

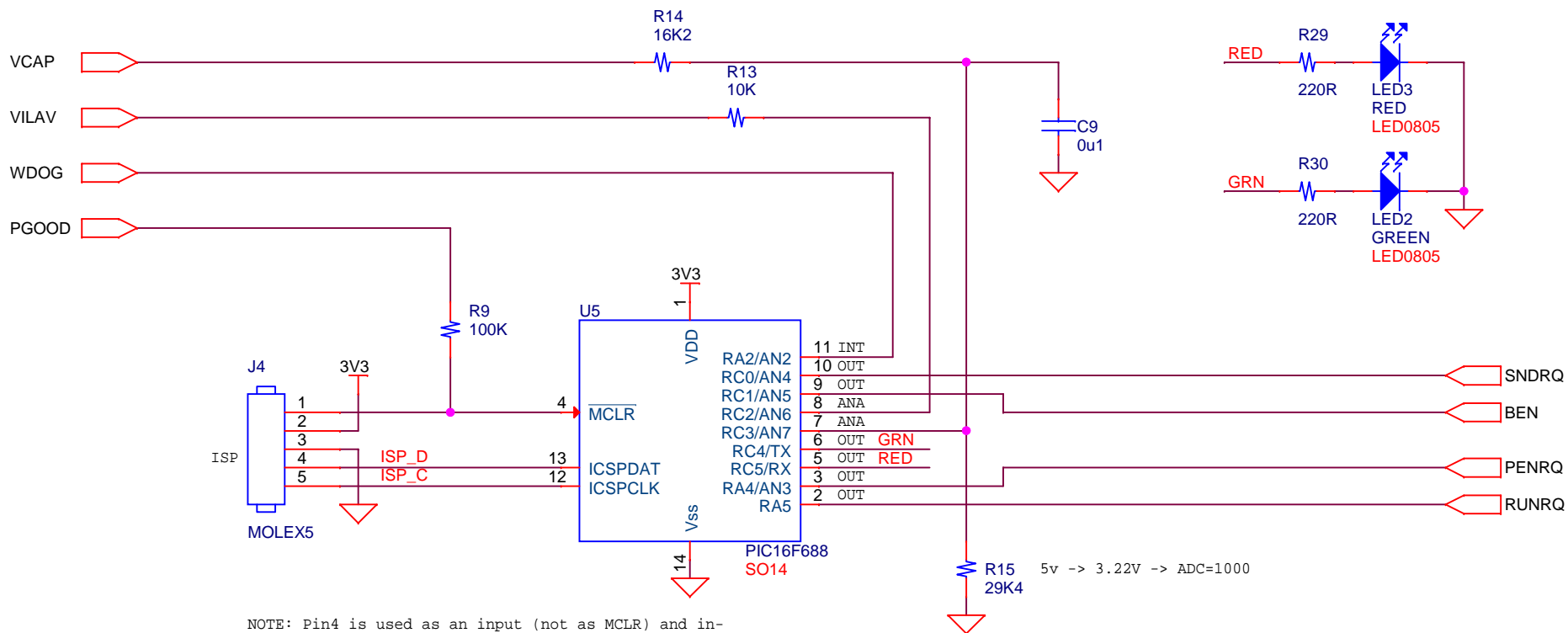
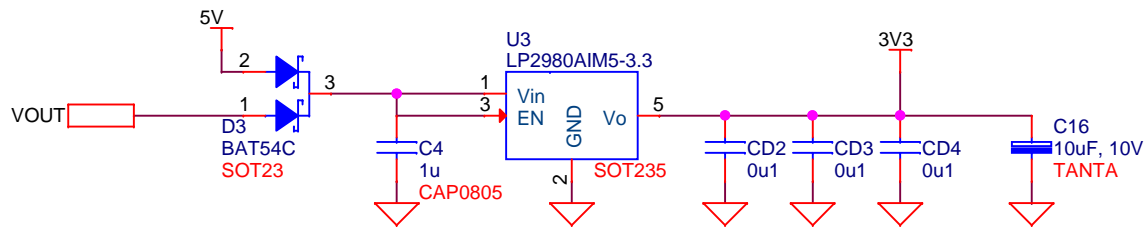
RevB ECOS...

