

BOARD TOP VIEW DIAGRAM

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

<b>ANALOG DEVICES</b>		SCHEMATIC	
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF		DRAWING NO. 02_068355	
DESIGN VIEW <DESIGN_VIEW>		REV C	
PTD ENGINEER -		SIZE D	SCALE 1:1
		SHEET 2	OF 32





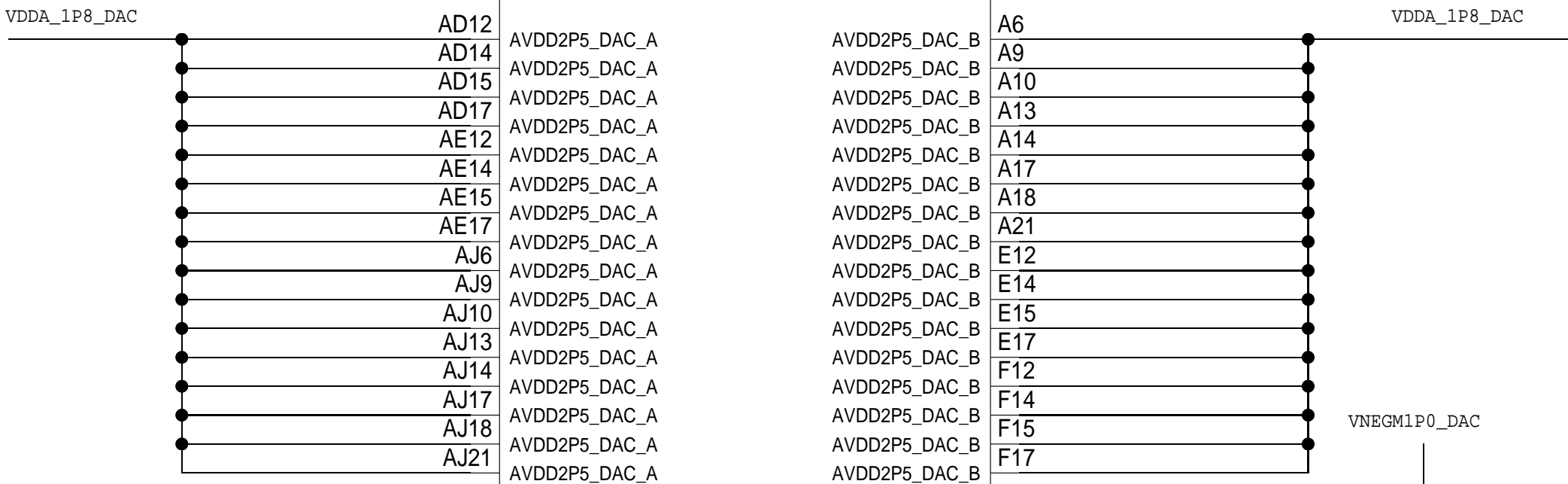




APOLLO POWER(2.5V,-1V, 1.8V, 0.8V)

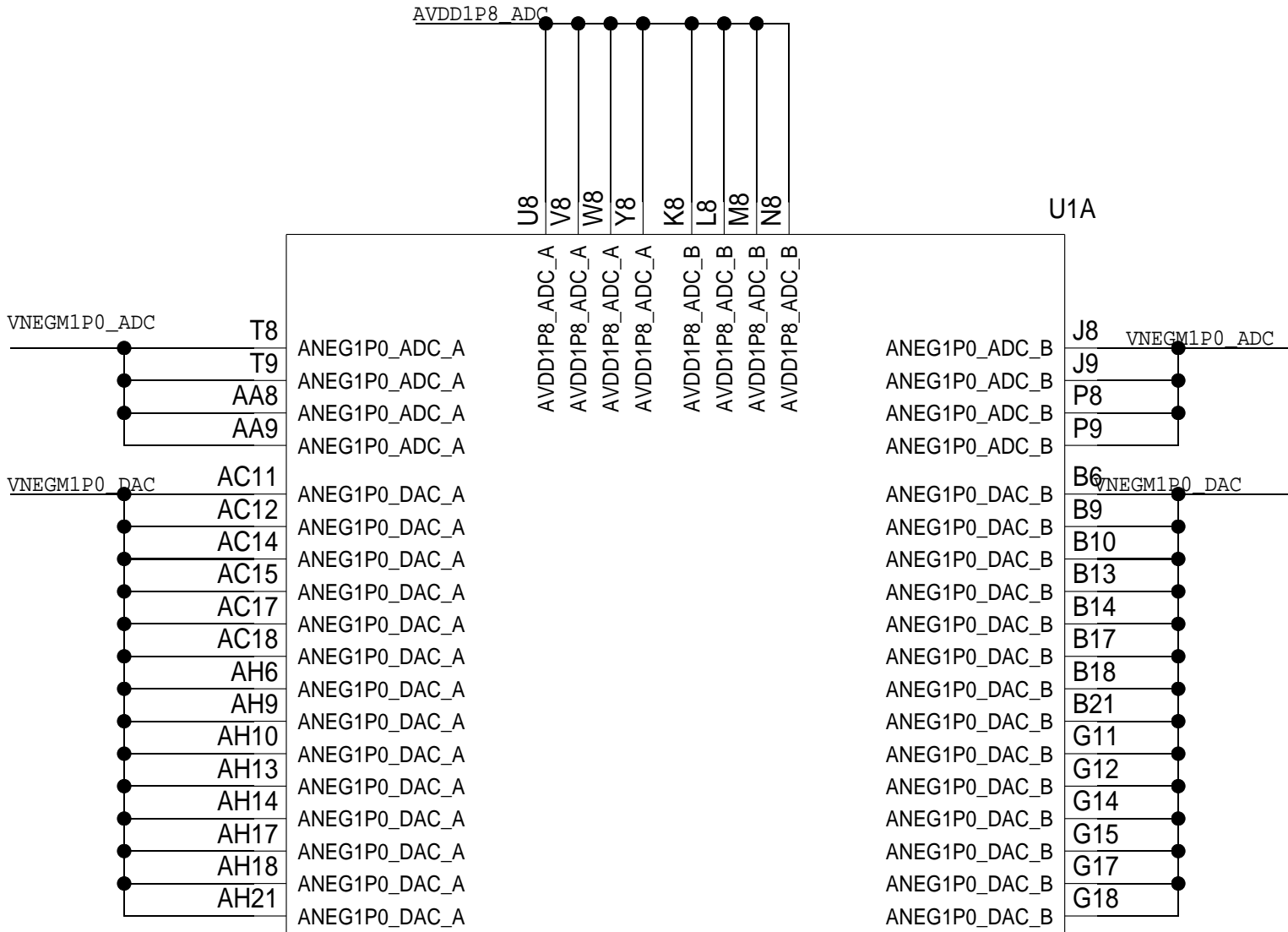
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

