


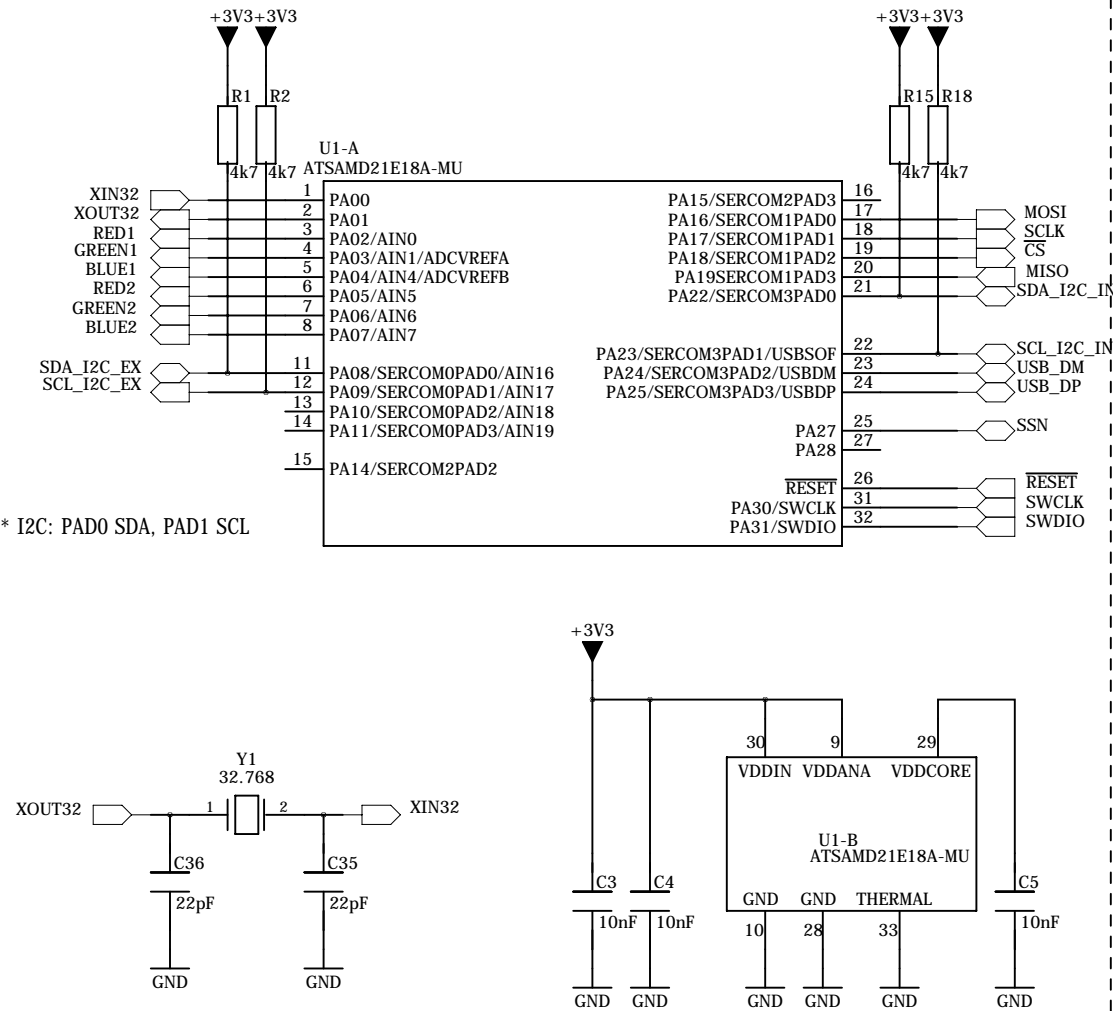
# Revision Log

- Rev a
- changed part name of U4
  - Added R19
- Rev b
- changed part name of Q1-6
  - Removed R14 part number