- Smaller bridge rectifiers - MBS2
- Smaller inductor for L2 - 22uH MSS1246-223ML
- Smaller diode for D7 - MBRA340 SMA
- Turn balancer off when not charging - U6 & R21 change
- R19 -> 0R1, W25, 1210
- MCLR/RST inhibits charger
- BEN pre-conditioning adds Q8 & R31
- R21 recycled
- Recycle C4, R23, R6 - RQ pull-downs
- C13 should be 10uF 1206
- C14 -> TANTB, 100uF, TCJB107M006R0040, low esr
- C2,3 -> 1210 X7S
- CD1 should be CAP0805 1uF -> C4
- CD for FAN = recycled CD1
- CD for U6 = new CD9
- Cosel footprint pads re-sized

Add D9 to isolate MCLR from processor


- PIC688p4 now IO input monitoring PGOOD (not MCLR)
- PGOOD now pulled to 5V & distributed via 100K resistors to PIC & ISL28194
- MCPI20T now 4.75V version monitoring 5V rail
- D6 & D9 removed, R32 added, D8 renamed to D6
- Added Q10, R32 to hold BEN state while 688 off
- Recycled C9, added J4 & C16
- Fixed Pi3v3 pin on J2

Rpi I/O:		GPIO8 (p24) SPIO_CE0 to RAK = WDOG_IN	
		GPIO4 (p7) SHTDNRQ when low	
NOT USED:		All passives 0603 unless otherwise specified	
D6			
Title			
PoE -> UPS -> Pi			
Size		Document Number	Rev
A		PoEUPSPI	B
Date:		Wednesday, November 27, 2019	Sheet 1 of 5

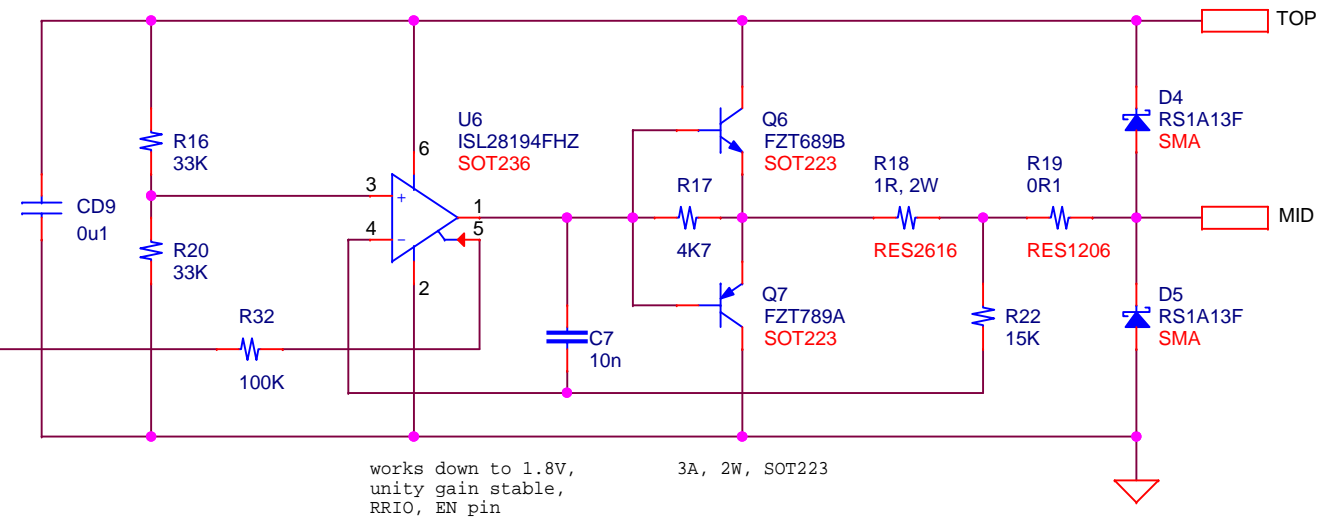


NOTE: Pin4 is used as an input (not as MCLR) and in-system programming requires a weak pull-up on pin4 so ISP will only work if the PGOOD signal is high, ie if the board is running from PoE power. This should not be a problem but should be noted.