AVDD2P5\_DAC



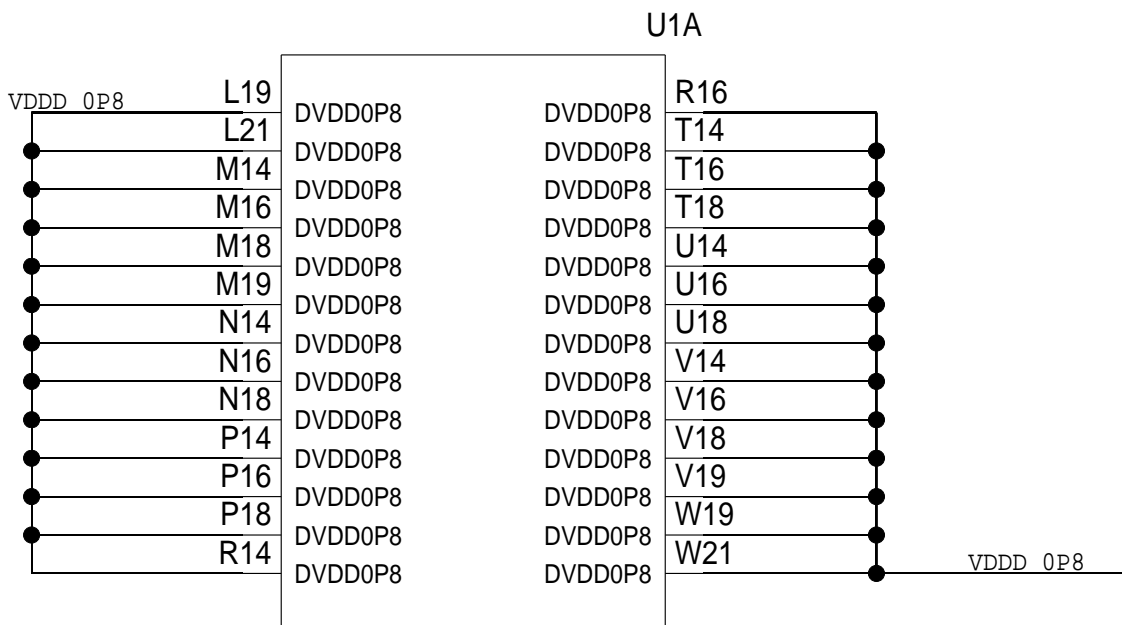
U1AAD9084BBPZ\_4T4R\_DIFFERENTIAL

ANEGADC(DAC) / AVDD1P8\_ADC

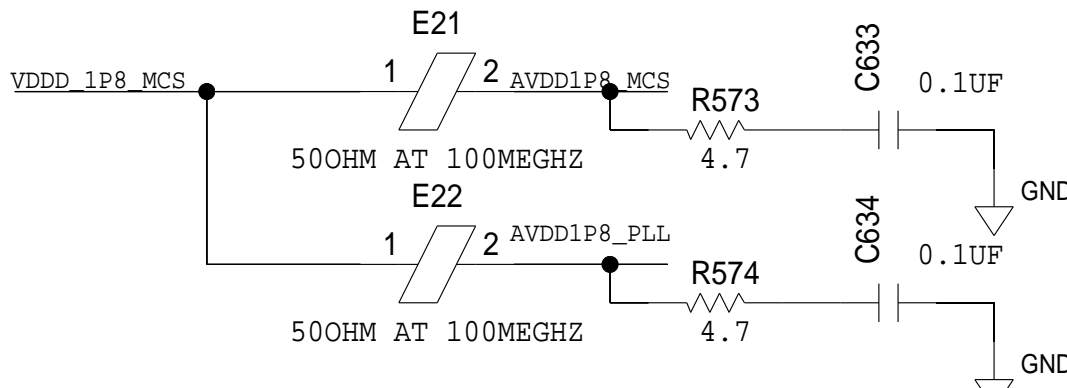
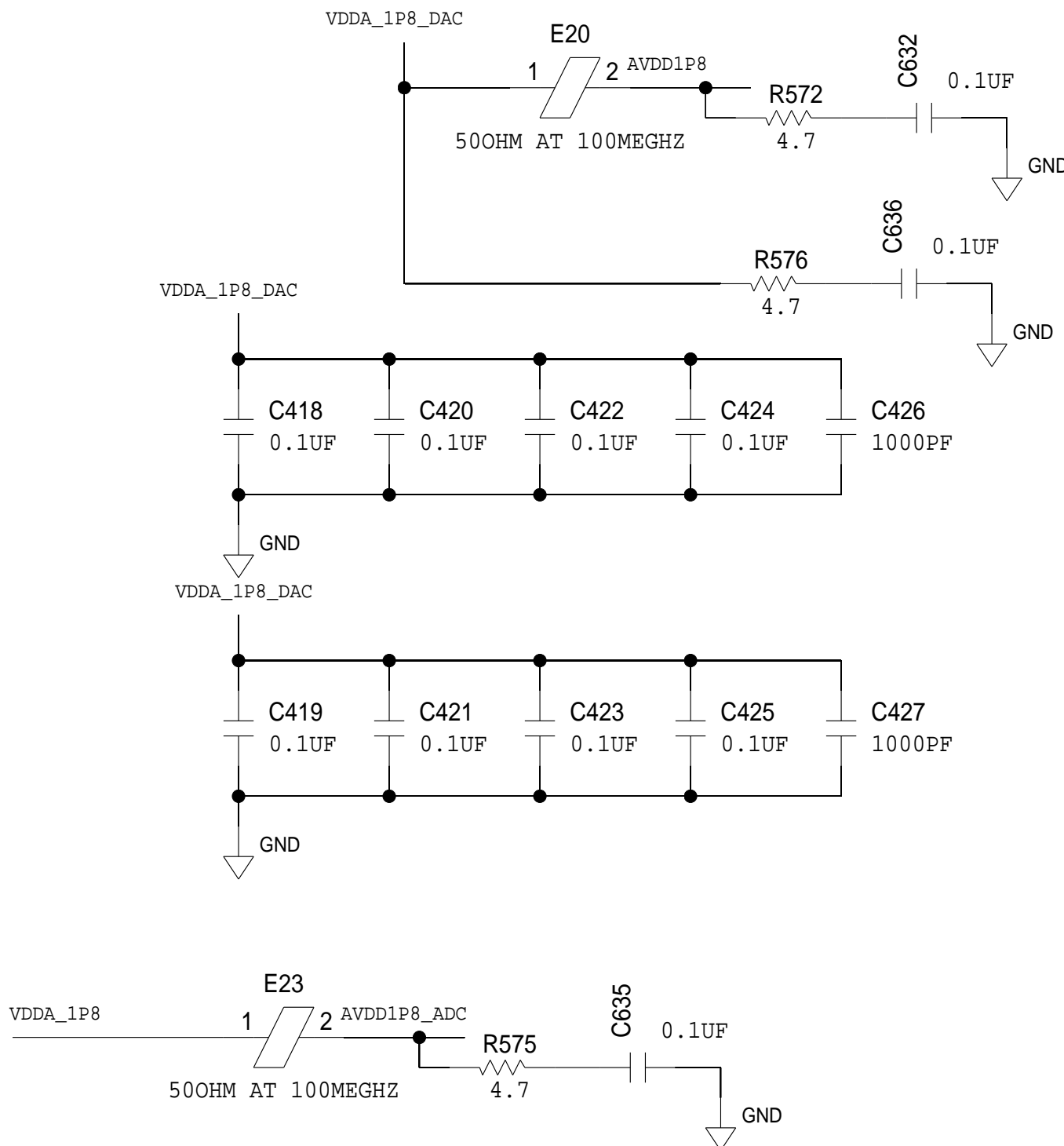
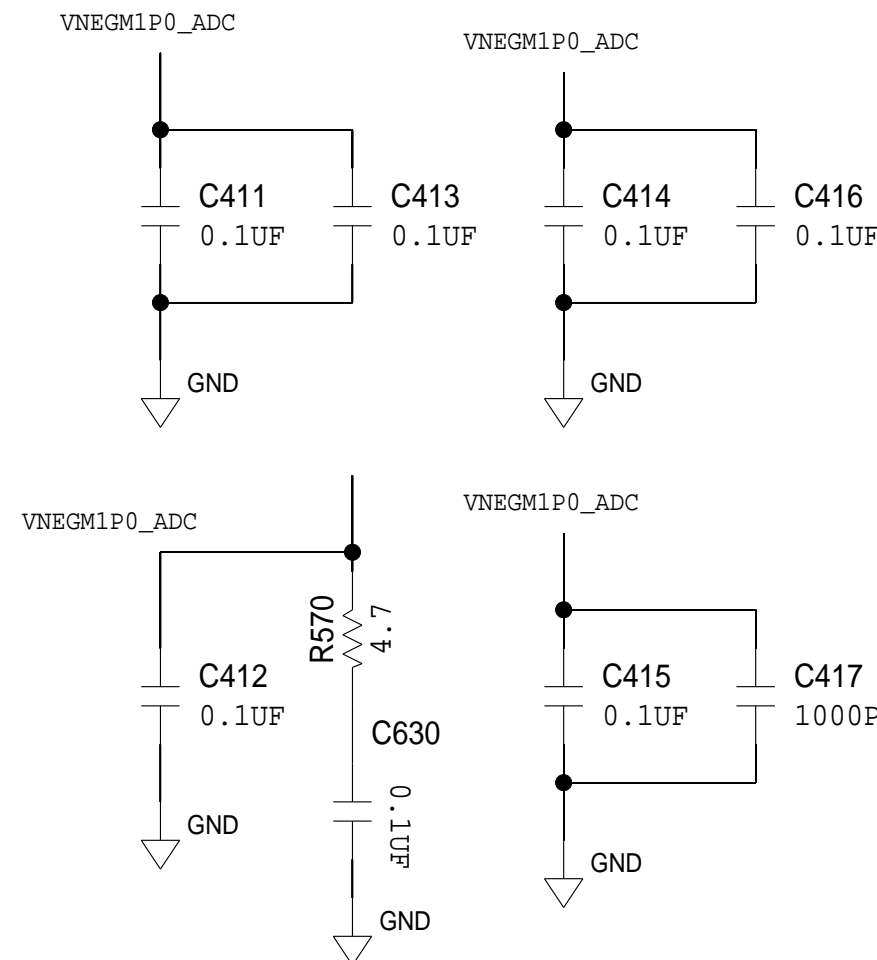
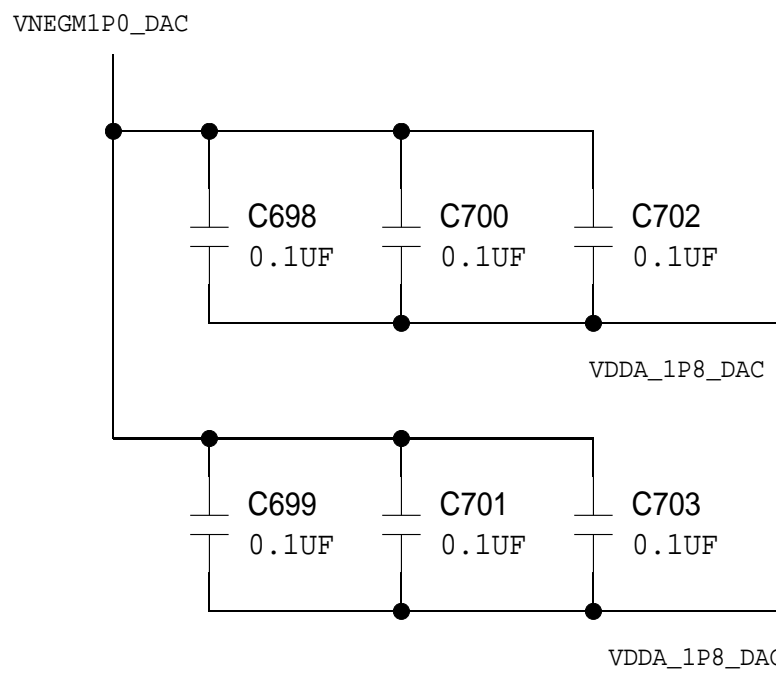
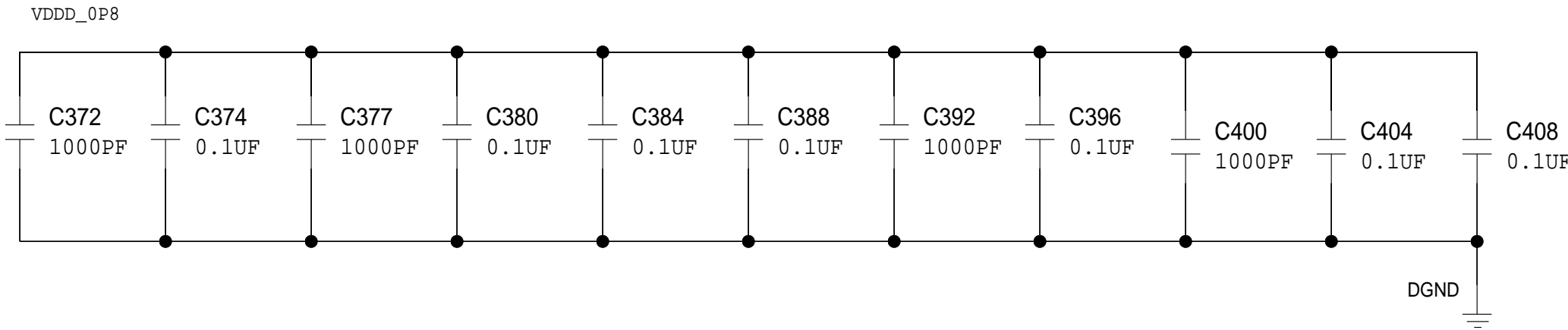
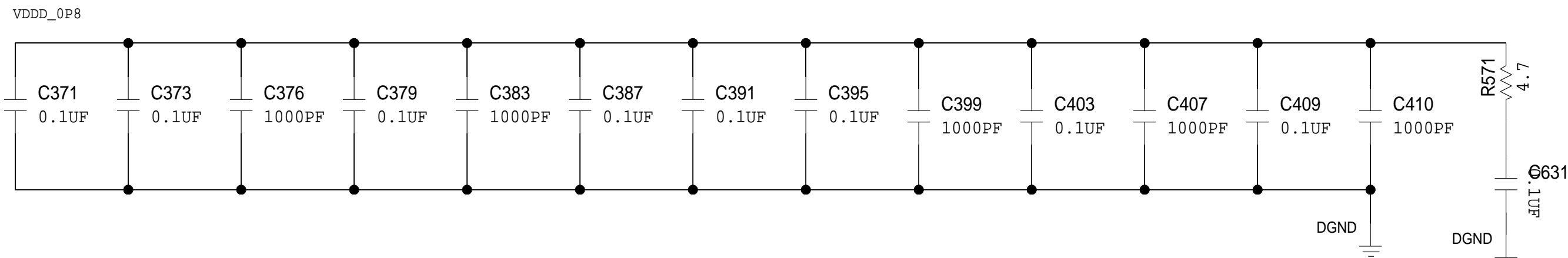
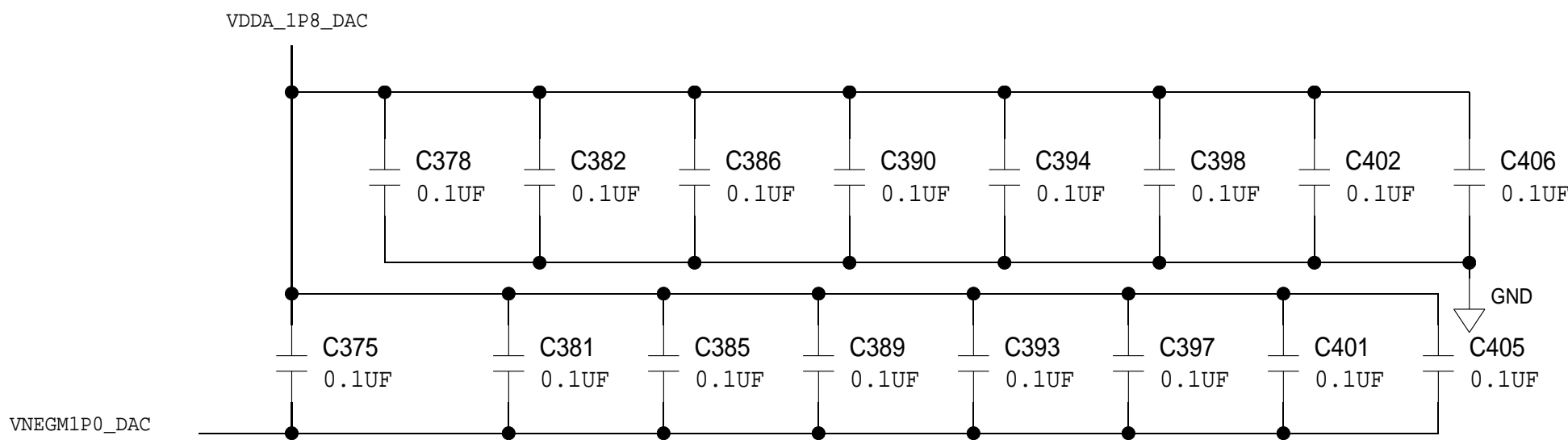
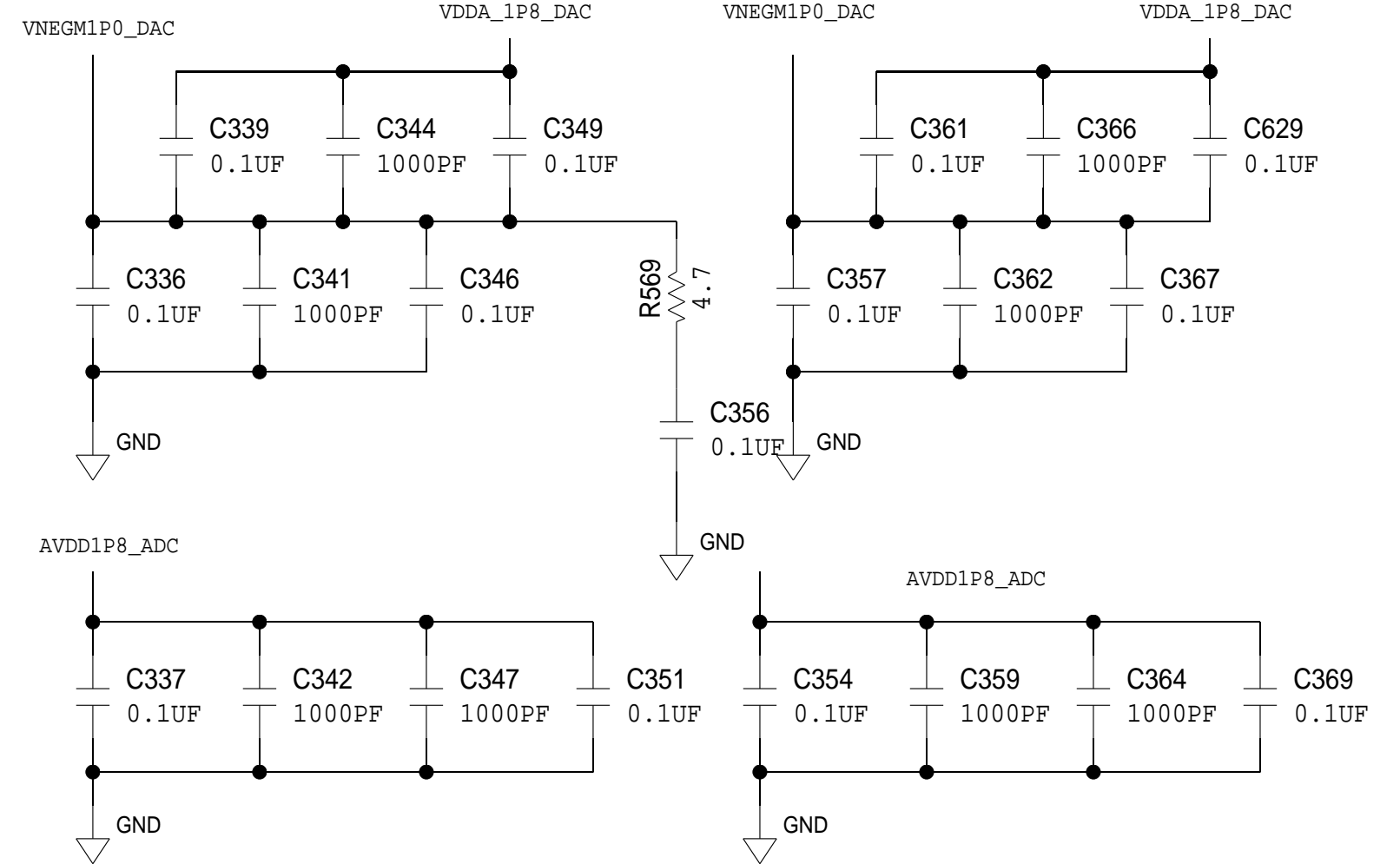
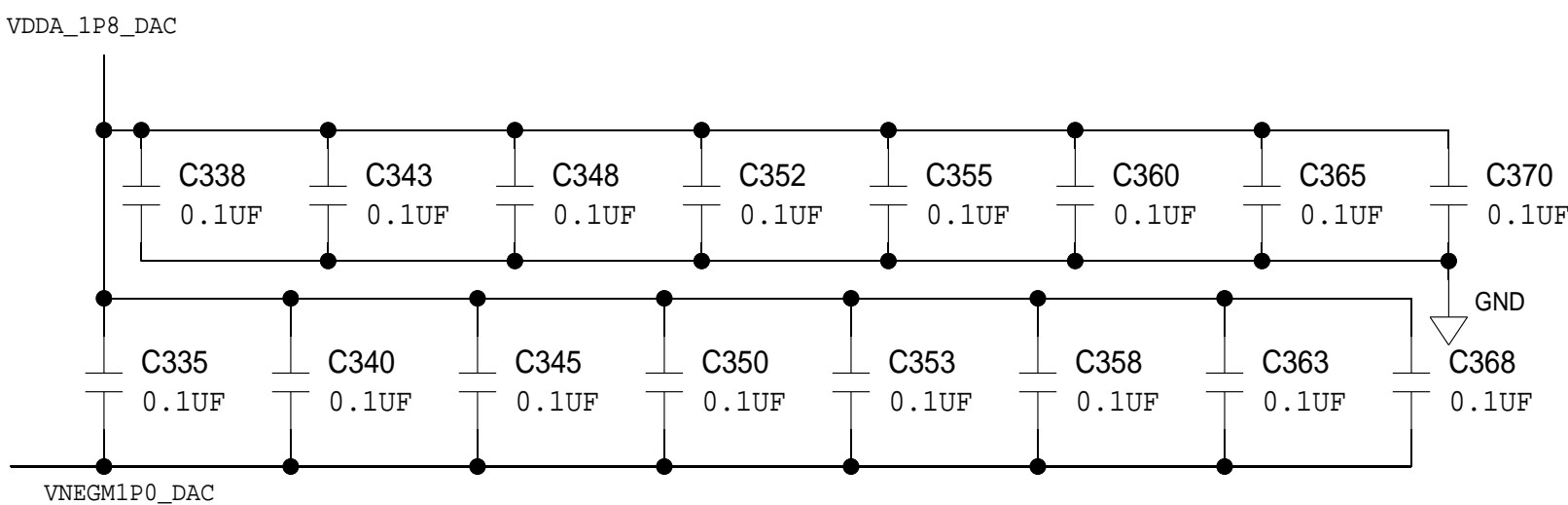


AD9084BBPZ\_4T4R\_DIFFERENTIAL

DVDD0P8



AD9084BBPZ\_4T4R\_DIFFERENTIAL

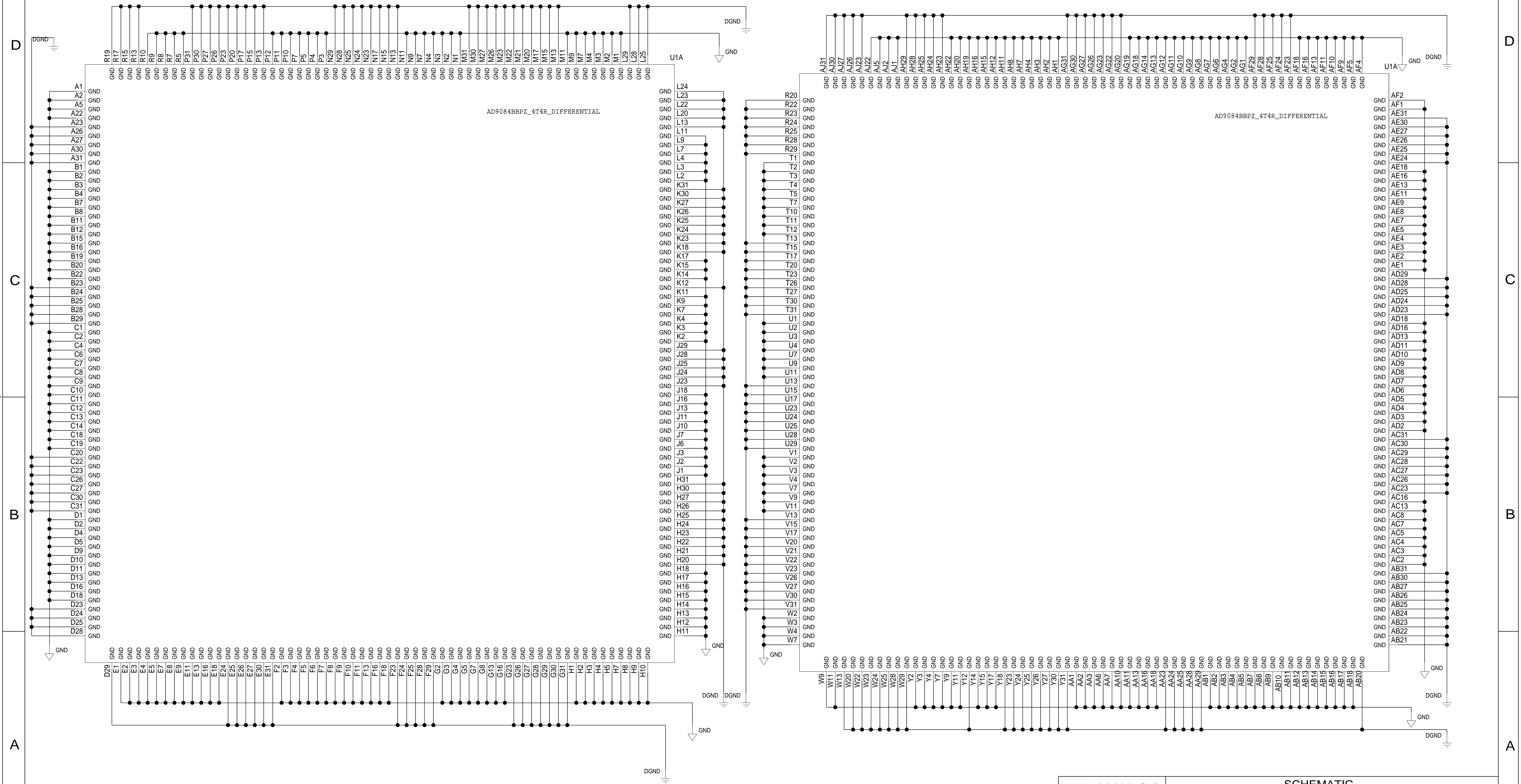



THIS DOCUMENT IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSES DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT SHOWN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.

SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 5 OF 32

APOLLO POWER GND

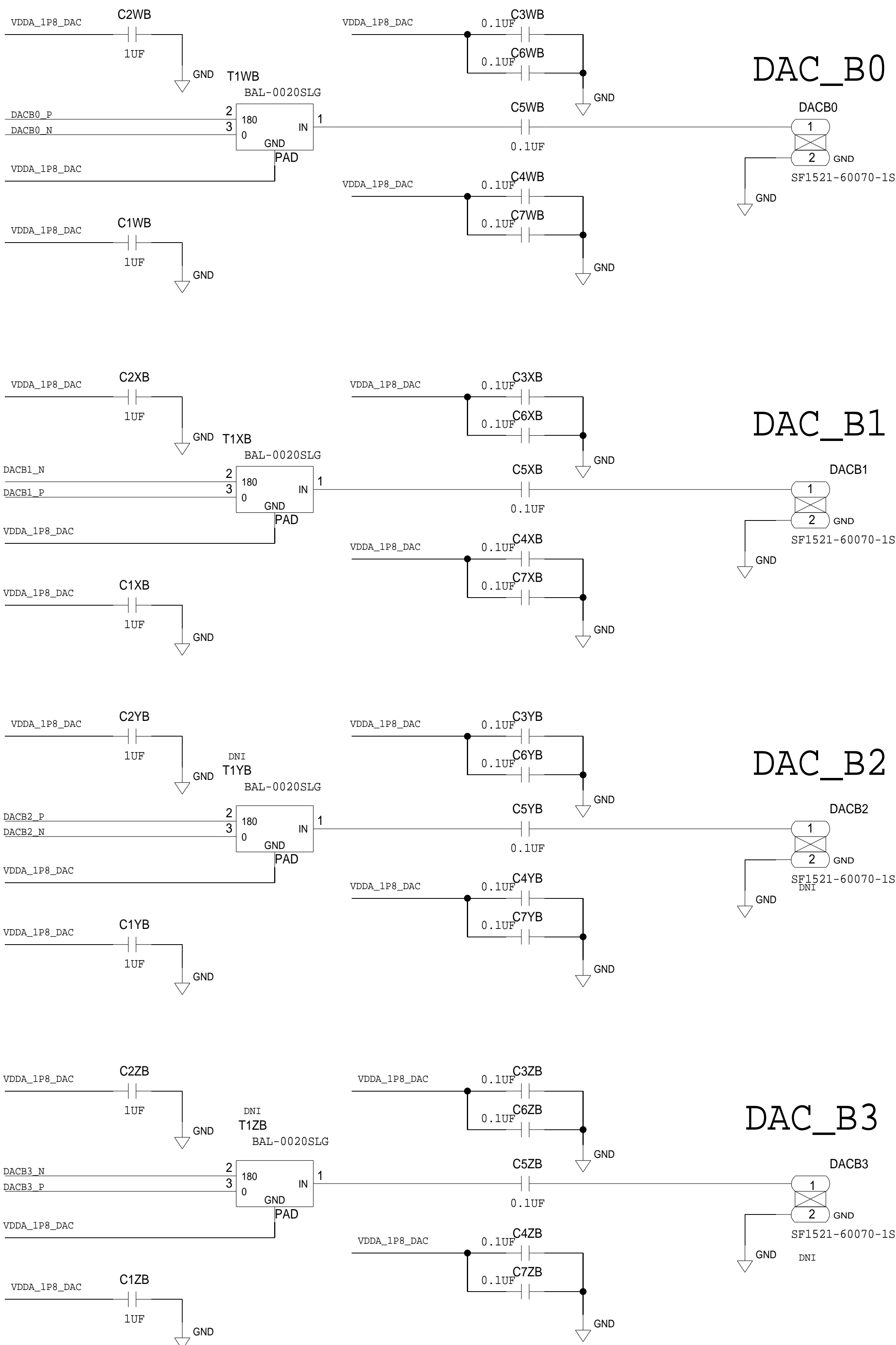
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