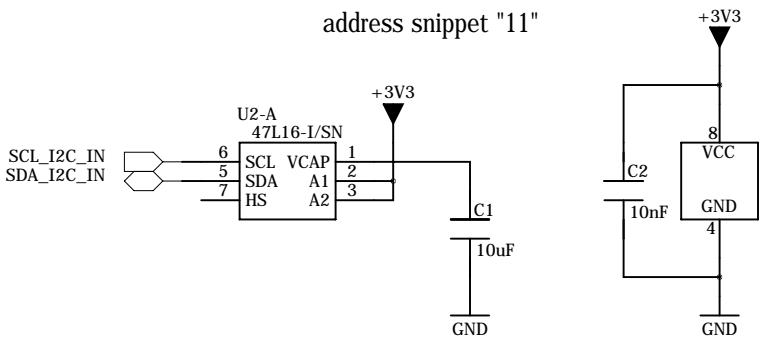
All Resistors :	N/A
All Capacitors :	N/A

rev. b	TITLE : 1098 SENSORS - SMART DO CABLE PCB				
		PART NBR. :	V1RQ10201	DRAWING NBR. E1098-1b.01.020	
		SCALE :			
		DRAWN :	8 Jul. 2021	JFo	SHEET 1 OF 5
		CHECKED :			
		APPROVED :			
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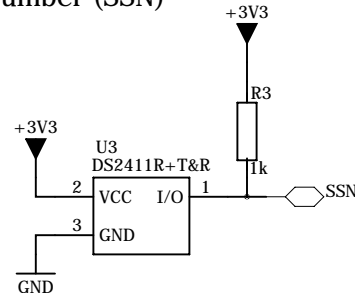
Mirco control unit (MCU)



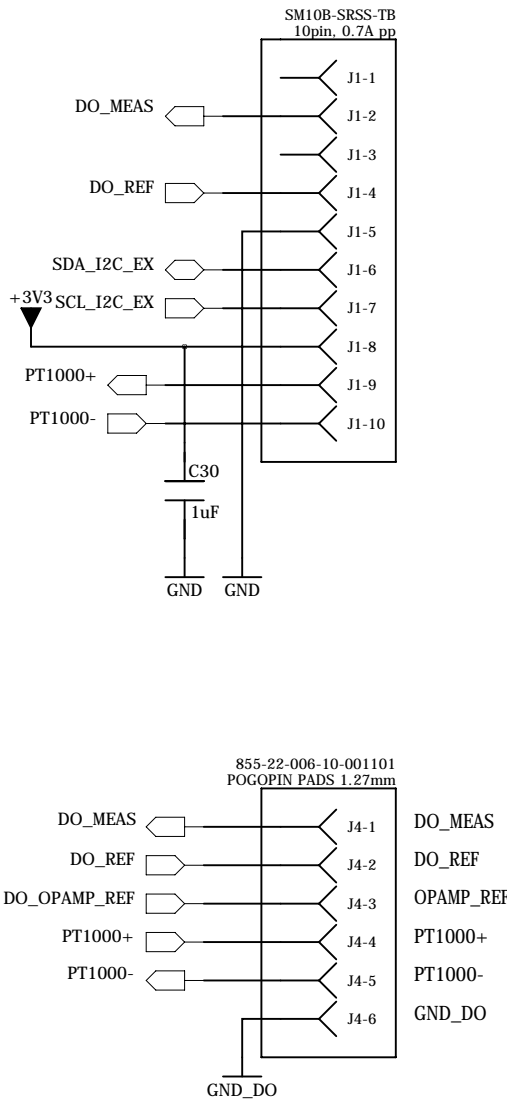
EEram chip



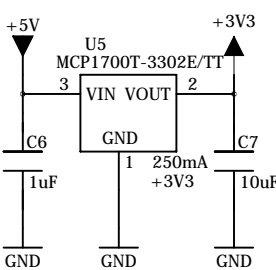
Silicon Serial Number (SSN)