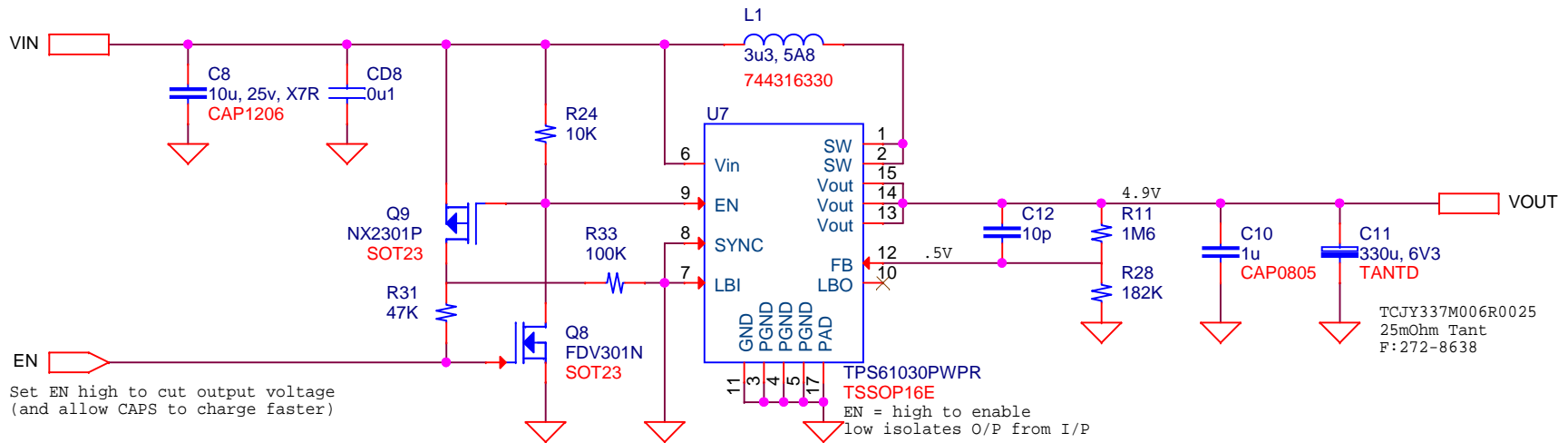
Title		
UPS controller		
Size	Document Number	Rev
A	CONTROLLER	B
Date:	Tuesday, November 26, 2019	Sheet 1 of 1