	<h1>SCHEMATIC</h1>				
	<p>HW TYPE : Customer Evaluation</p> <p>Product(s) : APOLLO Customer DIFF</p> <p>: APOLLO Customer DIFF</p>				
<small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETERMINED, TO THE INTERESTS OF ANALOG DEVICES.</small>  <small>THE EQUIPMENT DESIGN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY OWNED ANALOG DEVICES.</small>	DESIGN VIEW <b>&lt;DESIGN_VIEW&gt;</b>		DRAWING NO. <b>02_068355</b>		REV <b>C</b>
	PTD ENGINEER	SIZE <b>D</b>	SCALE <b>1:1</b>	SHEET <b>6</b>	OF <b>32</b>

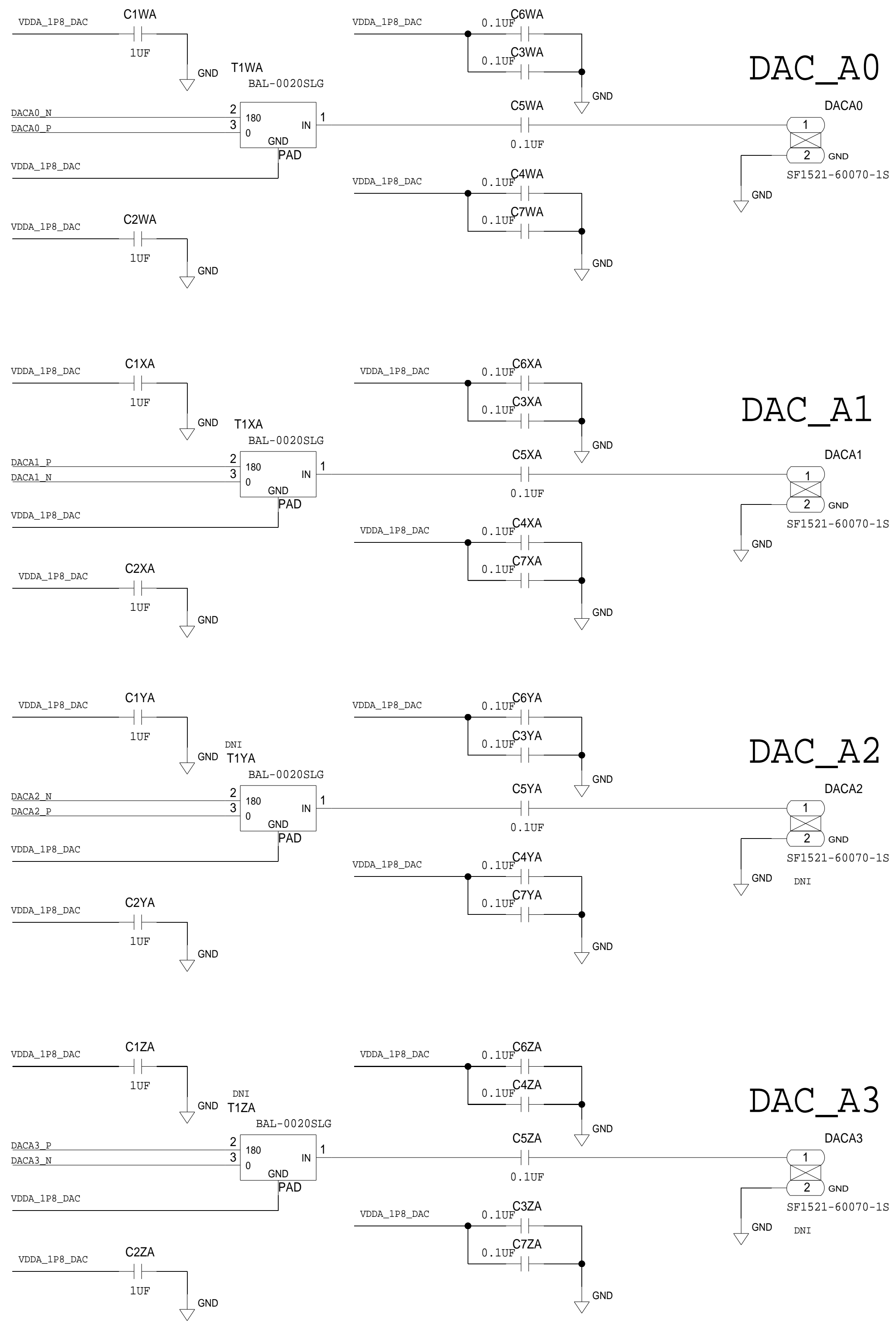


## DAC OUTPUT




FOR DC-BLOCKING CAP, USING A 100PF COG/NPO CAPACITOR MAY  
IMPROVE THE FREQUENCY RESPONSE. CONSIDER KEMET (C0201C101J3GAC7867)

WEST (B)



EAST (A)

	SCHEMATIC				
	HW TYPE : Customer Evaluation Product(s) : APOLLO Customer DIFF : APOLLO Customer DIFF				
<small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE PERTAINING TO THE INTERESTS OF ANALOG DEVICES.</small>	DESIGN VIEW <b>&lt;DESIGN_VIEW&gt;</b>		DRAWING NO. <b>02_068355</b>		REV <b>C</b>
	PTD ENGINEER -		SIZE <b>D</b>	SCALE <b>1:1</b>	SHEET 7 OF 32

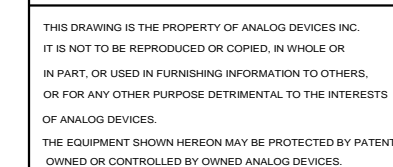


## D

## D

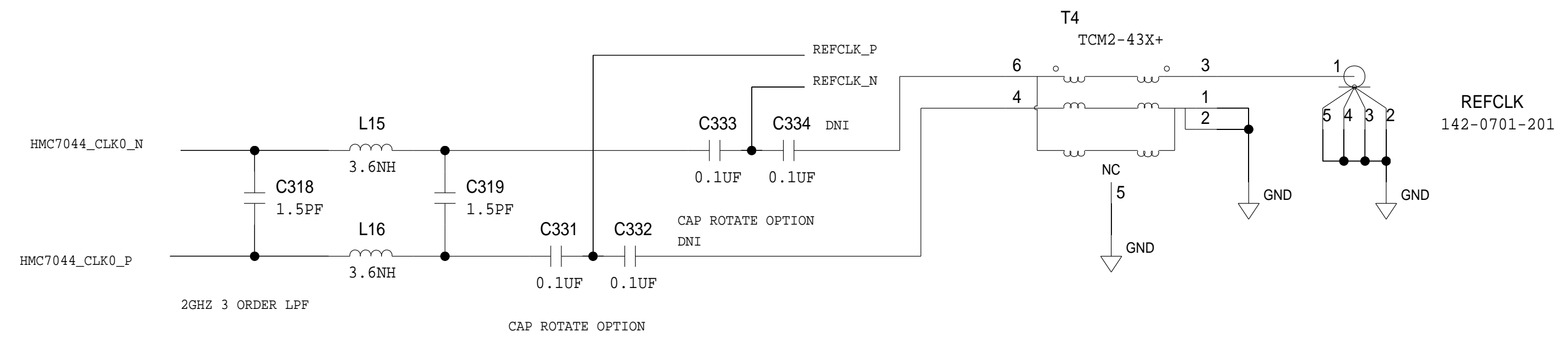


## A

A




APOLLO PLL REF CLOCK PATH

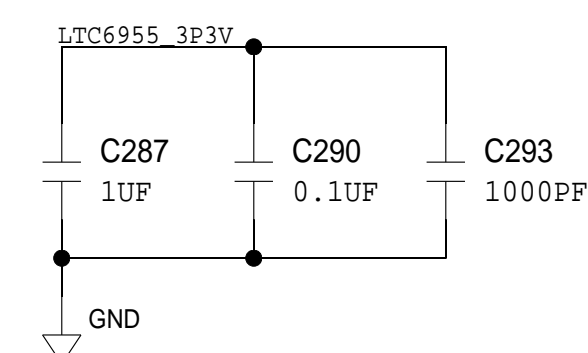
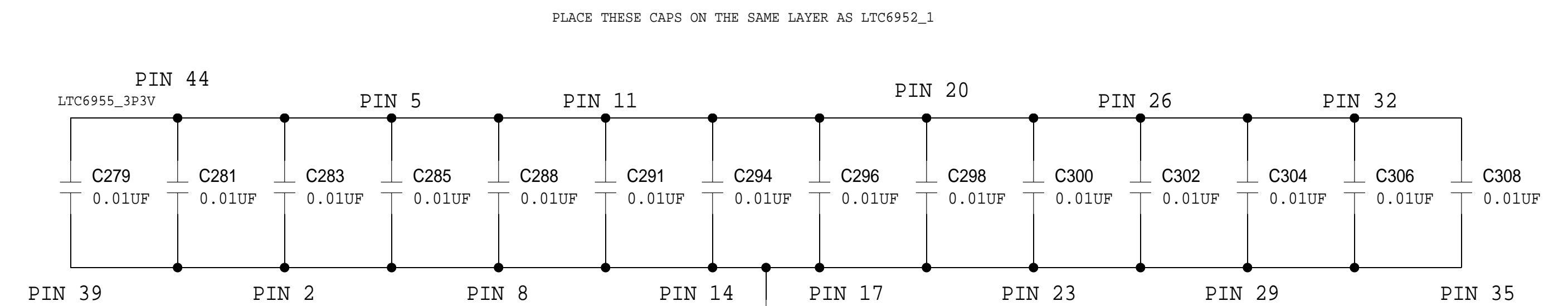



The schematic diagram illustrates the CLK\_B input circuit. It features two capacitors, C326 and C327, both rated at 0.1uF. C326 is connected to the CLK\_B\_P signal, and C327 is connected to the CLK\_B\_N signal. The outputs of these capacitors are connected to the IN pin of a 180-degree phase shifter, BAL-0020SLG. The phase shifter also has a GND pin and a PAD pin. The output of the phase shifter is connected to the DNI pin of a 1:2 divider, SF1521-60070-1S. The divider has a GND pin and a DNI pin.

FOR DC-BLOCKING CAP, USING A 100PF COG/NPO CAPACITOR MAY  
IMPROVE THE FREQUENCY RESPONSE. CONSIDER KEMET (C0201C101J3GAC7867)

 <b>ANALOG DEVICES</b>	<b>SCHEMATIC</b>			
	HW TYPE : Customer Evaluation Product(s) : APOLLO Customer DIFF : APOLLO Customer DIFF			
THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSES DETERMINING TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT DESIGN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY OR OWNED ANALOG DEVICES.	DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
	PTD ENGINEER -	SIZE <b>B</b>	SCALE 1:1	SHEET 9 OF 32

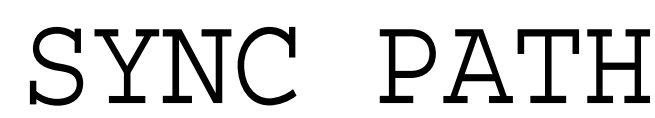
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED




	<h1 style="text-align: center;">SCHEMATIC</h1>			
	<div> <div>HW TYPE : Customer Evaluation</div> <div>Product(s) : APOLLO Customer DIFF</div> <div>              : APOLLO Customer DIFF</div> </div>			
<small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES.</small>  <small>THE EQUIPMENT DESIGN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY OWNED ANALOG DEVICES.</small>	DESIGN VIEW <b>&lt;DESIGN_VIEW&gt;</b>		DRAWING NO. <b>02_068355</b>	REV <b>C</b>
	PTD ENGINEER	<div> <div>SIZE</div> <div>D</div> </div>	<div> <div>SCALE</div> <div>1:1</div> </div>	SHEET 10 OF 32



## HMC7044 REFCLK AND SYSREF/TRIG

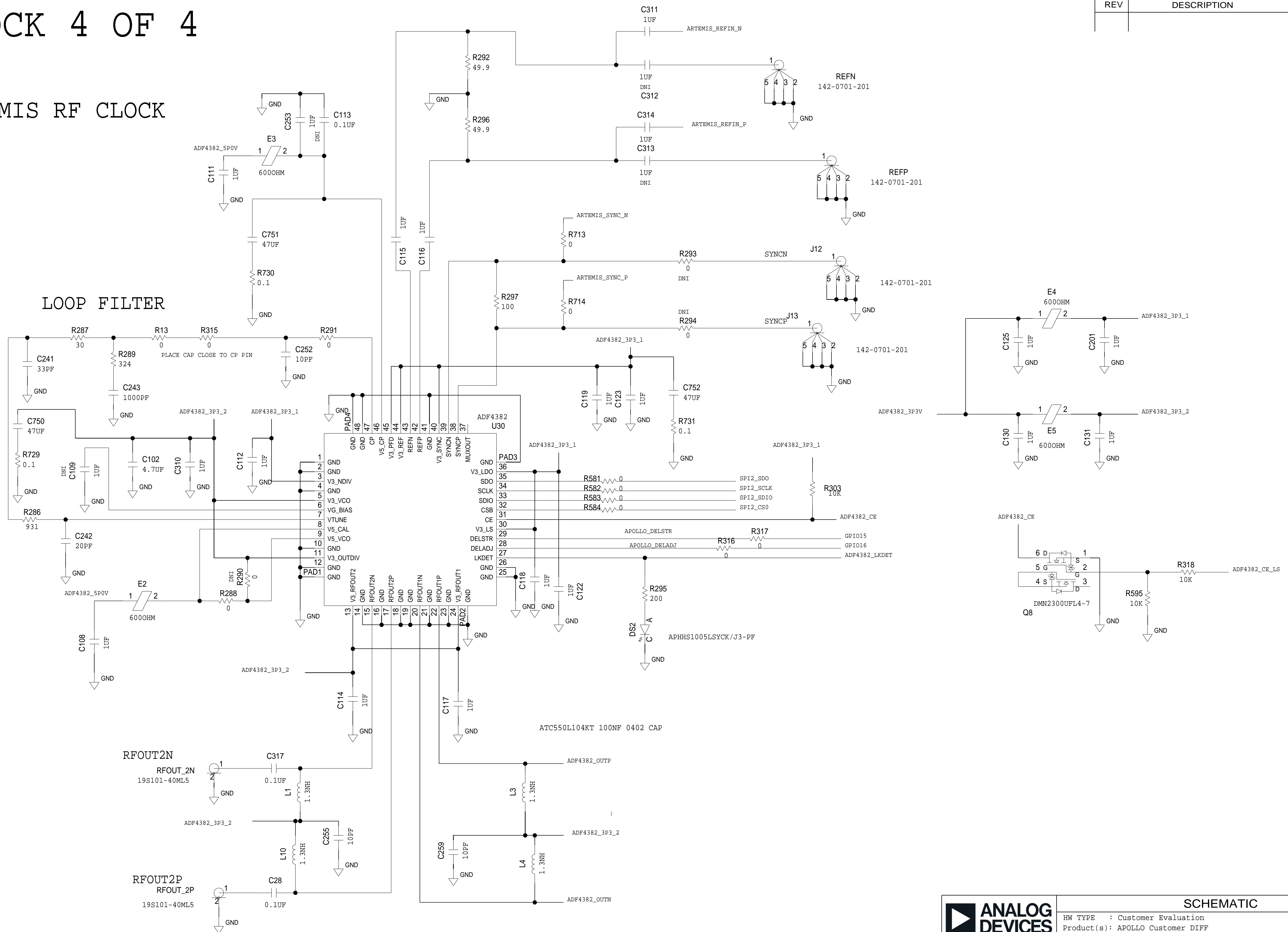


 <b>ANALOG DEVICES</b>	HW TYPE : Customer Evaluation Product(s) : APOLLO Customer DIFF : APOLLO Customer DIFF		SCHEMATIC		
	DESIGN VIEW  <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C		
	PTD ENGINEER	SIZE D	SCALE 1:1	SHEET 11 OF 32	


## ARTEMIS RF CLOCK

LOOP FILTER

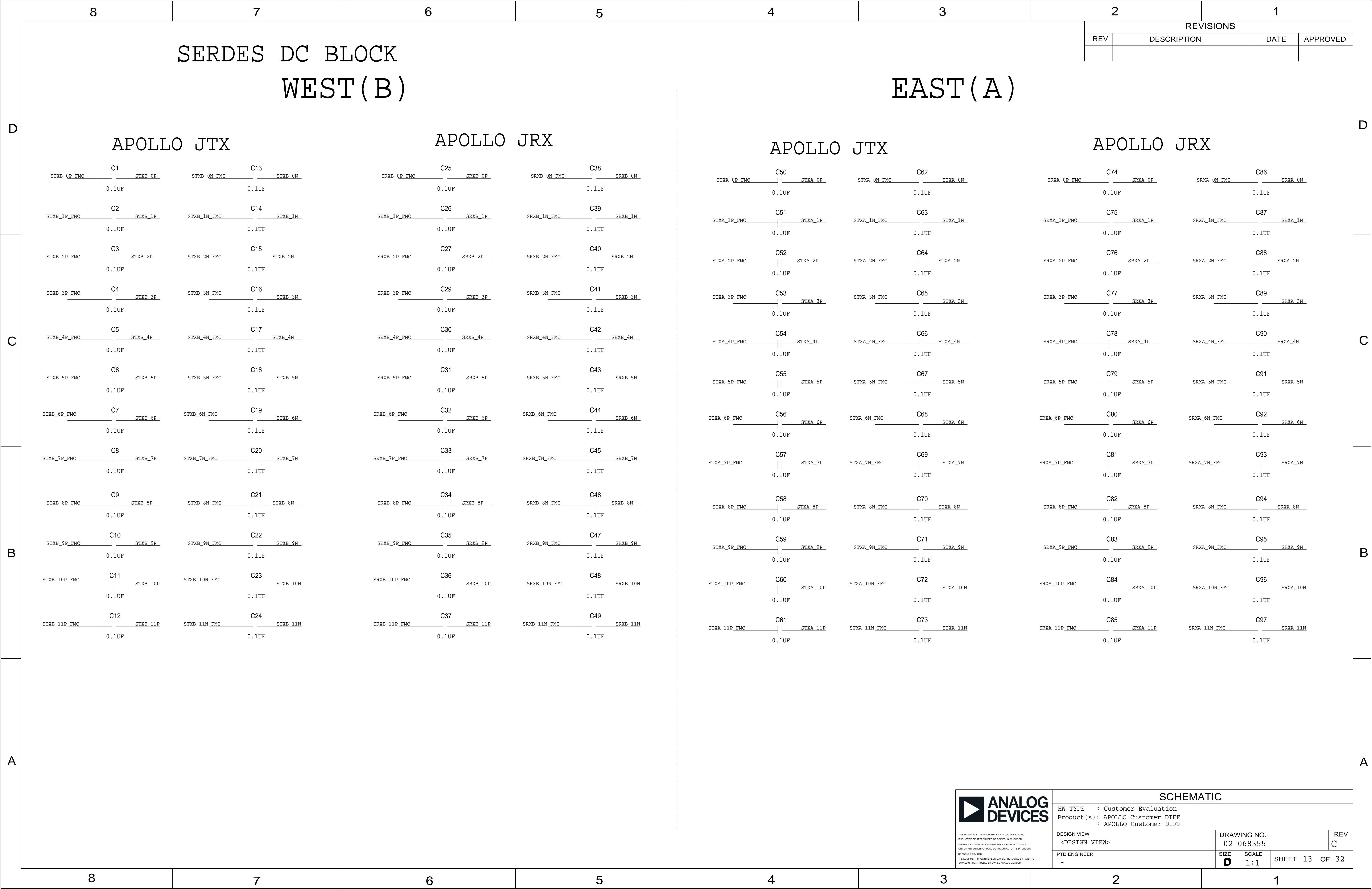
C252 = 100 PF  
R289 = 250 OHM  
C243 = 10 NF  
R287 = 110 OHM  
C241 = 100 PF  
R286 = 0 OHM (SHORT)  
C242 = D.N.I. (DO NOT INSTALL)