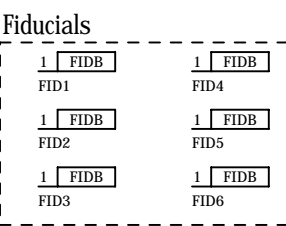
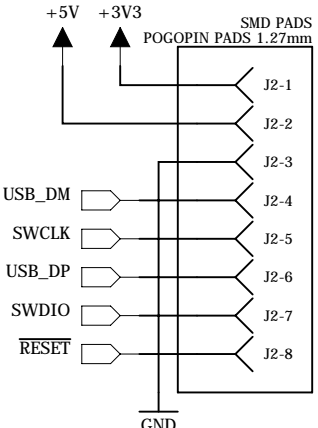
Connectors




+3V3 Low Dropout Regulator (LDO)



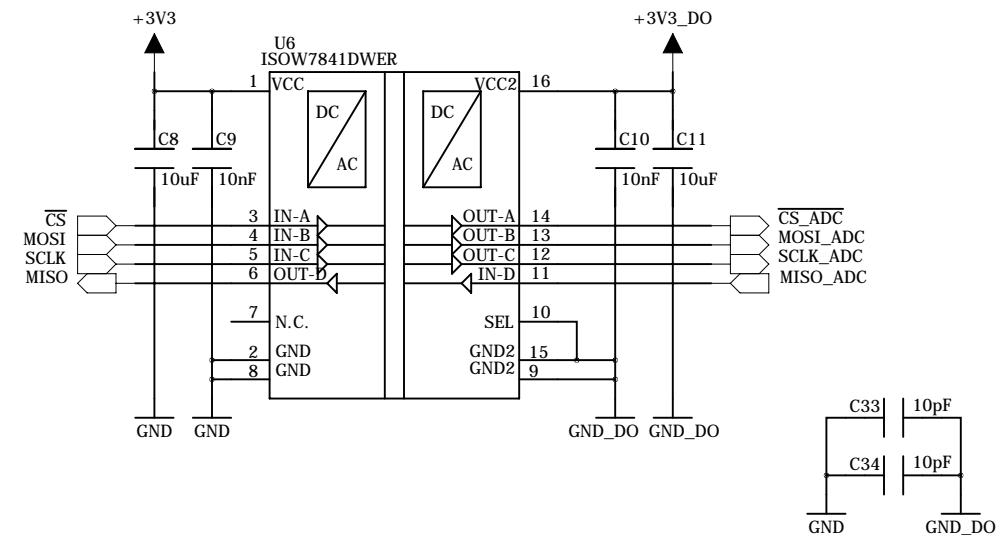
Programming header



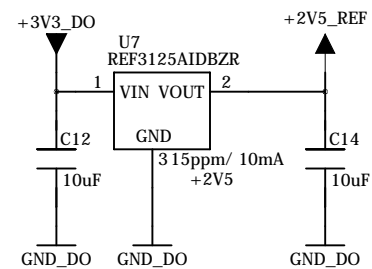
rev. b	TITLE :  1098 SENSORS - SMART DO CABLE PCB				
	PART NBR. :	V1RQ10201	DRAWING NBR. E1098-1b.01.020		
	SCALE :				
	DRAWN :	8 Jul. 2021	JFo		SHEET 2 OF 5
	CHECKED :				
	APPROVED :				
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All Resistors :	N/A
All Capacitors :	N/A