BALEN 

Hi to enable the balancer while charging
- disabled while discharging

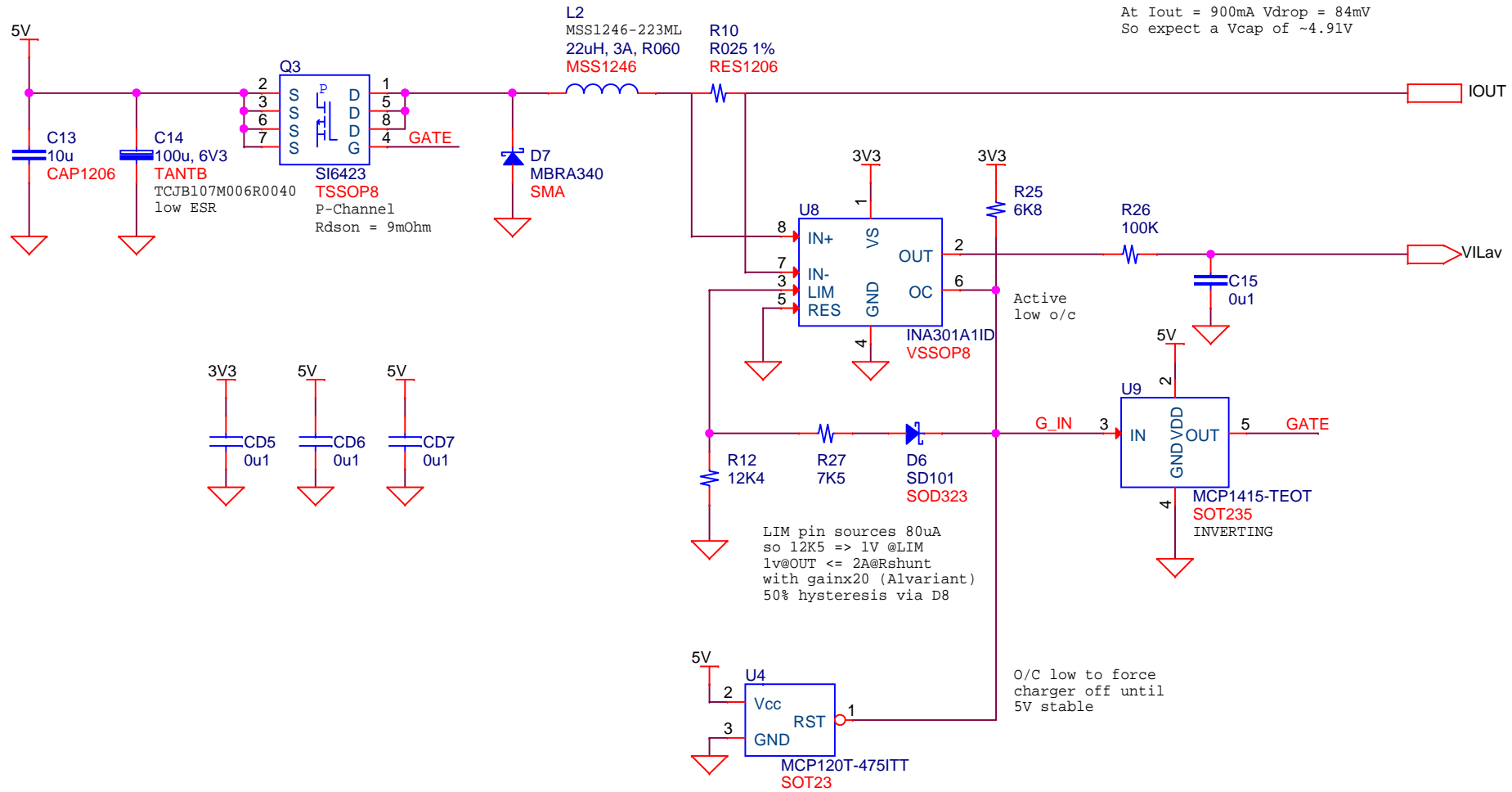


Title		
PoEUSPi Supercap active balancer		
Size	Document Number	Rev
A	BALANCER	B
Date:	Thursday, November 21, 2019	Sheet 2 of 5