RFOUT1P, RFOUT1N, RFOUT2P, RFOUT2N TO BE EQUAL  
LENGTH FOR PHASE MATCHING  
RF SIGNALS TO BE 50 OHM TRACES

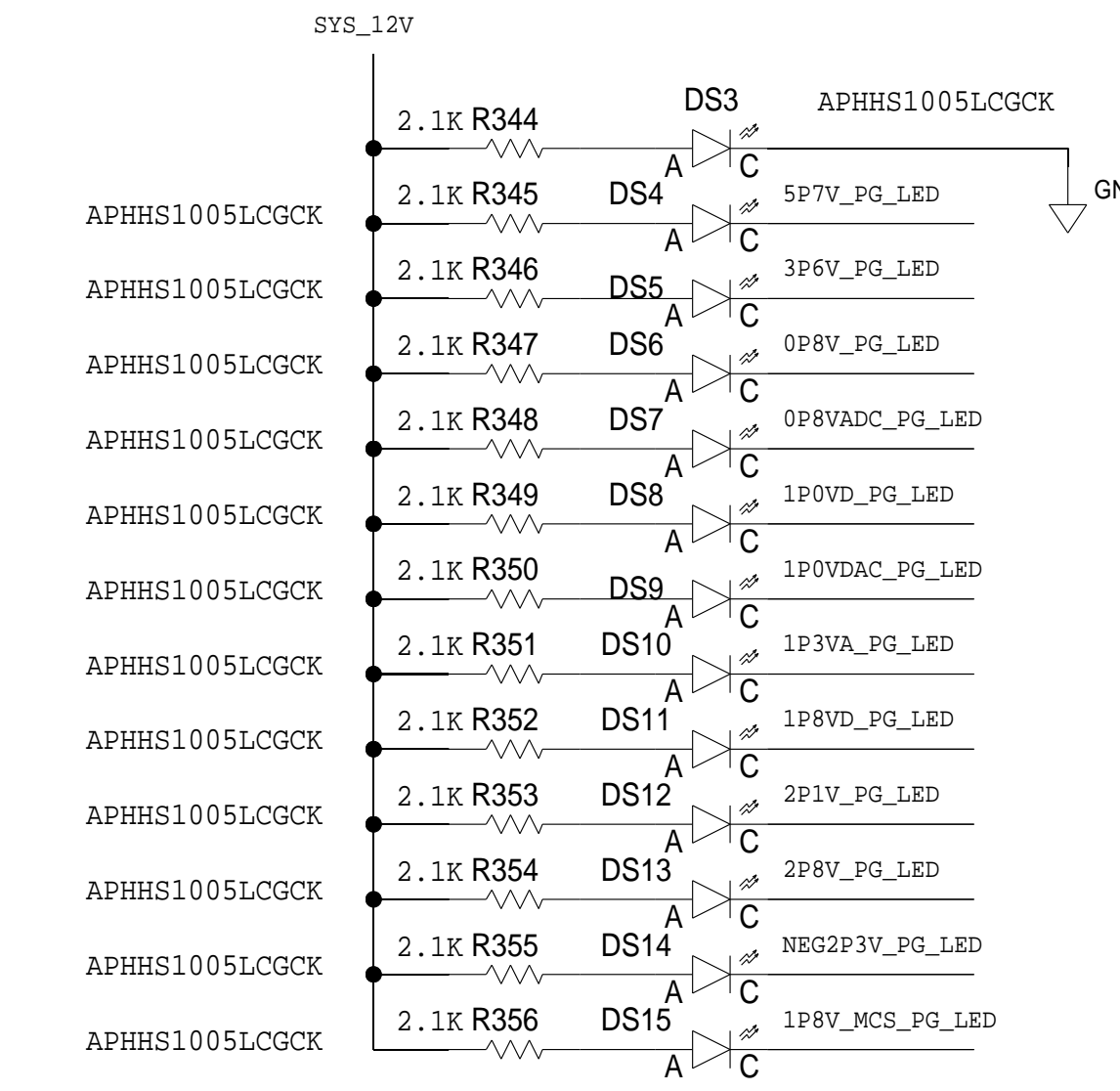
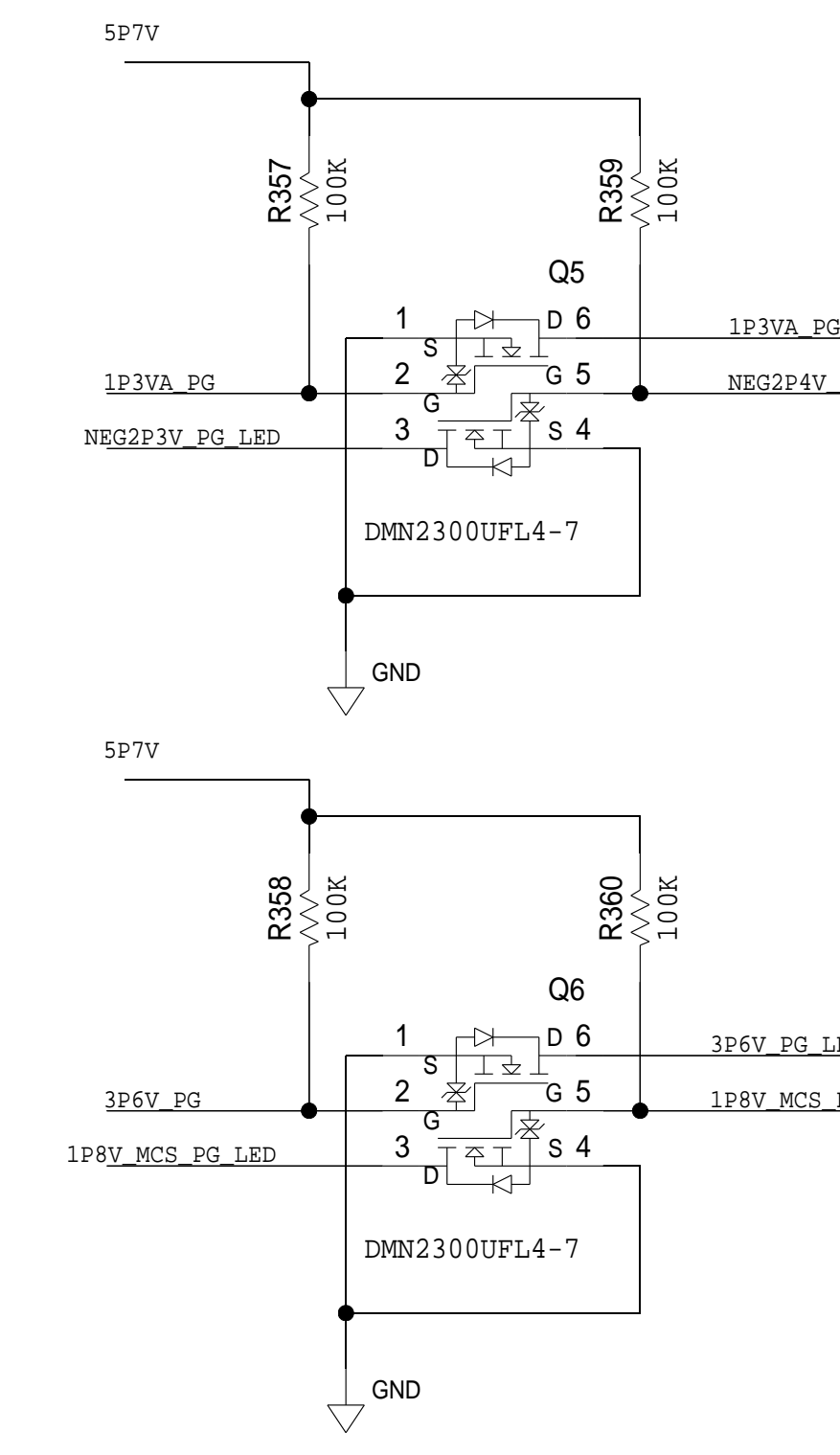
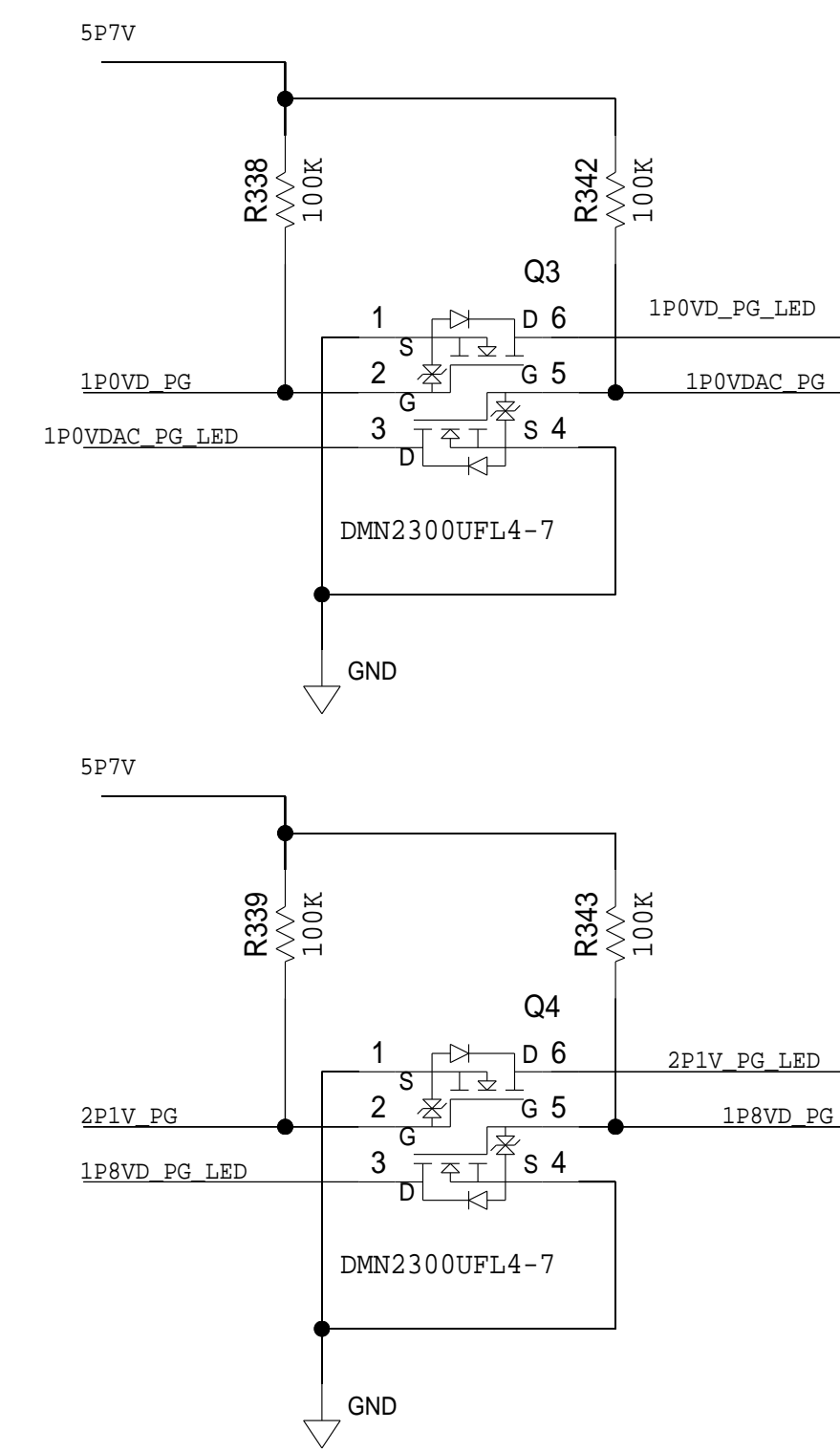
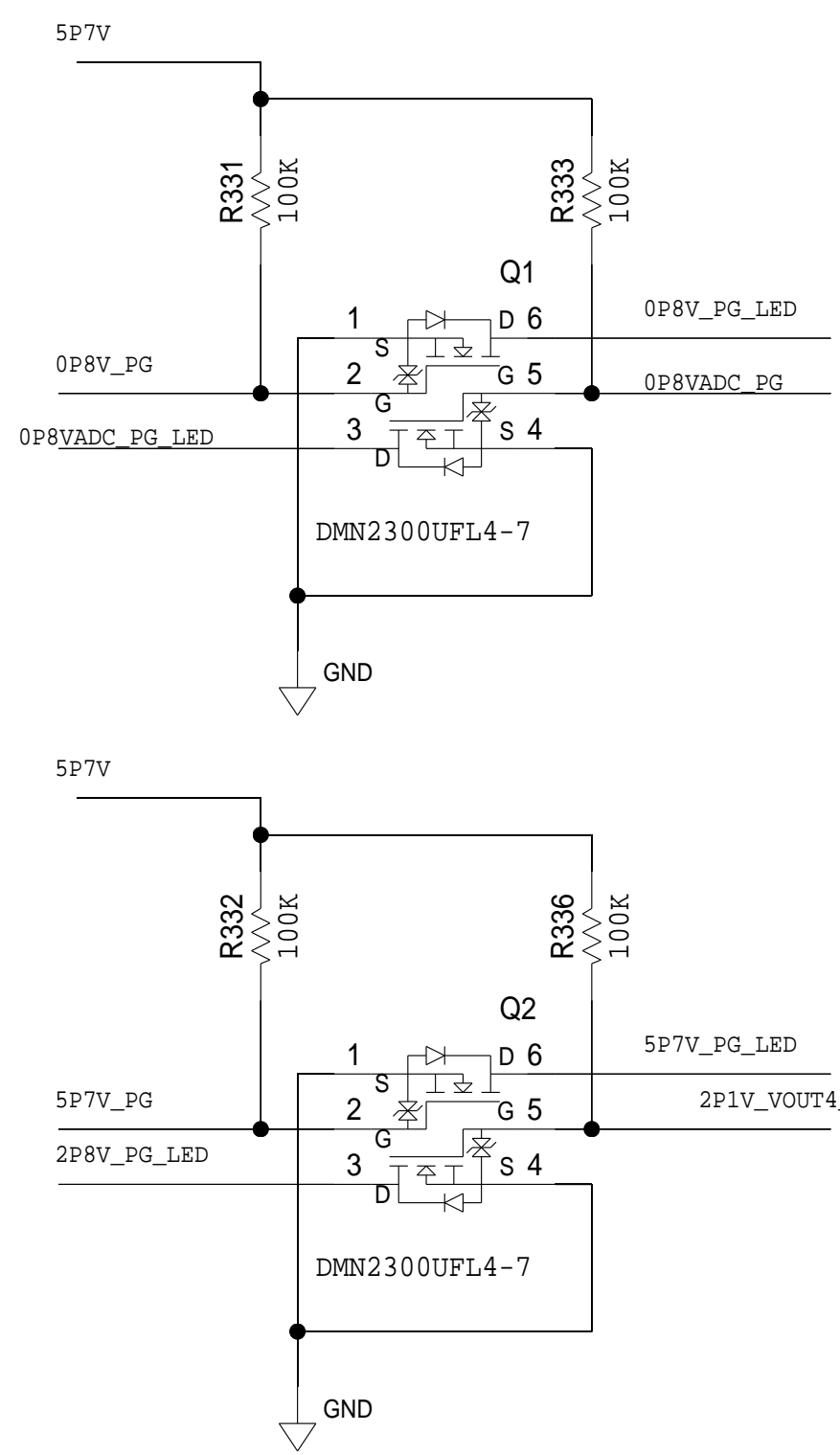
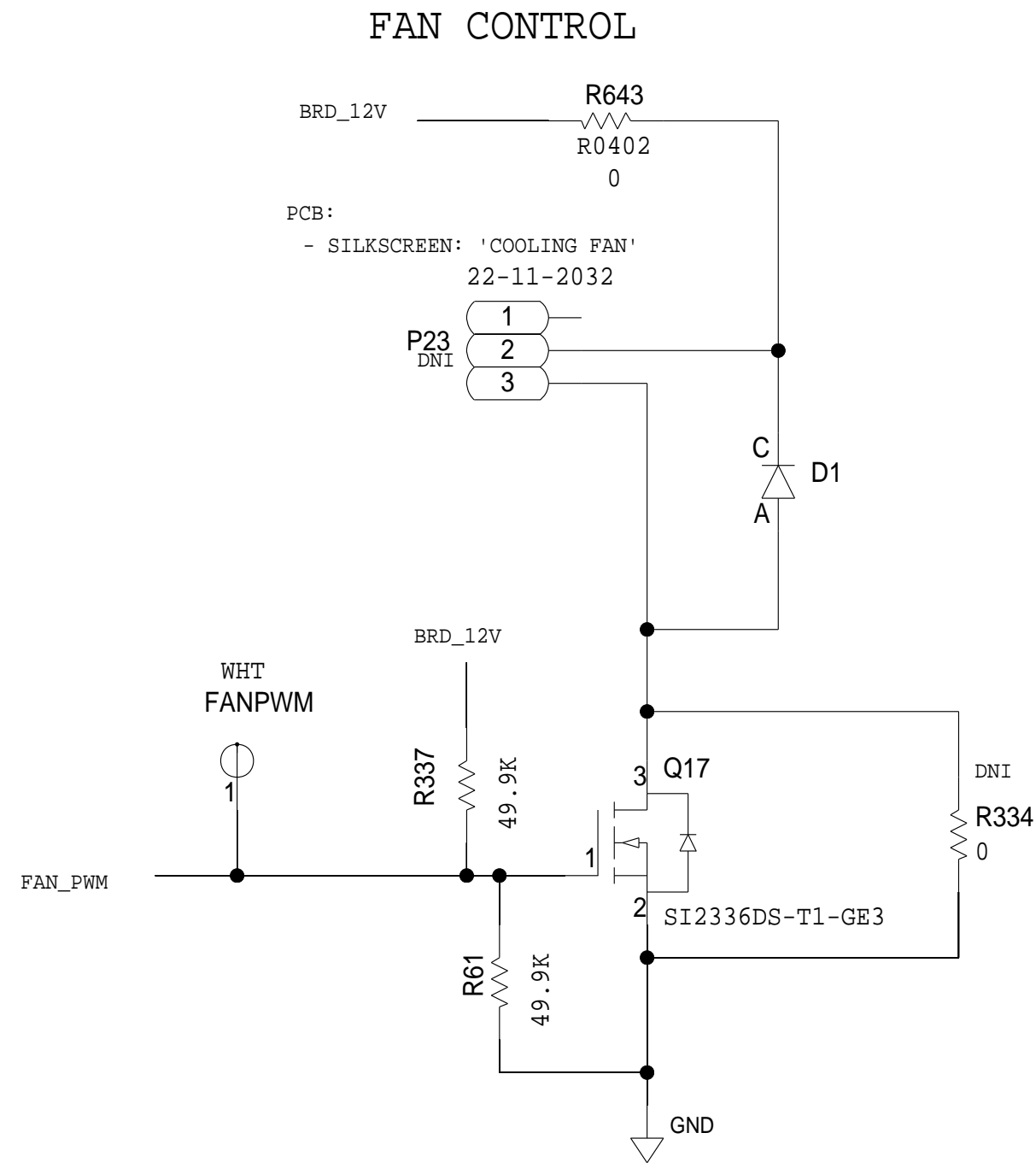
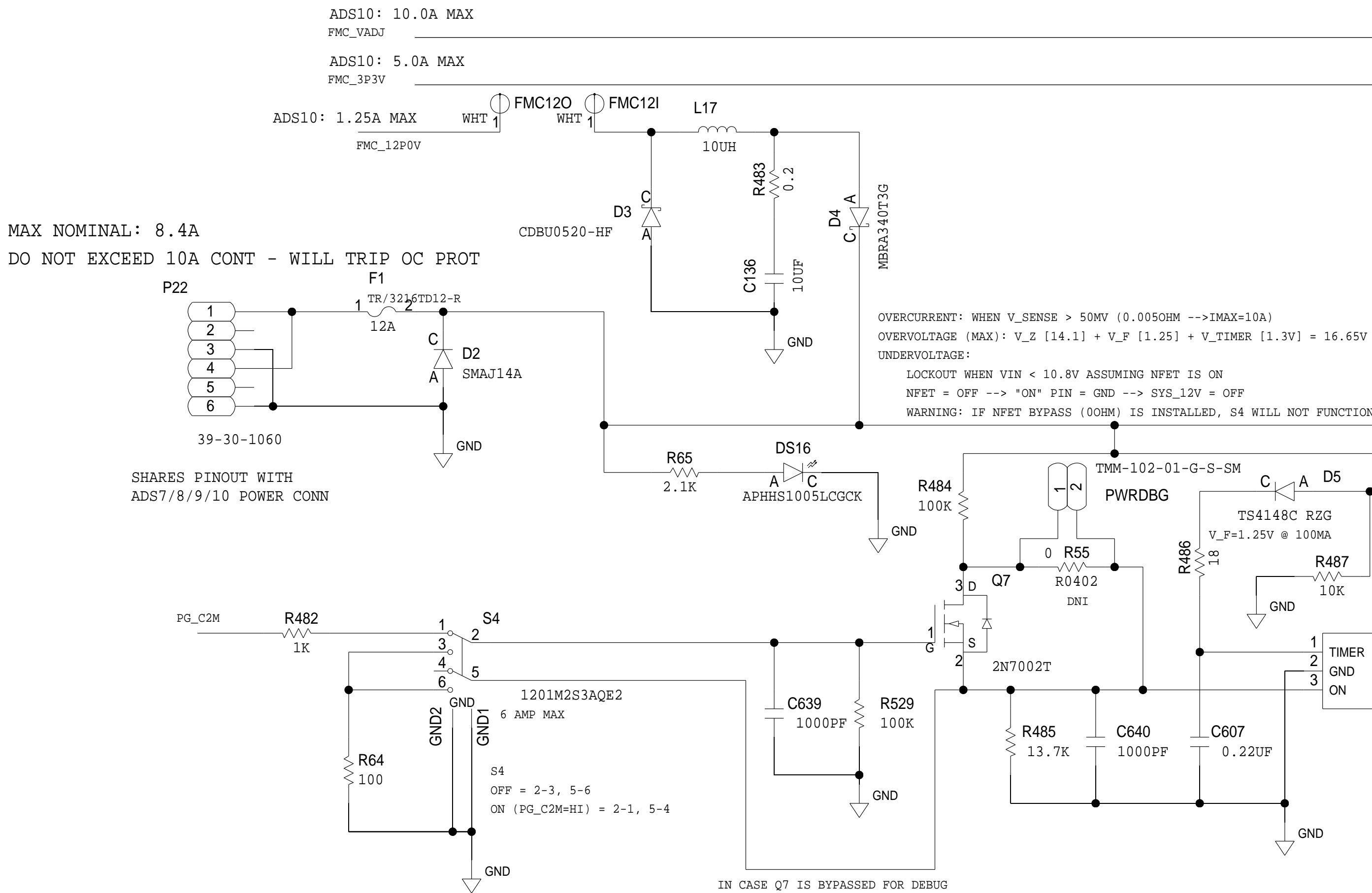
	<h1 style="text-align: center;">SCHEMATIC</h1>			
	<div> <div>HW TYPE : Customer Evaluation</div> <div>Product(s) : APOLLO Customer DIFF</div> <div>              : APOLLO Customer DIFF</div> </div>			
<small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES.</small>  <small>THE EQUIPMENT DESIGN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY OWNED ANALOG DEVICES.</small>	DESIGN VIEW <b>&lt;DESIGN_VIEW&gt;</b>		DRAWING NO. <b>02_068355</b>	REV <b>C</b>
	PTD ENGINEER	<div> <div>SIZE</div> <div>D</div> </div>	<div> <div>SCALE</div> <div>1:1</div> </div>	SHEET 12 OF 32