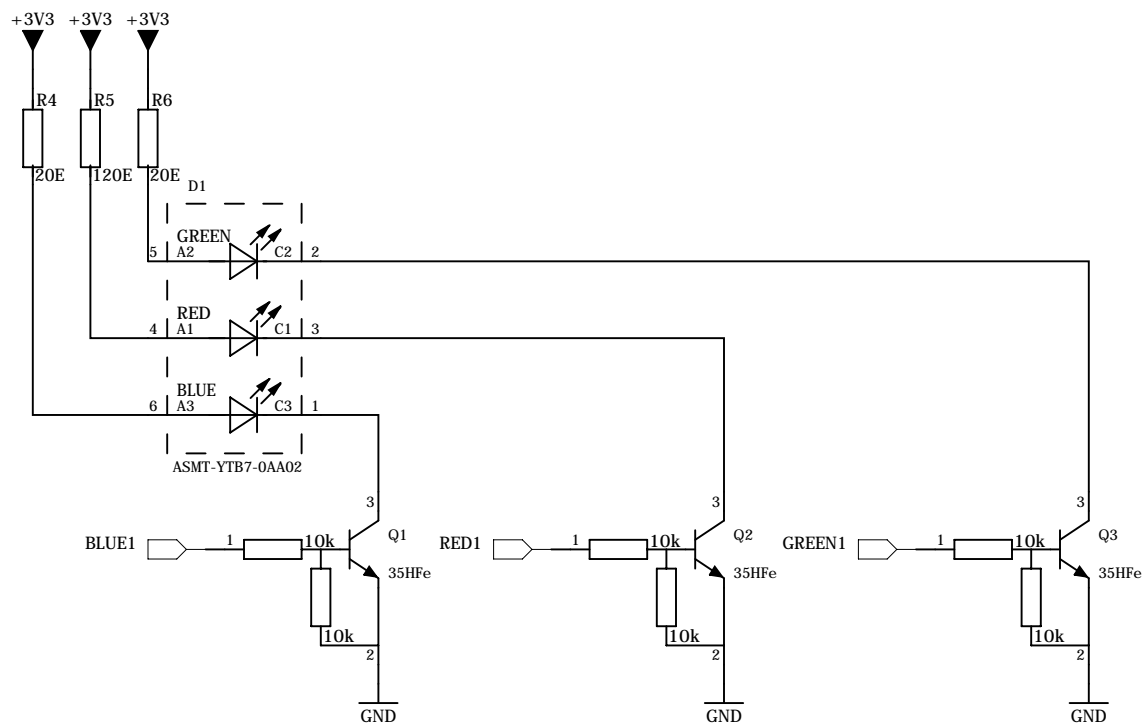
DC/DC converter + digital isolation



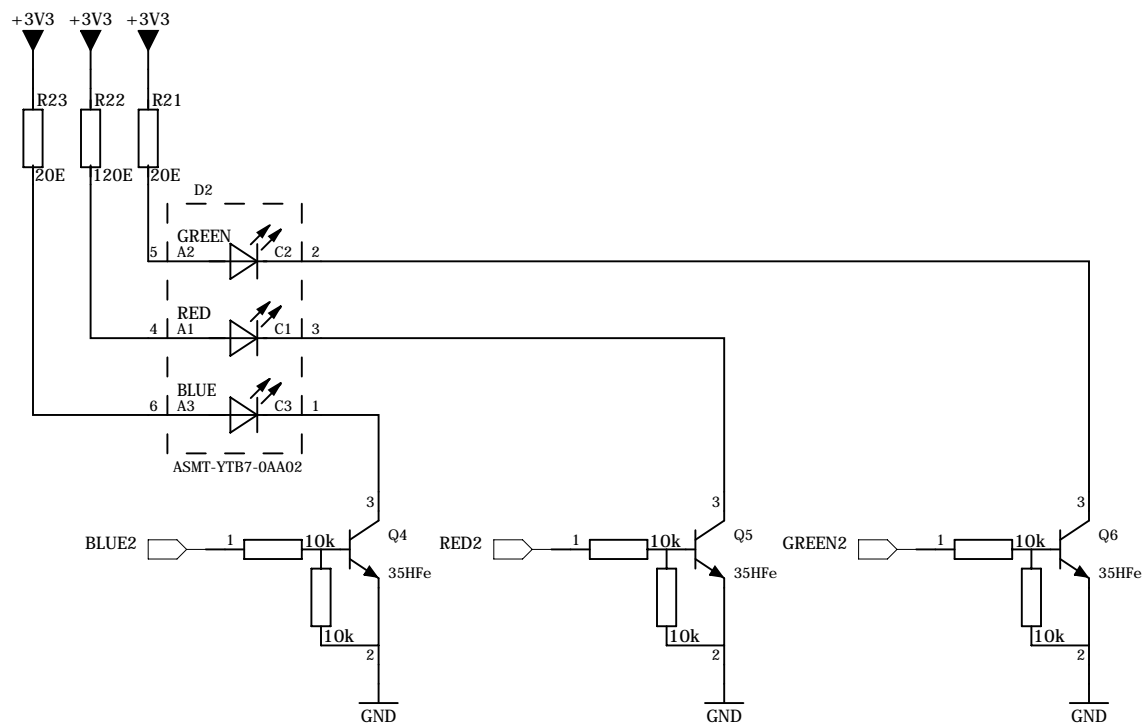
