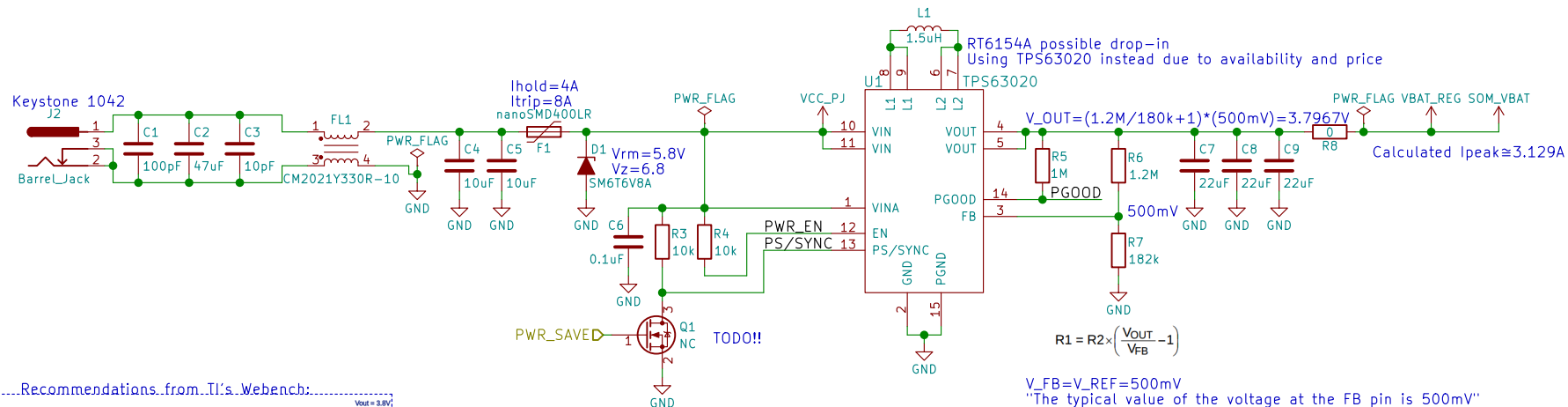


Estimated remaining capacity					
Voltage	AW 18650 2600mAh (Black)	Sanyo 18650 2600mAh (Red)	Panasonic CGR18650CH 2250mAh	Panasonic NCR18650A 3100mAh	Panasonic NCR18650B 3400mAh
4.2	100%	100%	100%	100%	100%
4.1	92%	92%	94%	94%	94%
4.0	78%	79%	85%	83%	84%
3.9	61%	63%	76%	73%	74%
3.8	43%	44%	60%	60%	62%
3.7	14%	15%	54%	52%	53%
3.6	3%	5%	26%	38%	39%
3.5	1%	2%	12%	20%	22%
3.4	0%	1%	5%	11%	13%
3.3	0%	0%	2%	1%	3%
3.2	0%	0%	0%	0%	0%

Measured 1 hour after discharge at 1A

⇒18650 batteries don't reach 3.3V until depleted



$V_{FB} = V_{REF} = 500mV$
 "The typical value of the voltage at the FB pin is 500mV"
 "It is recommended to keep the value for [R2] in the range of 200kΩ; lower than 500kΩ"
 Their example application circuit uses 180k for R2, therefore:
 $R2 \approx 200k \pm 20k (\pm 10\%)$ or 180k-220k
 Given this, $V_{OUT} \approx 3.8V$, $1.1188M \leq R1 \leq 1.452M$
 The most common value in this range is 1.2M
 Making $R2 \approx 181.818k$ or roughly 182k

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Purism SPC

Sheet: /Battery/

File: battery.sch

Title: Battery

Size: A4 Date: 2018-04-05

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Rev: v0.1.0

Id: 2/7

3.3V/3A

The diagram illustrates a 3.3V/3A DC-DC converter circuit using the RT8070 IC. The circuit includes the following components and connections:

- IC:** RT8070 (U3)
- Input:** VIN (pin 4) connected to VCC_PJ. A 100k resistor (R1) and a 10uF capacitor (C11) are connected between VIN and GND.
- Feedback:** FB (pin 7) connected to a voltage divider consisting of R16 (66k) and R17 (21.5k) connected to the output. A 33k resistor (R15) and a 560pF capacitor (C16) are connected between FB and COMP (pin 1).
- Output:** LX (pin 5) connected to the output. The output is filtered by C18 (47uF), C19 (47uF), and C20 (47uF) connected to GND. The output is labeled PWR_FLAG and BASE_PER_3V3.
- EN (pin 3):** Connected to a PMIC_ON_REQ input through a 100k resistor (R9) and a Schottky diode (D2). The diode's cathode is connected to GND, and its anode is connected to the EN pin. A 1uF capacitor (C12) and a 200k resistor (R12) are connected between the EN pin and GND.
- SS (pin 2):** Connected to GND through a 10nF capacitor (C15).
- PGOOD (pin 6):** Connected to GND through a resistor (R11).
- RT (pin 8):** Connected to GND.