SUPPLIES: EXTERNAL SUPPLY INPUTS, LED INDICATORS

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



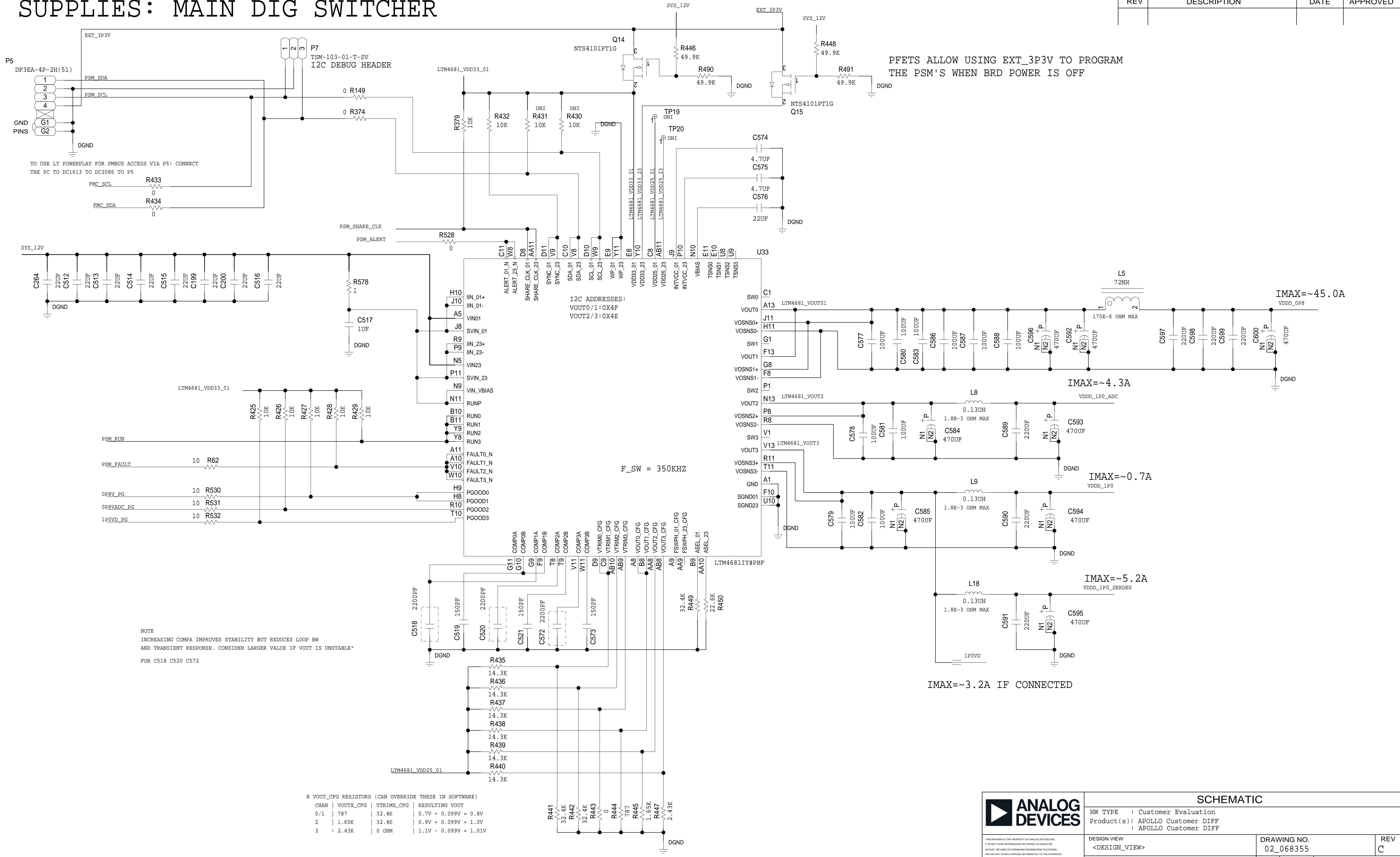


THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC.  
IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR  
IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS,  
OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS  
OF ANALOG DEVICES.  
THE EQUIPMENT SHOWN HEREON MAY BE PROTECTED BY PATENTS  
OWNED OR CONTROLLED BY OWNED ANALOG DEVICES.

SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 14 OF 32



SUPPLIES: MAIN DIG SWITCHER



NOTE  
INCREASING COMPA IMPROVES STABILITY BUT REDUCES LOOP BW  
AND TRANSIENT RESPONSE. CONSIDER LARGER VALUE IF VOUT IS UNSTABLE\*  
FOR C518 C520 C572

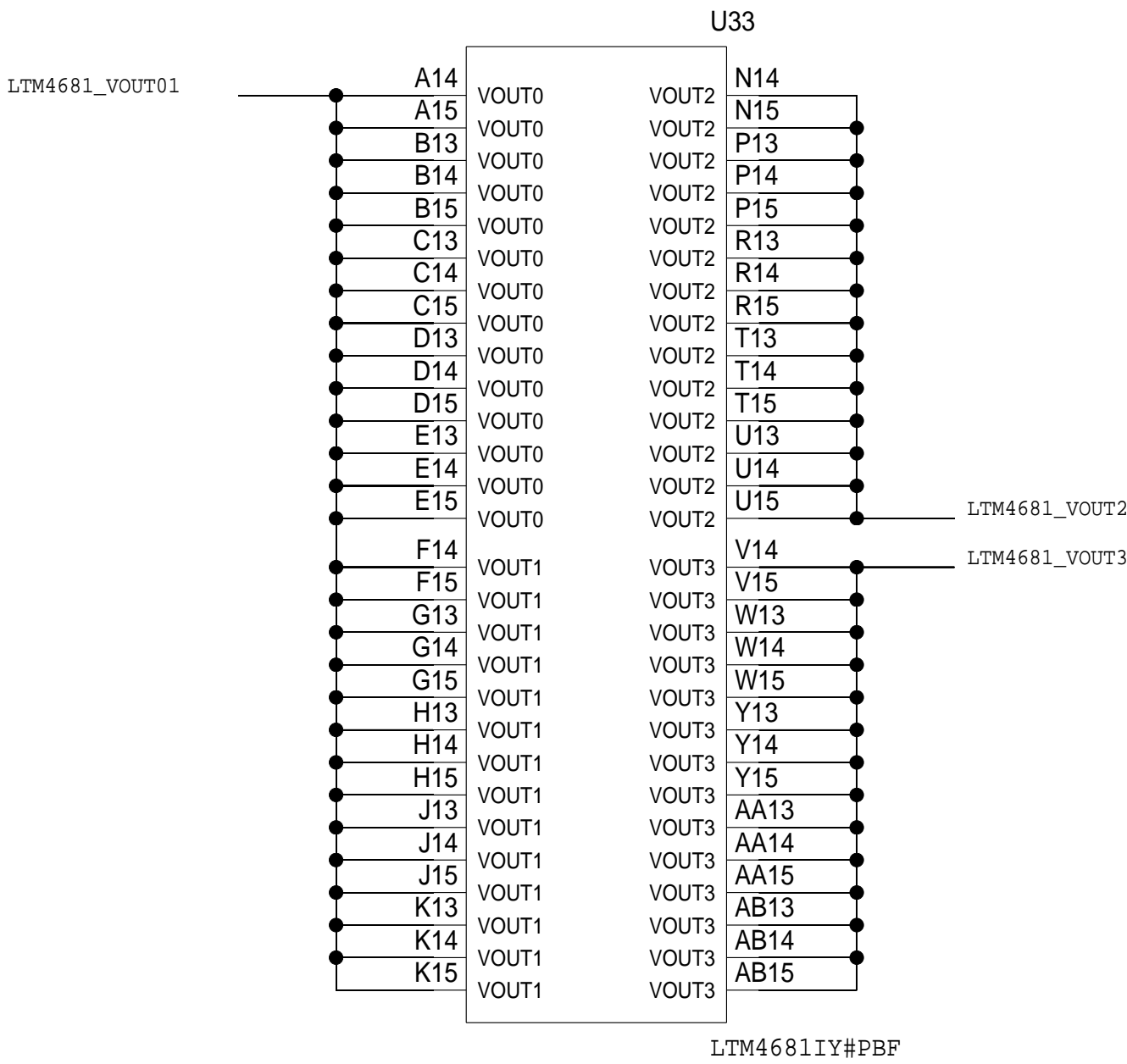
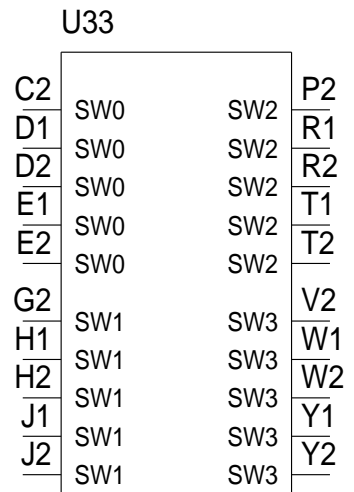
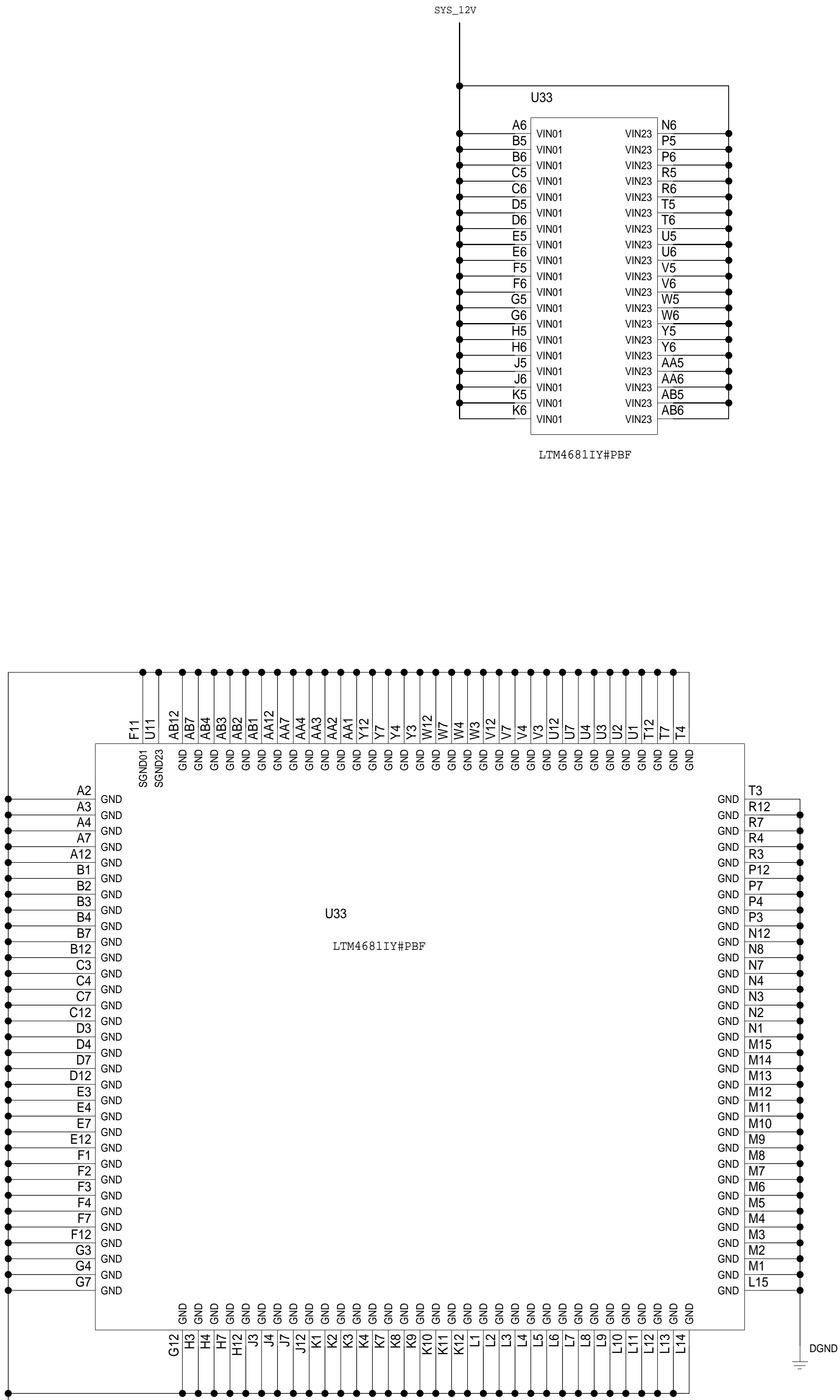
R VOUT_CFG RESISTORS (CAN OVERRIDE THESE IN SOFTWARE)			
CHAN	VOUTX_CFG	VTRIMX_CFG	RESULTING VOUT
0/1	787	32.4K	0.7V + 0.099V = 0.8V
2	1.65K	32.4K	0.9V + 0.099V = 1.0V
3	2.43K	0 OHM	1.1V - 0.099V = 1.01V

SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF		DRAWING NO. 02_068355	
DESIGN VIEW <DESIGN_VIEW>	PTD ENGINEER -		REV C
SIZE D	SCALE 1:1	SHEET 15 OF 32	