+2V5 precision voltage reference




RGB LED (10mA each)



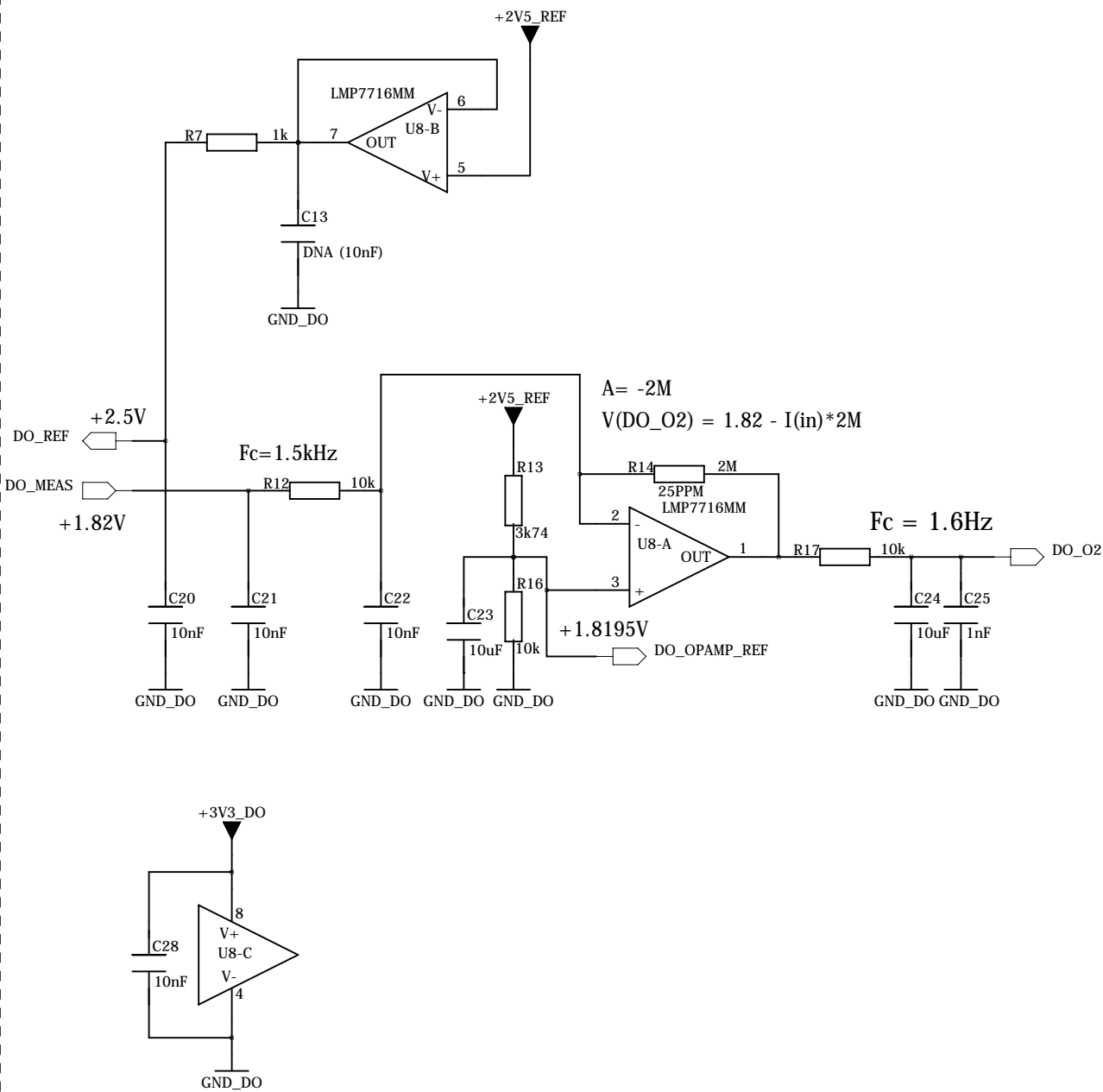
RGB LED (10mA each)