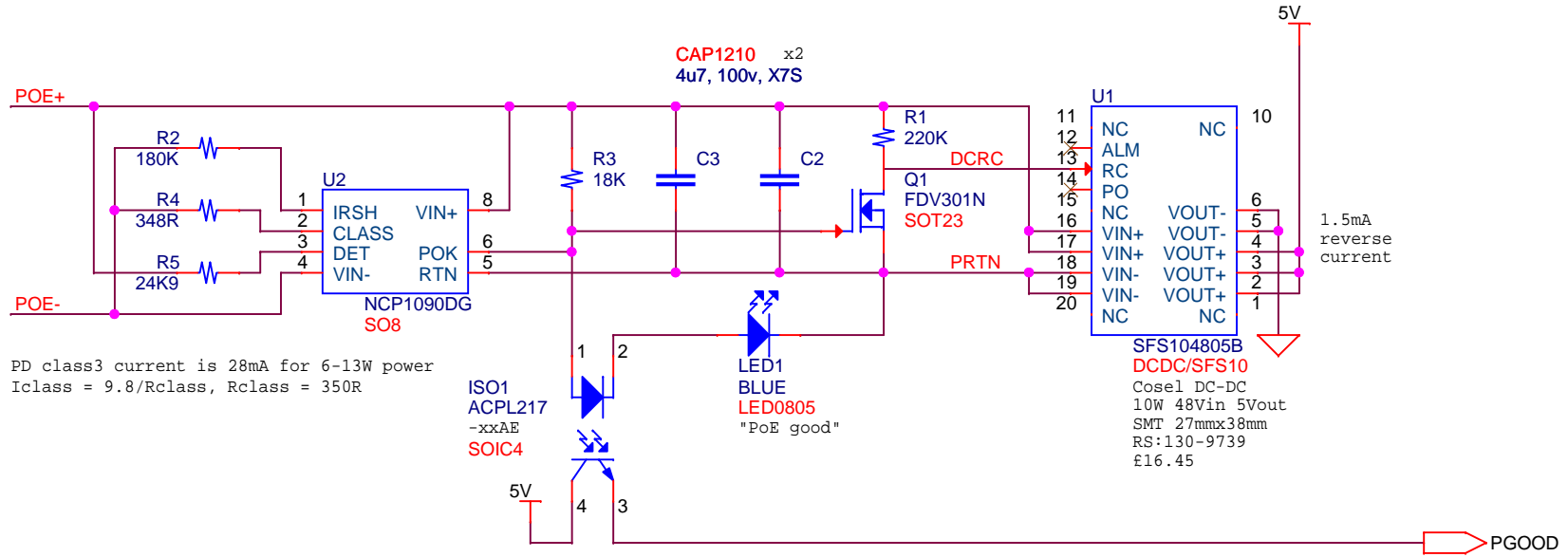
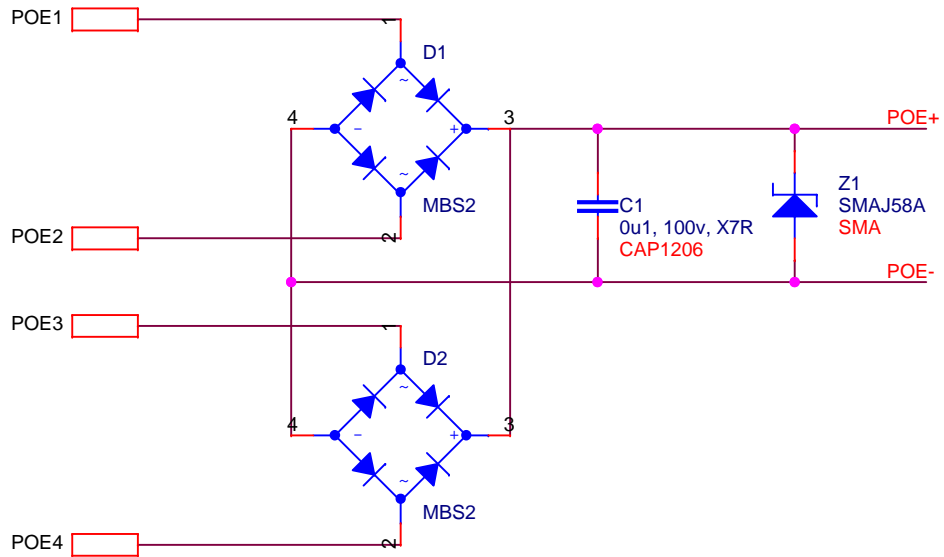


Set EN high to cut output voltage
(and allow CAPS to charge faster)

Title		
PoEUPSPi Boost output stage		
Size	Document Number	Rev
A	BOOST	B
Date:	Thursday, November 21, 2019	Sheet 3 of 5



Title		
PoEUSPi current limited super-cap charger		
Size	Document Number	Rev
A	CHARGER	B
Date:	Monday, November 25, 2019	Sheet 4 of 5



Title		
PoEUPSPi / PoE		
Size	Document Number	Rev
A	POE	B
Date:	Friday, November 15, 2019	Sheet 5 of 5