LTM4681

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

SW (N) PINS CAN STAY NC



SCHEMATIC			
DESIGN VIEW <DESIGN_VIEW>		DRAWING NO. 02_068355	REV C
PTD ENGINEER -		SIZE D	SCALE 1:1
		SHEET 16	OF 32

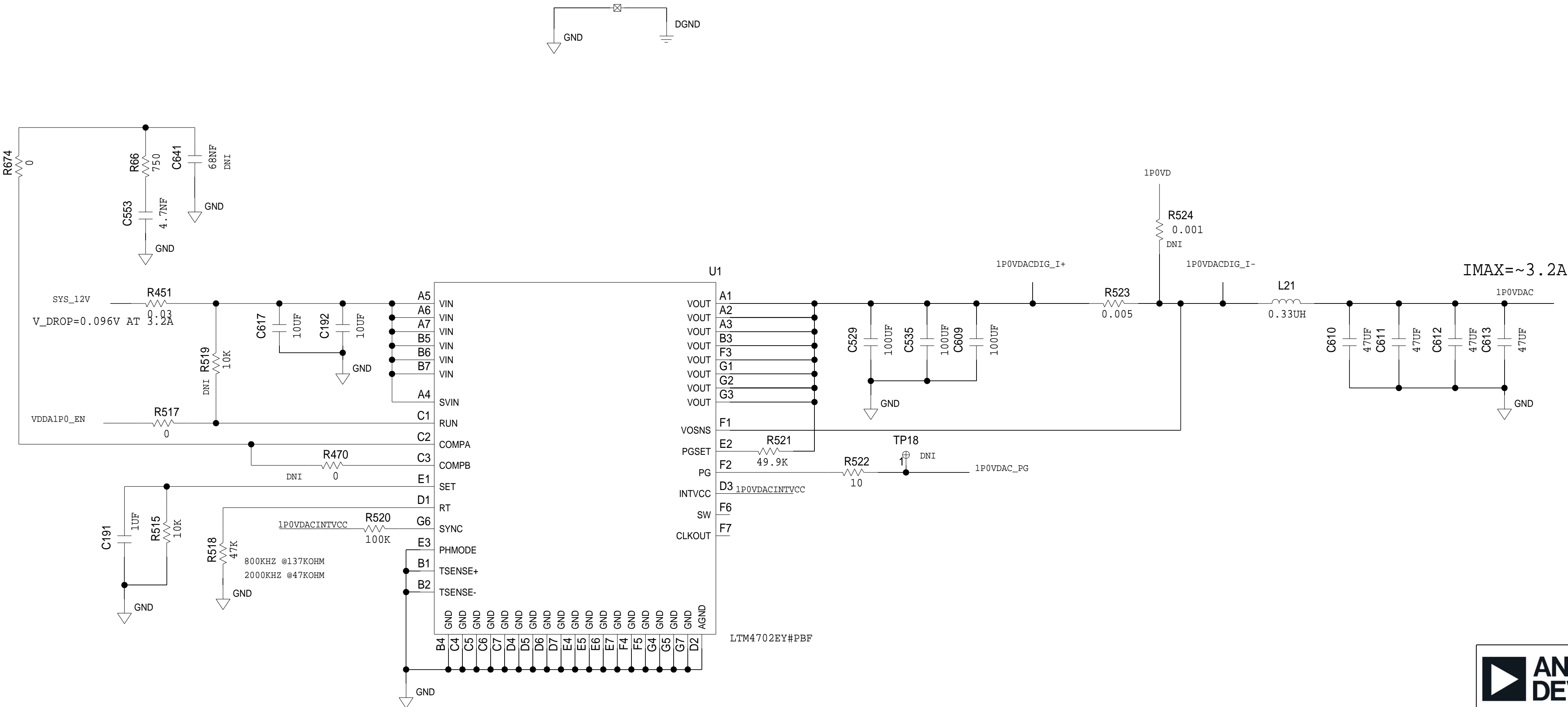
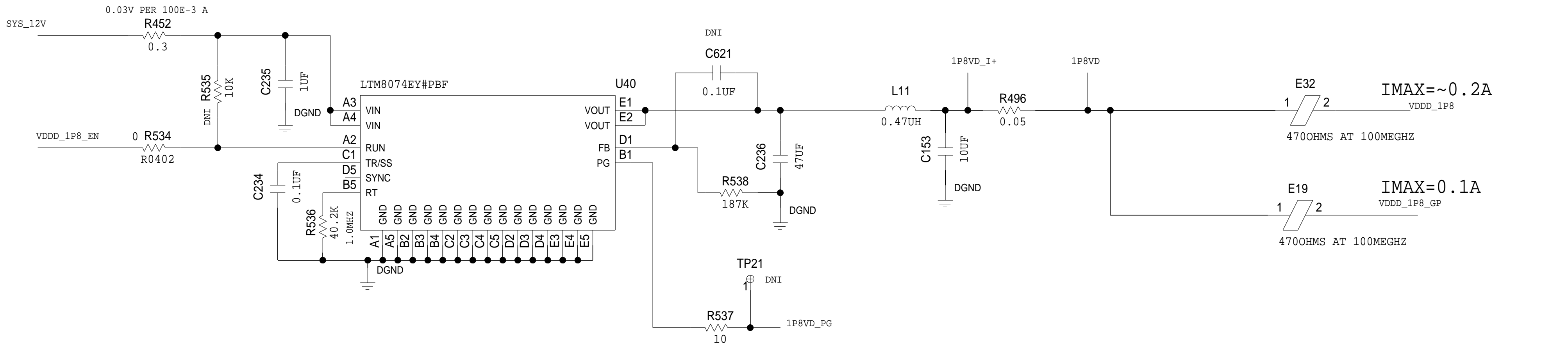


SUPPLIES: OTHER DIG SWITCHER/S (NOTE DIFFERENT GNDS)

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

NOTE

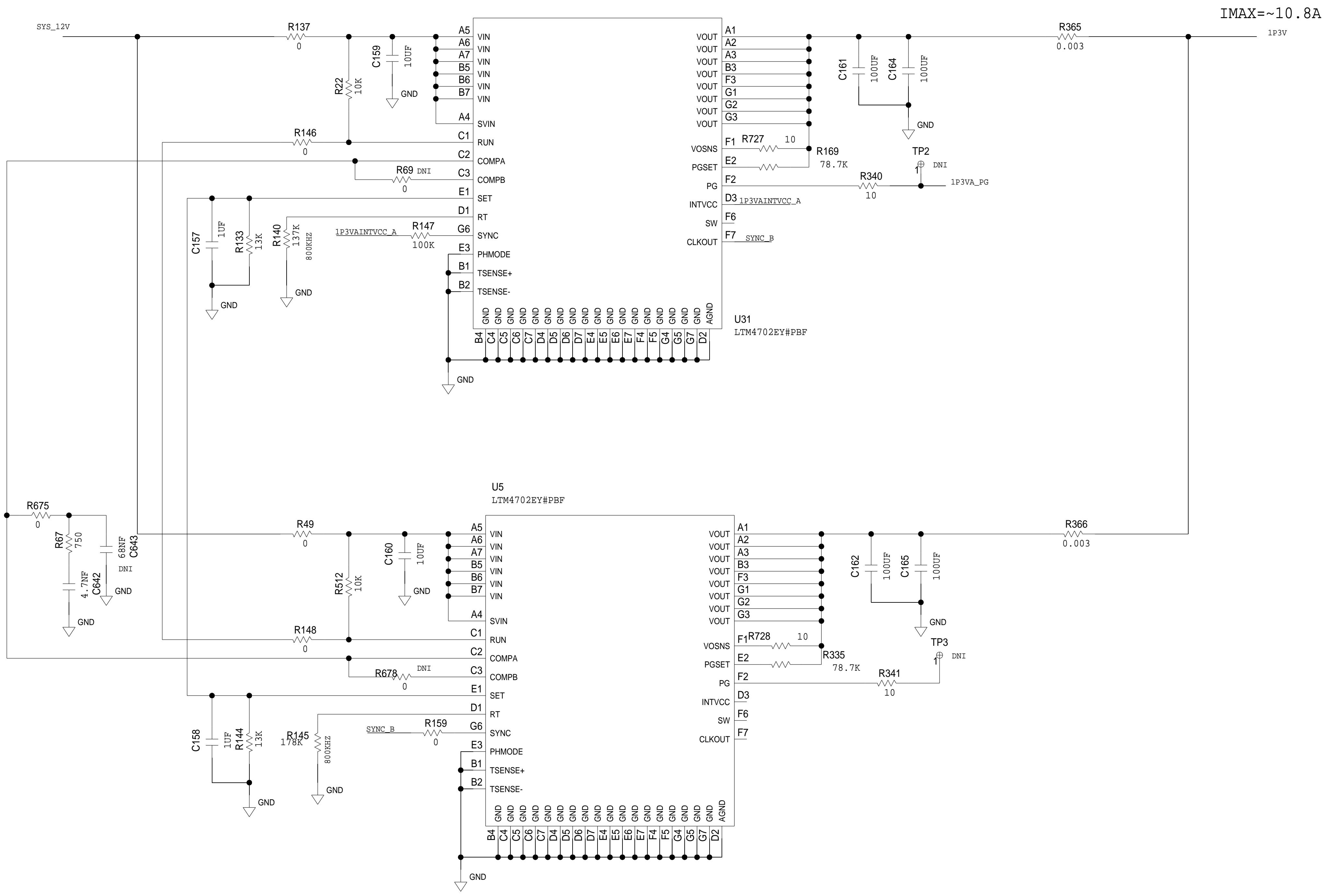
MAKE SURE TO REMOVE R534  
IF R535 IS INSTALLED:LTM8051 SS/TK  
PIN, WHICH SHARES THE VDD\_1P8\_EN SIGNAL,  
IS LIMITED TO 4V ABS MAX.




SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 17 OF 32

SUPPLIES: LDO SWITCHERS - PAGE 1

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED





SCHEMATIC

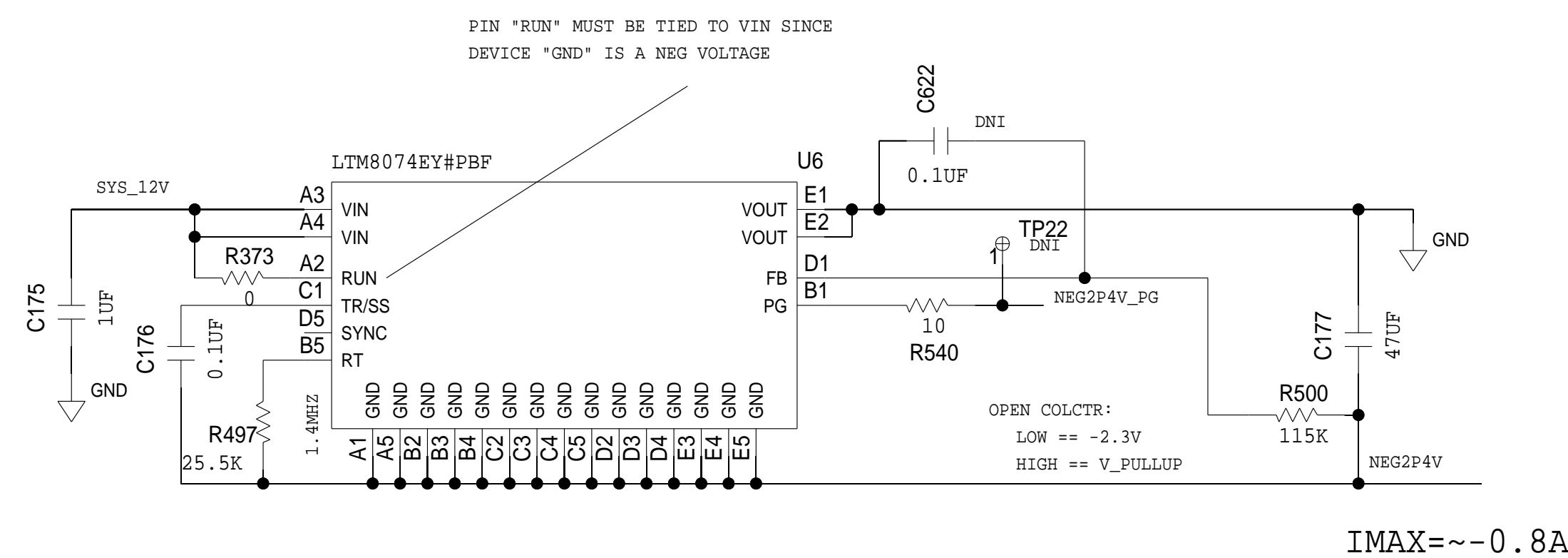
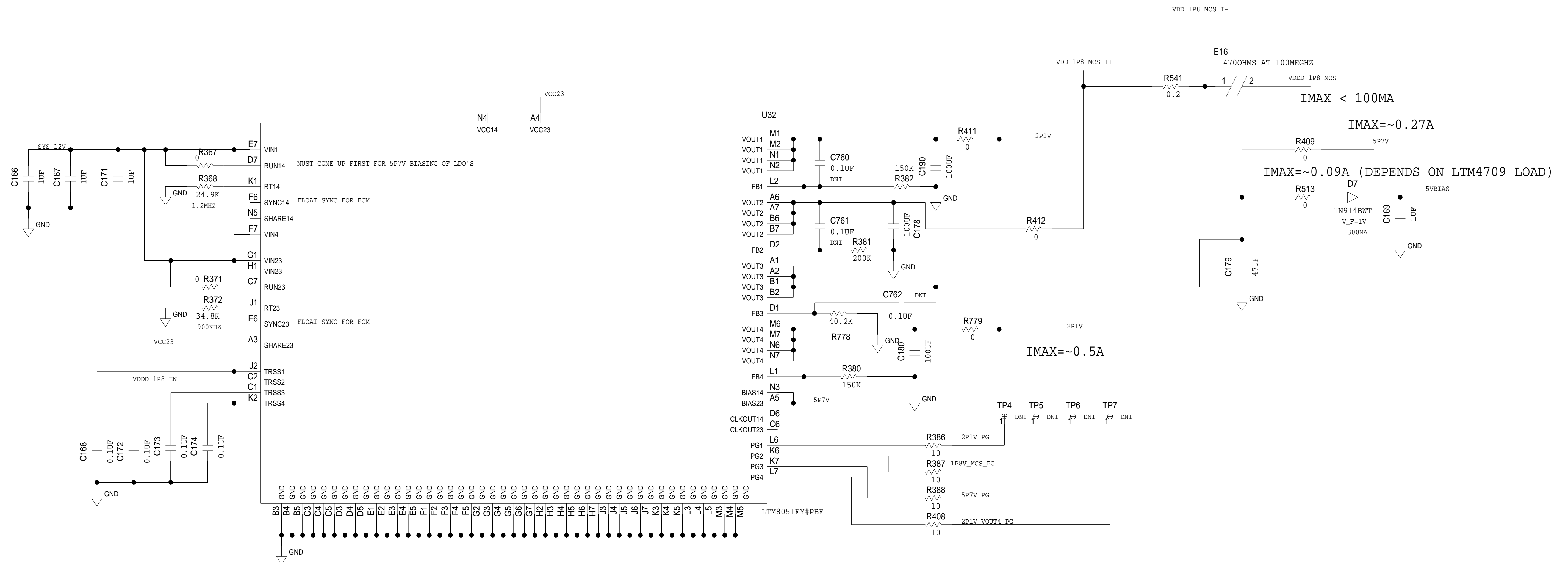
HW TYPE : Customer Evaluation  
Product(s): APOLLO Customer DIFF  
: APOLLO Customer DIFF

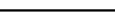
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C
PTD ENGINEER -	SIZE D	SCALE 1:1
SHEET 18 OF 32		



SUPPLIES: LDO SWITCHERS - PAGE 2

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



 <b>ANALOG DEVICES</b>	<b>SCHEMATIC</b>				
	HW TYPE : Customer Evaluation Product(s) : APOLLO Customer DIFF : APOLLO Customer DIFF				
<small>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE WITHOUT PERMISSION, TO THE EXTENTS OF ANALOG DEVICES. THE FOLLOWING SUPPLEMENTARY RIGHTS ARE PROTECTED BY PATENTS OWNED OR CONTROLLED BY OWNED ANALOG DEVICES.</small>	DESIGN VIEW  <DESIGN_VIEW>		DRAWING NO. 02_068355		REV C
	PTD ENGINEER  -	SIZE <b>D</b>	SCALE 1:1	SHEET 19 OF 32	

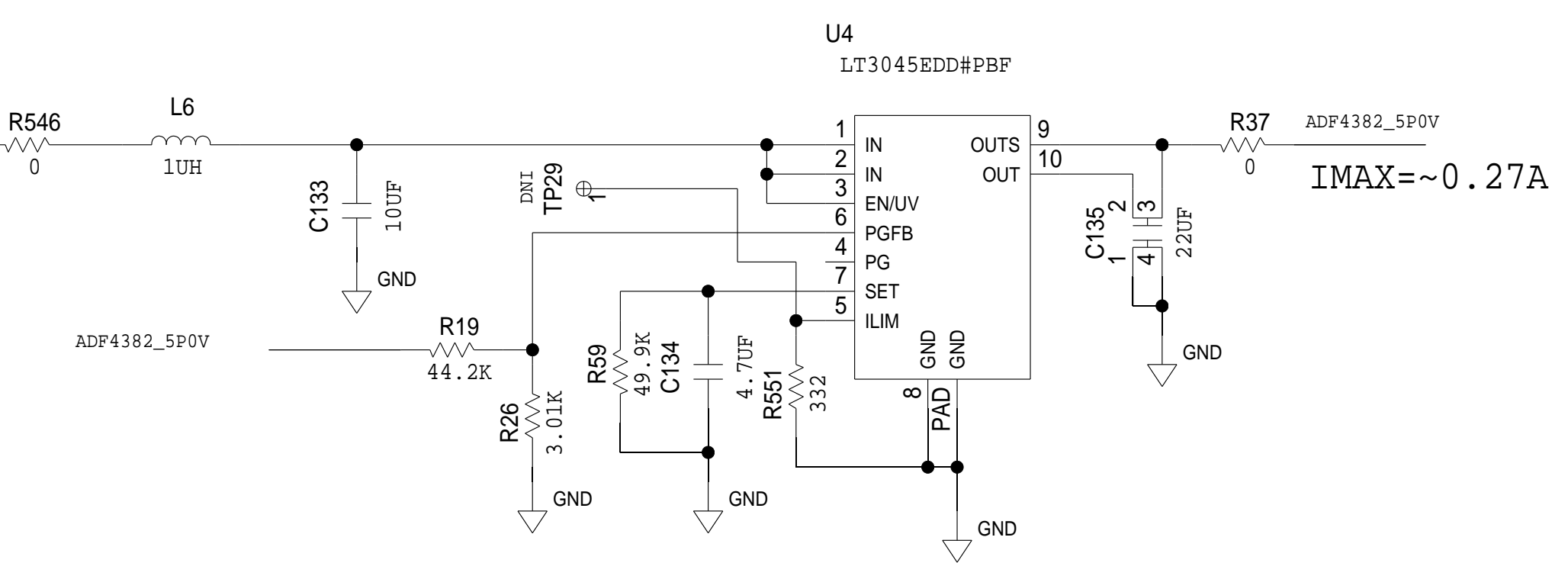
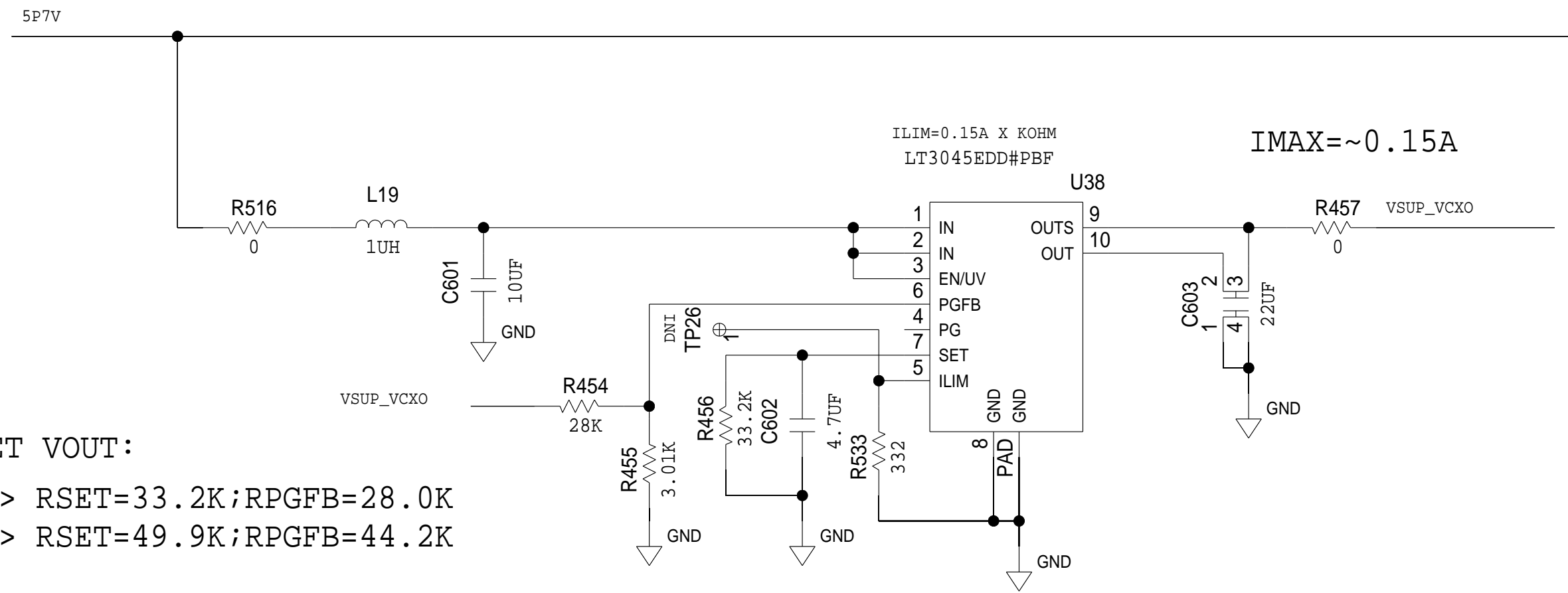