rev. b	TITLE : <div>1098 SENSORS - SMART DO CABLE PCB</div>											
<div></div>			PART NBR. :		V1RQ10201		DRAWING NBR.		E1098-1b.01.020			
			SCALE :									
			DRAWN :		8 Jul. 2021		JFo				SHEET 3 OF 5	
			CHECKED :									
			APPROVED :									
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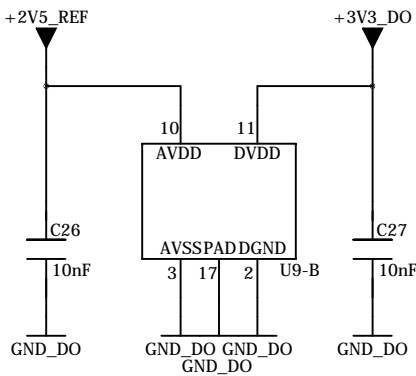
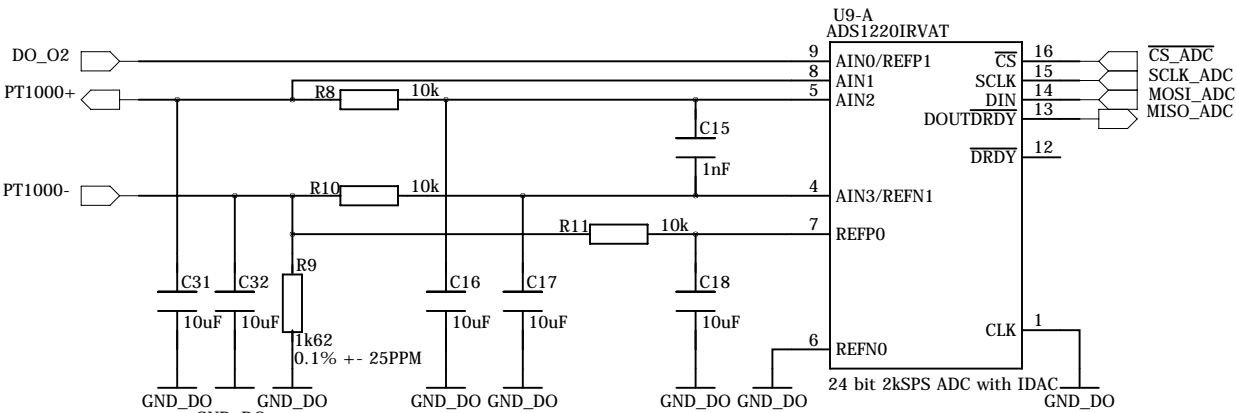
All Resistors :	N/A
All Capacitors :	N/A

DO signal input/amplification stage +reference voltage creation



Analog to Digital Converter (ADC) + temperature measurement

temp range = 0-150C -> 1000-1573.25Ohm  
IDAC -> 1mA, Vref 1.62V  
Internal 2.048V reference for dO value readout  
Temp creates its own "ratio metric" reference voltage by routing the excitation current through R9