SD POWER

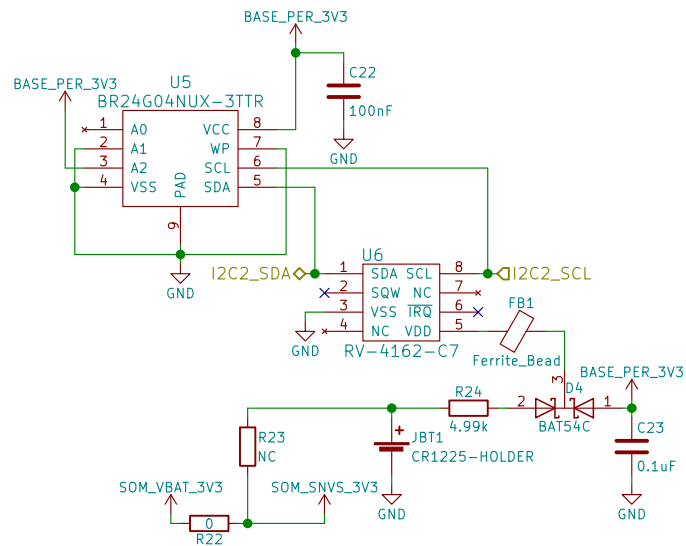
The schematic diagram illustrates the SD power supply circuit. Key components and connections include:

- TPS27082L (Q3):** PMOS driver with VIN (4) and VOUT (3) pins.
- TPS27082L (Q4):** NMOS driver with drain (2) and source (1) pins.
- Resistors:**
 - R18 (100k) connects NVCC_SD2_1V8_3V3 to VIN of Q3.
 - R19 (100k) connects CONN_SD2_RST to the gate of Q4.
 - R20 (NC) connects SW_3P3_SD2 to VIN of Q3.
 - R21 (49.9) connects SW_3P3_SD2 to the drain of Q4.
- Capacitor:** C21 (NC) connects G of Q3 to GND.
- Diodes:** D3 (30V, 100mA) is connected between CONN_SD2_RST and GND.
- Power Sources:** SOM_NVCC_3V3 and SW_3P3_SD2 provide input power.
- Grounding:** GND is connected to the source of Q4 and the G pin of Q3.

1.8V/300mA

Title: Power

4



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Sheet: /RTC Battery/
File: rtc.sch

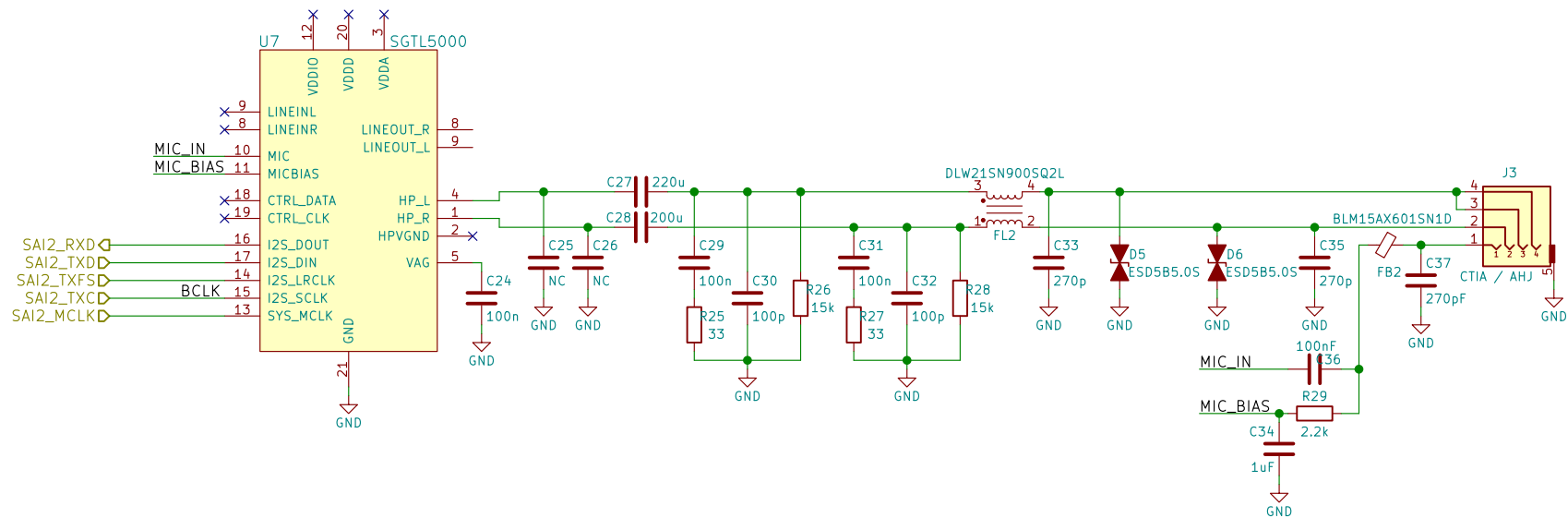
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Size: A4 Date: 2018-04-05

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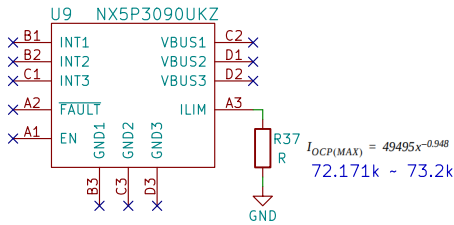
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Title: Audio

Size: A4 Date: 2018-04-05
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Rev: v0.1.0
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Sheet: /USB/
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Size: A4 Date: 2018-04-05

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Rev:
Id: 7/7