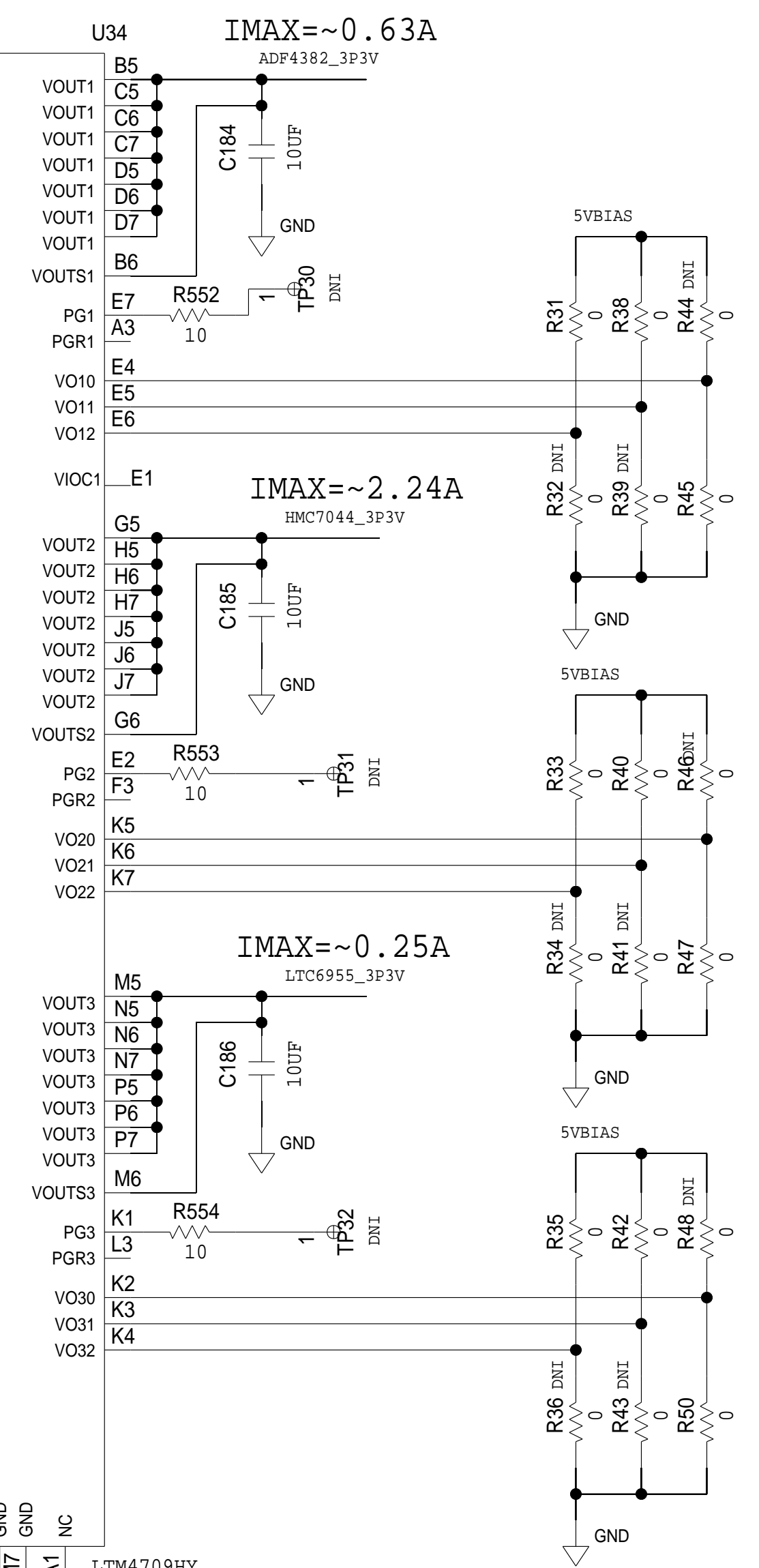
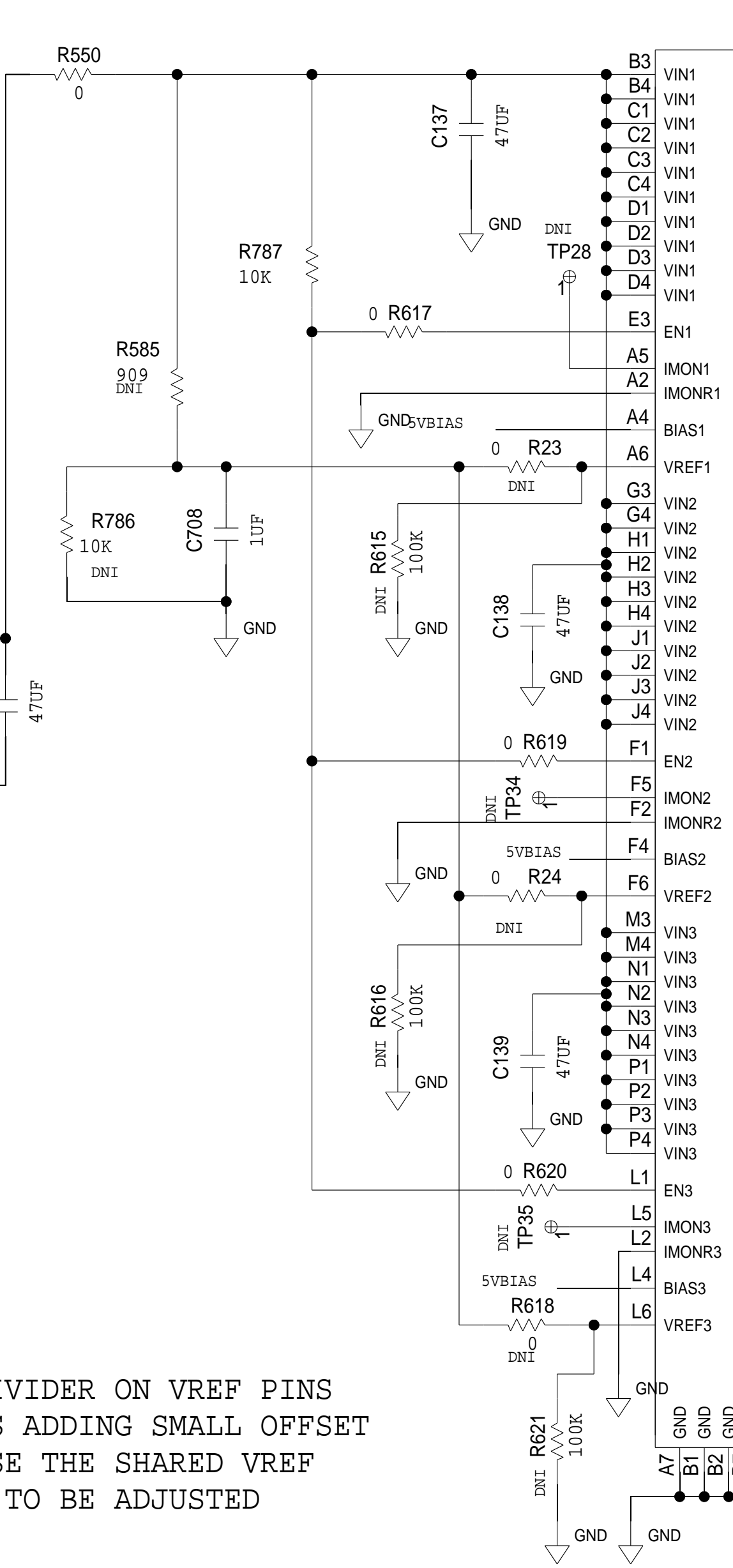
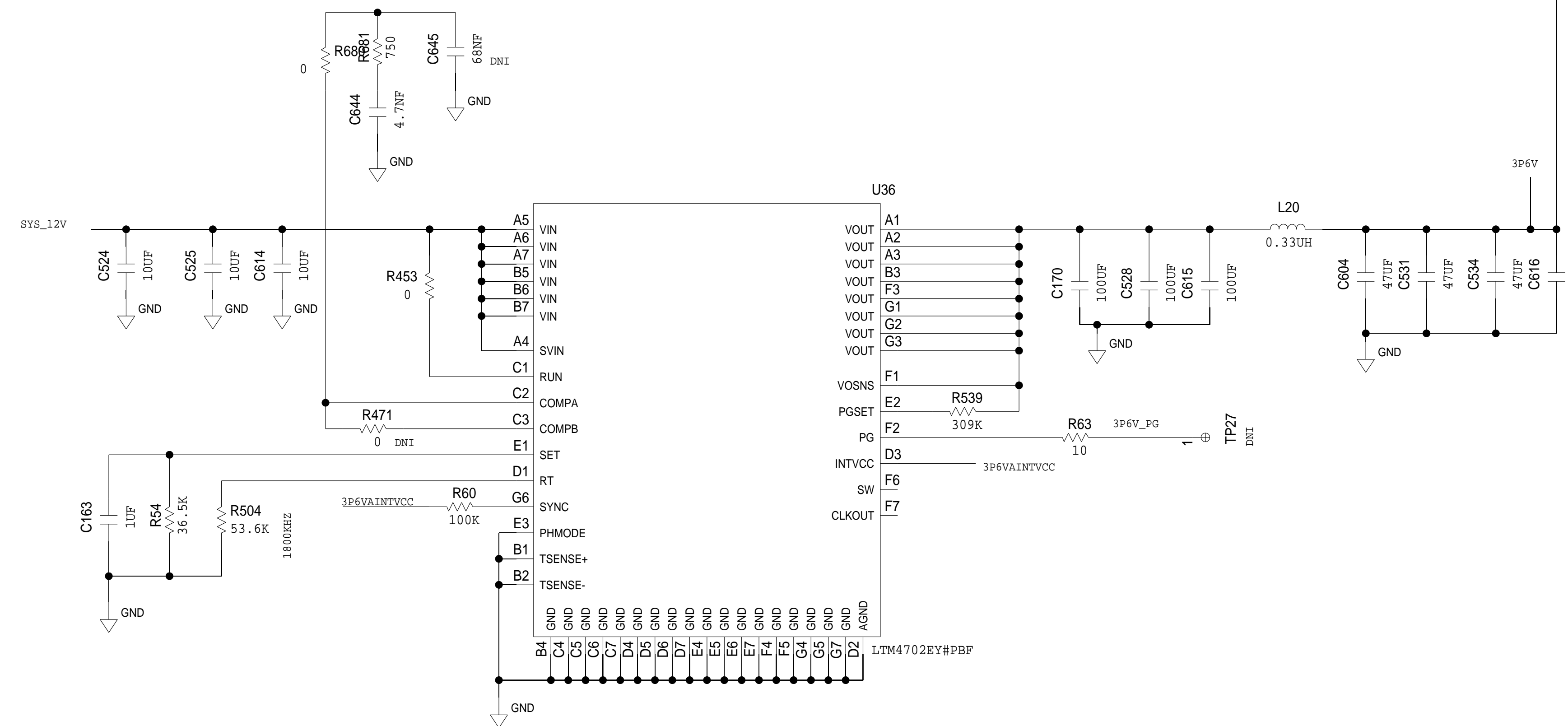


CLOCKING SUPPLIES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED




TO SET VOUT:  
3.3V -> RSET=33.2K;RPGFB=28.0K  
5.0V -> RSET=49.9K;RPGFB=44.2K



RES DIVIDER ON VREF PINS  
ALLOWS ADDING SMALL OFFSET  
IN CASE THE SHARED VREF  
NEEDS TO BE ADJUSTED

NOT REQUIRED AFTER 1ST SILICON

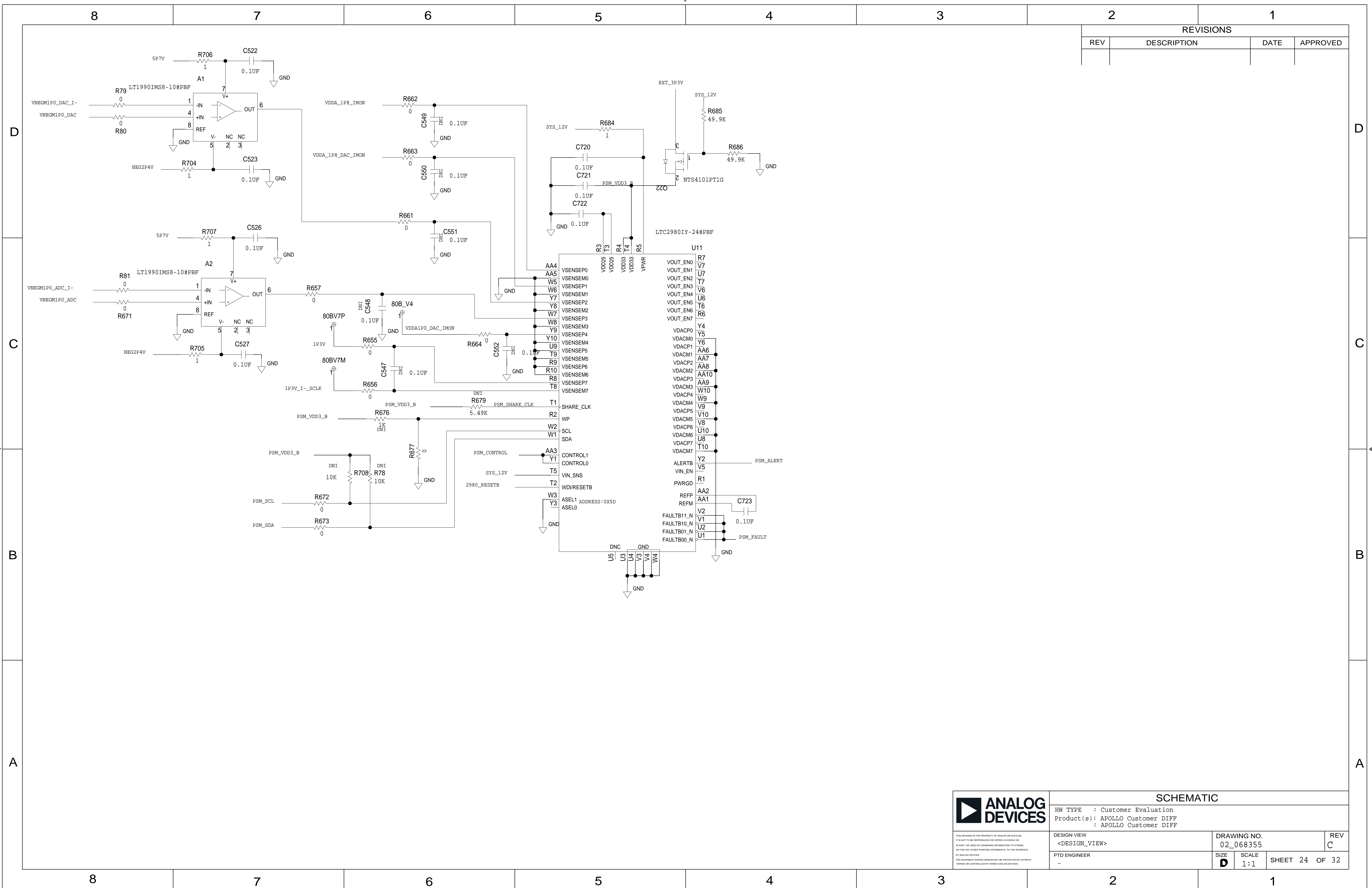


THIS DOCUMENT IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSE DETRIMENTAL TO THE INTERESTS OF ANALOG DEVICES. THE EQUIPMENT SHOWN HEREON MAY BE PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.