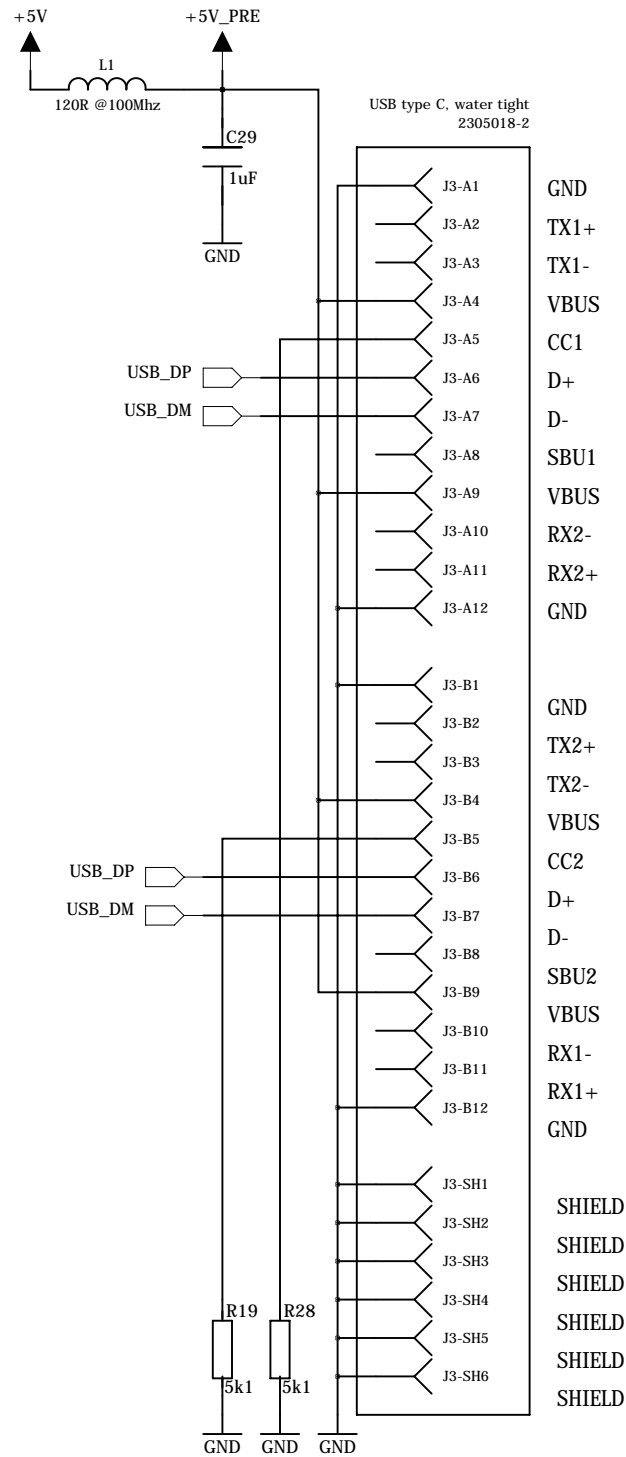
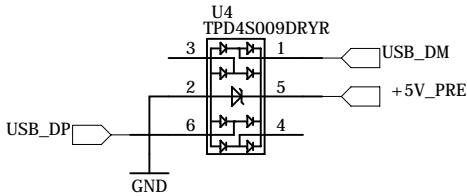



100%o2 = 1Mohm resistance = 0.68uA @0.68Vexcitation  
0.1% step = 0.68nA  
max allowed error (0.1%o2) = 0.68n\*2M= 1.36mV

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		DRAWN :	8 Jul. 2021	JFo	SHEET 4 OF 5
		CHECKED :			
		APPROVED :			
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All Resistors : N/A  
All Capacitors : N/A

USB Electro-Static Discharge (ESD) protection



rev. b	TITLE : 1098 SENSORS - SMART DO CABLE PCB				
		PART NBR. :	V1RQ10201	DRAWING NBR. E1098-1b.01.020	
		SCALE :			
		DRAWN :	8 Jul. 2021	JFo	SHEET 5 OF 5
		CHECKED :			
		APPROVED :			
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All Resistors :	N/A
All Capacitors :	N/A