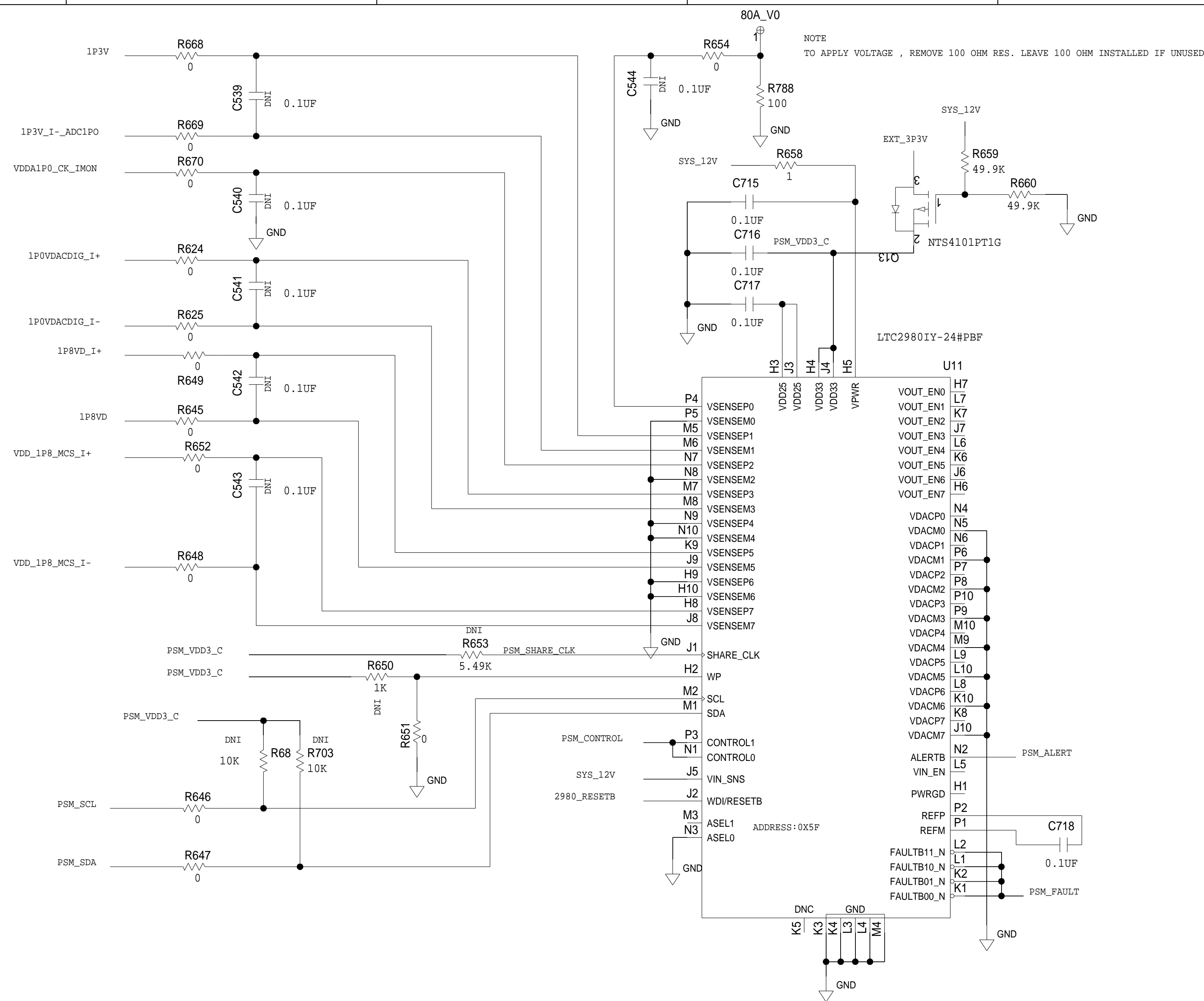
SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 22 OF 32











REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

[illegible]



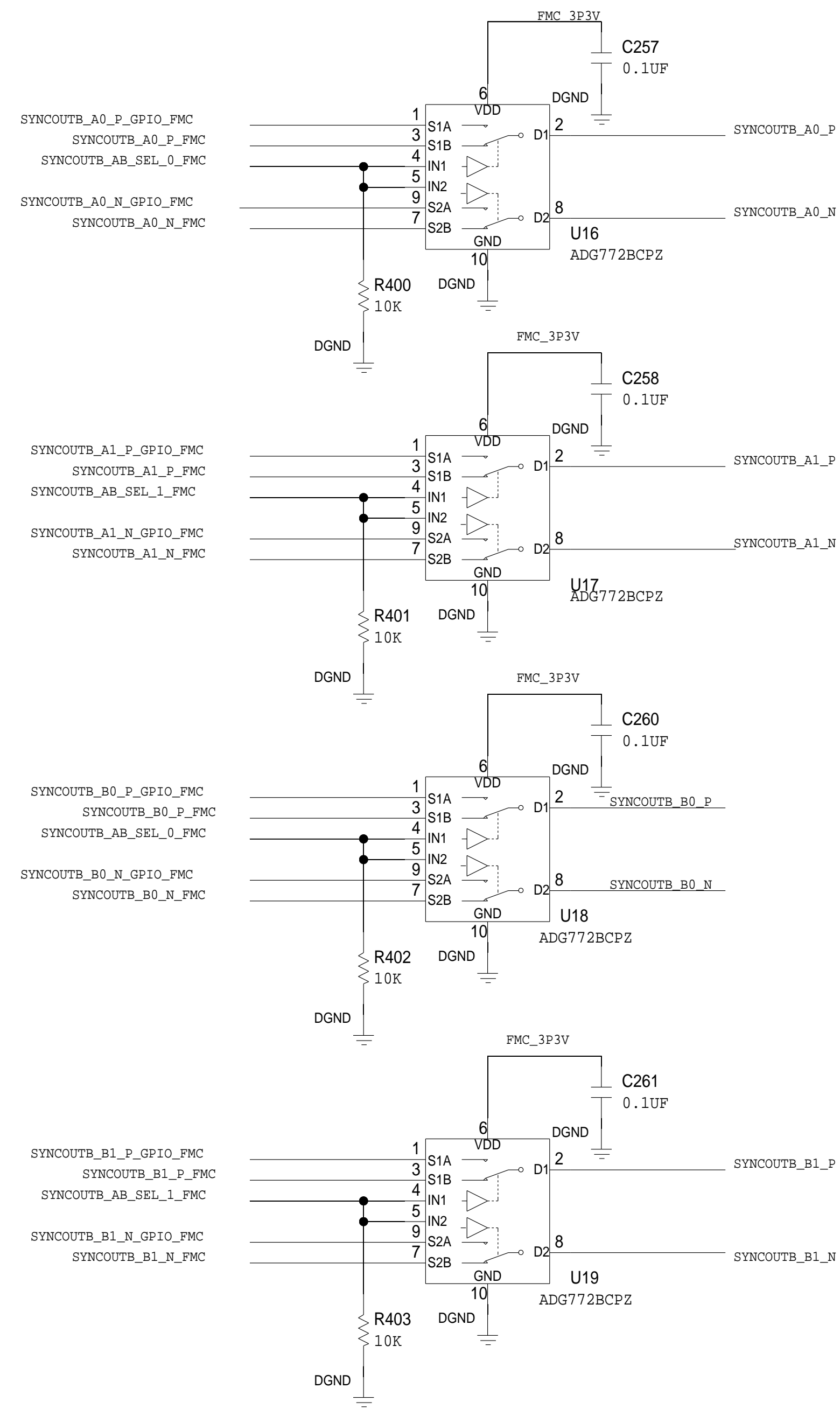
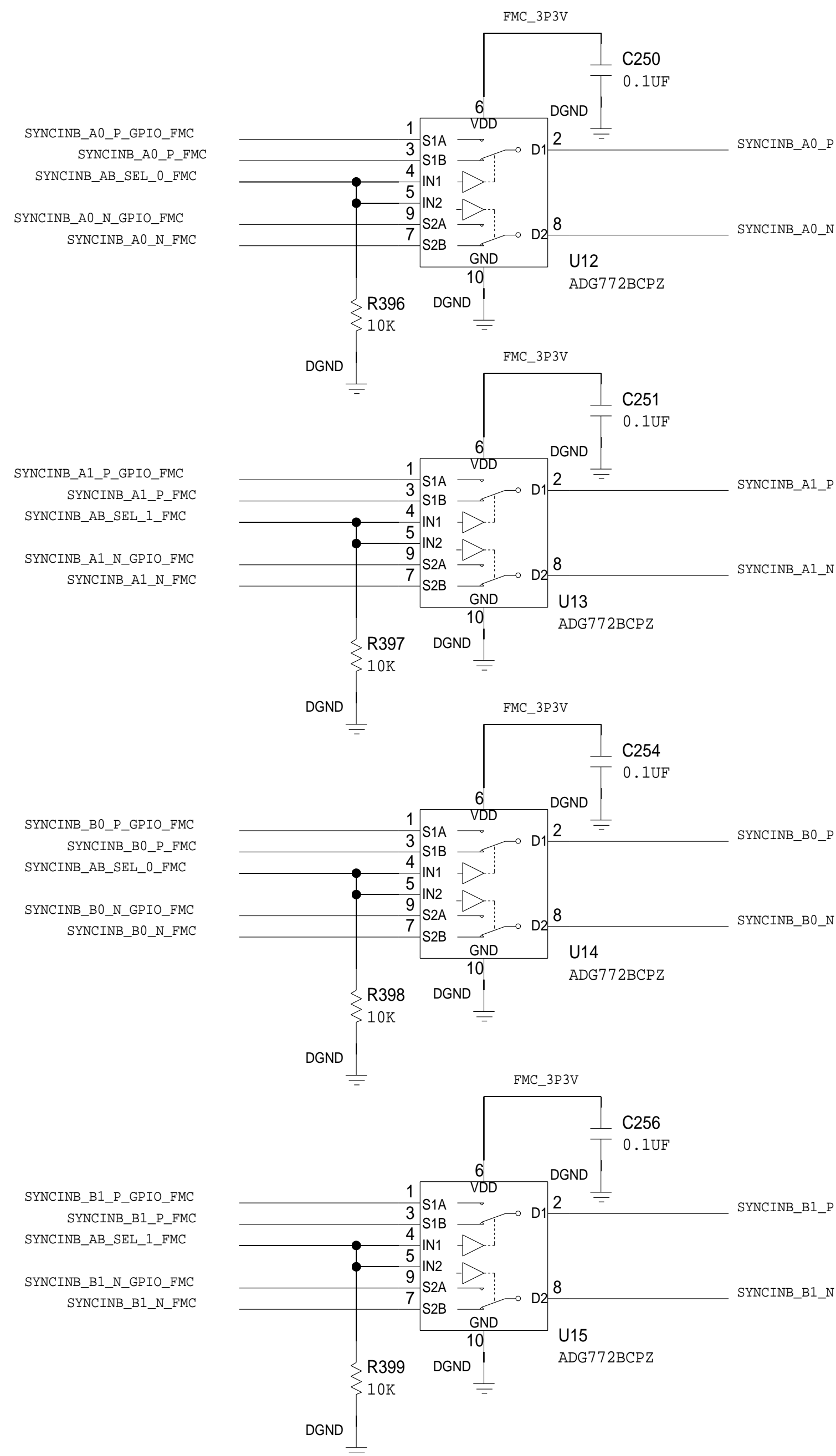
# LEVEL SHIFTERS



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

SCHEMATIC			
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF			
DESIGN VIEW <DESIGN_VIEW>	DRAWING NO. 02_068355	REV C	
PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 27 OF 32

# SYNCINB/SYNCOUTB LVDS <--> CMOS CHANGEOVER OPTIONS



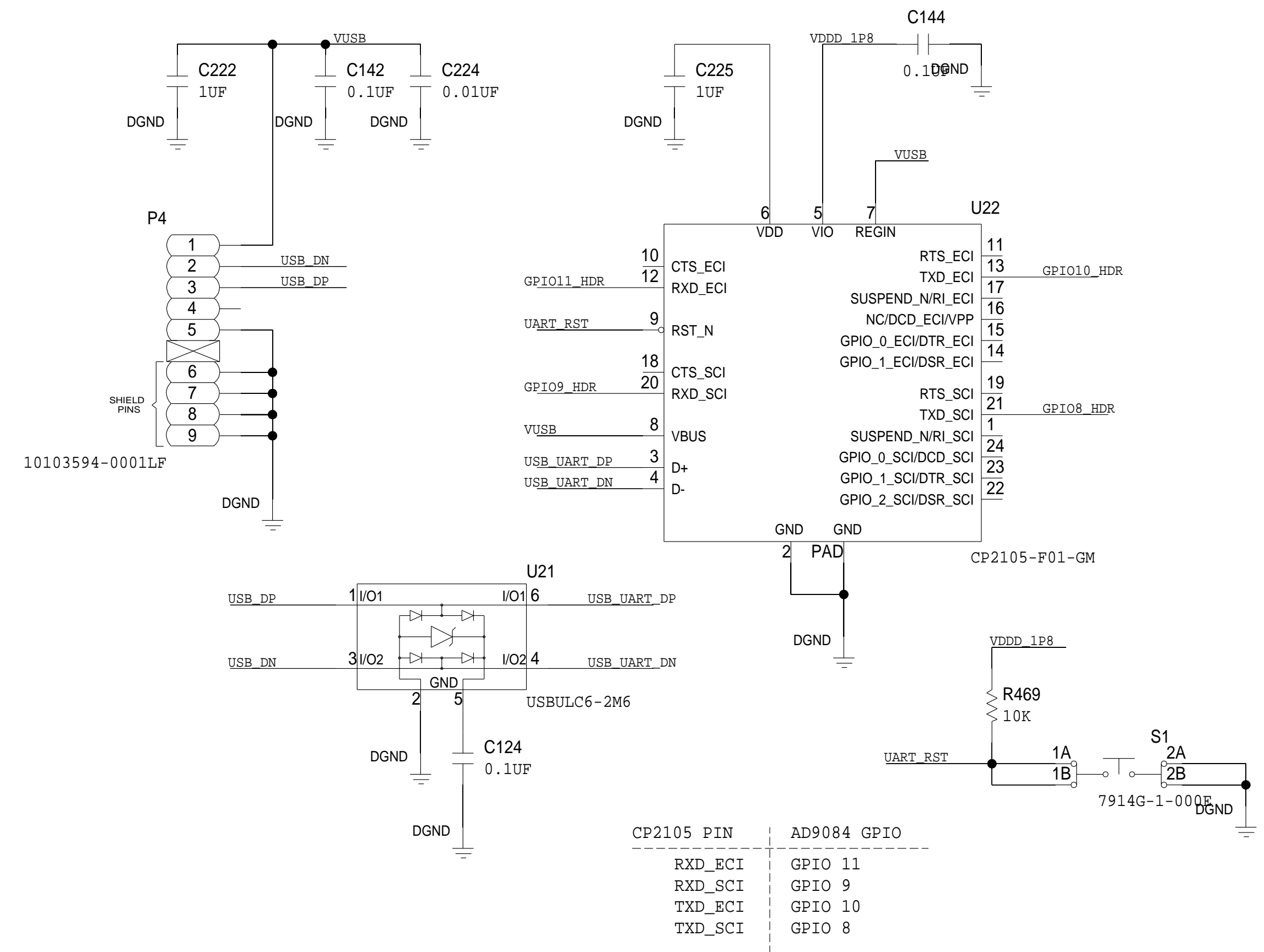
REVISIONS				
REV	DESCRIPTION	DATE	APPROVED	

		SCHEMATIC		
HW TYPE : Customer Evaluation Product(s): APOLLO Customer DIFF : APOLLO Customer DIFF		DESIGN VIEW <DESIGN_VIEW>		REV C
PTD ENGINEER -		SIZE D	SCALE 1:1	SHEET 28 OF 32

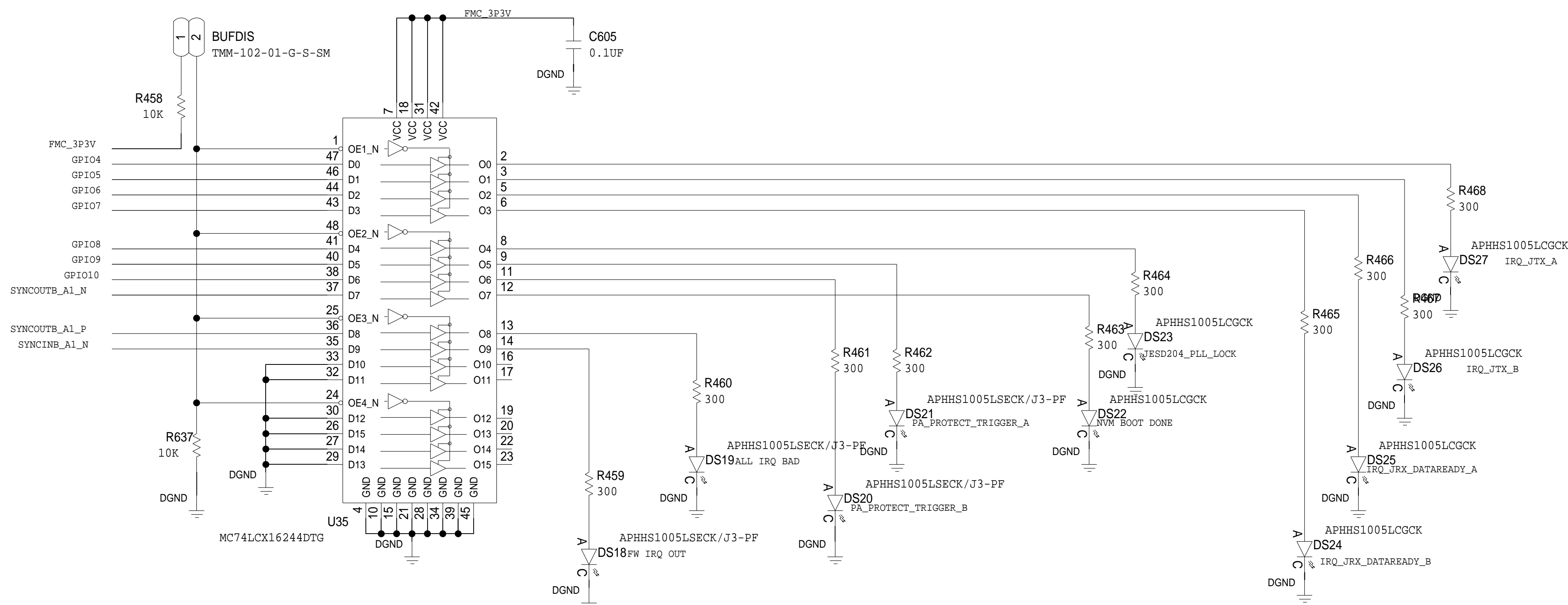



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

UART <--> USB  
PLACE ON BOT LYR



## LED CONNECTIONS TO GPIO



<div><div></div><div>ANALOG DEVICES</div></div>		SCHEMATIC				
HW TYPE : Customer Evaluation Product(s) : APOLLO Customer DIFF : APOLLO Customer DIFF						
<div><div>THIS DRAWING IS THE PROPERTY OF ANALOG DEVICES INC. IT IS NOT TO BE REPRODUCED OR COPIED, IN WHOLE OR IN PART, OR USED IN FURNISHING INFORMATION TO OTHERS, OR FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF ANALOG DEVICES. THE FOLLOWING SUPPLEMENTARY INFORMATION IS PROTECTED BY PATENTS OWNED OR CONTROLLED BY ANALOG DEVICES.</div></div>		DESIGN VIEW <DESIGN_VIEW>		DRAWING NO. 02_068355		REV C
		PTD ENGINEER -	SIZE D	SCALE 1:1	SHEET 29 OF 32	







