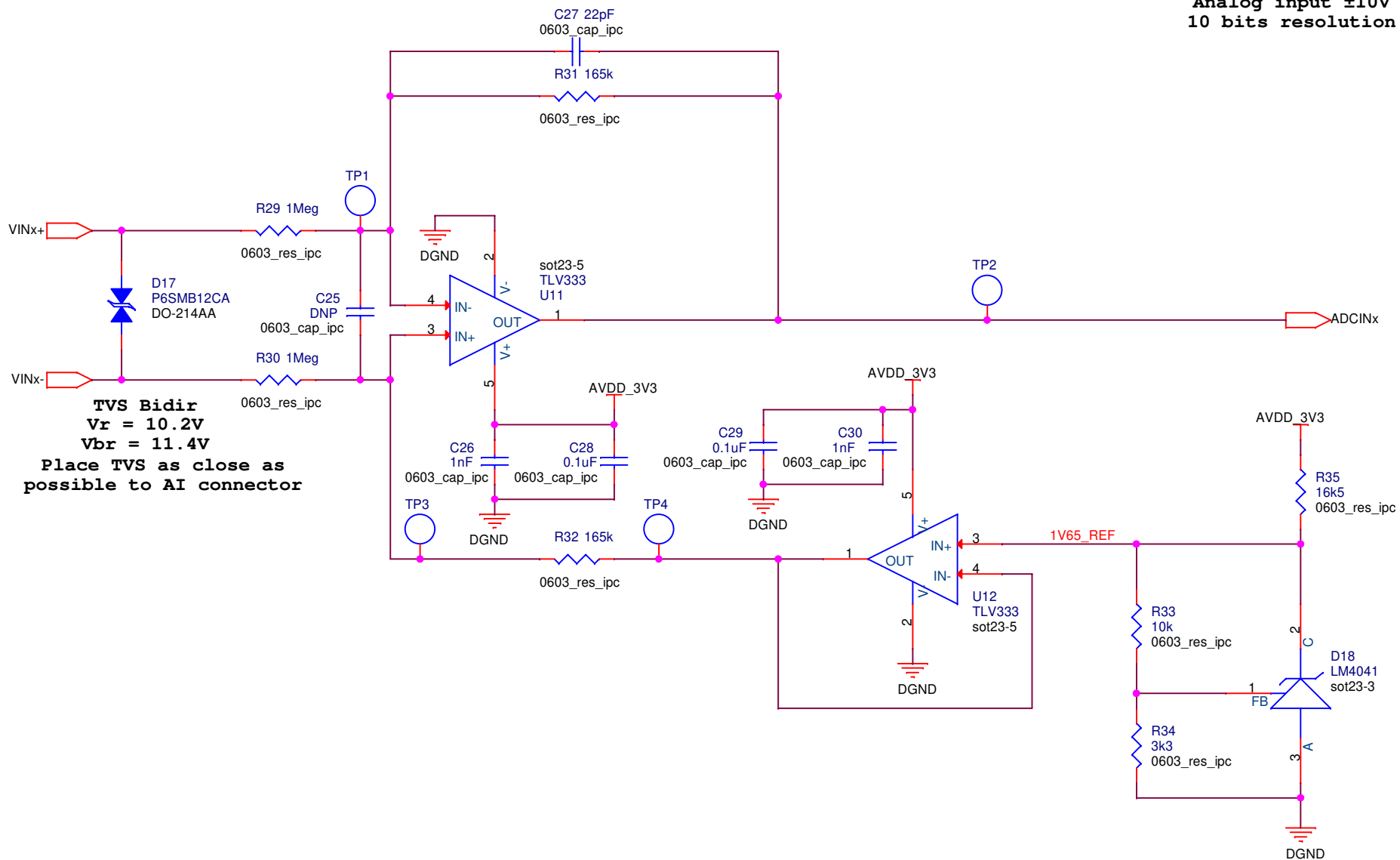


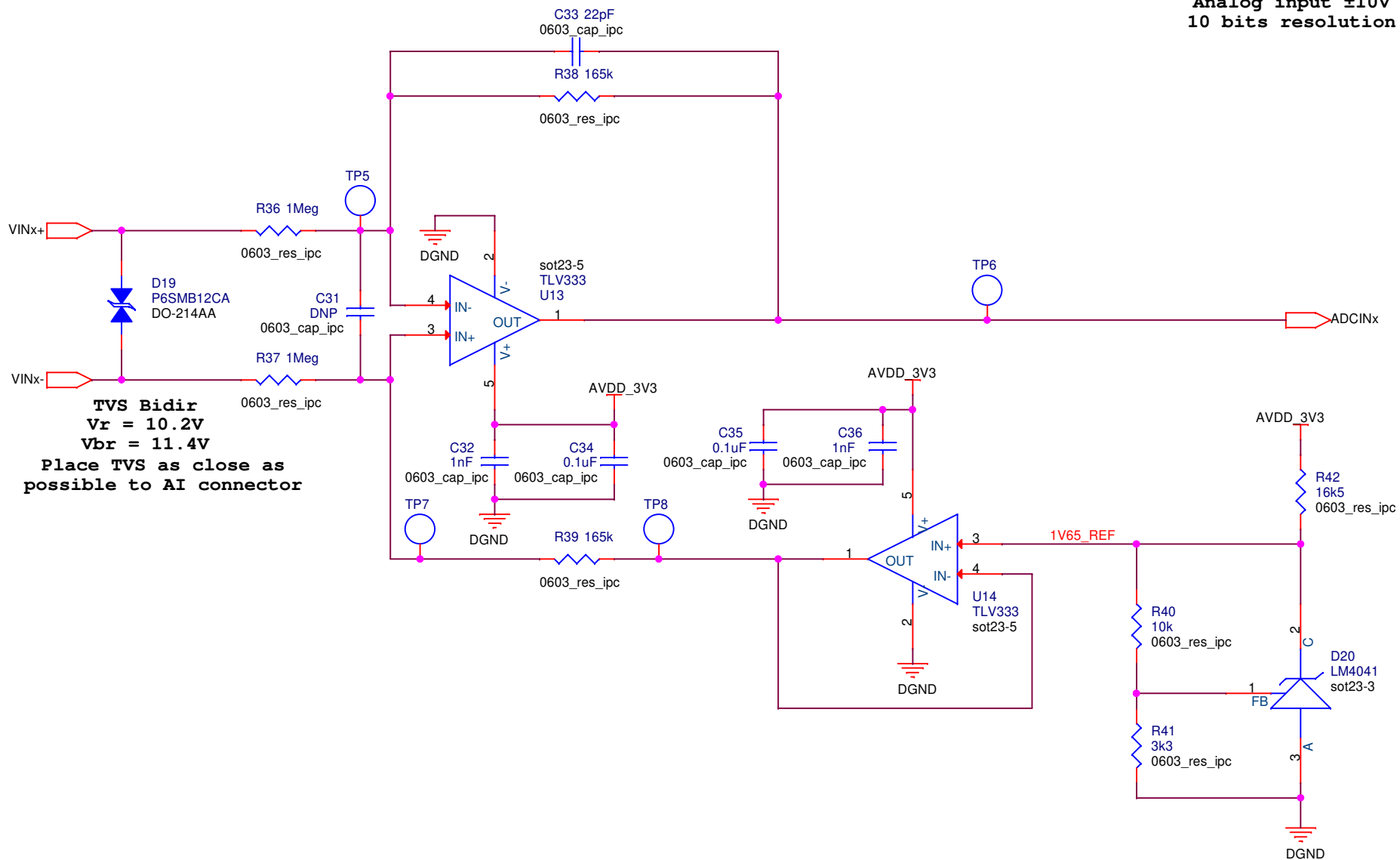
Analog input  $\pm 10V$   
10 bits resolution



Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Analog input $\pm 10V$		
Size A	Document Number <Doc>	Rev 0A
Date: Saturday, January 09, 2021	Sheet 2 of 21	

Analog input  $\pm 10V$   
10 bits resolution



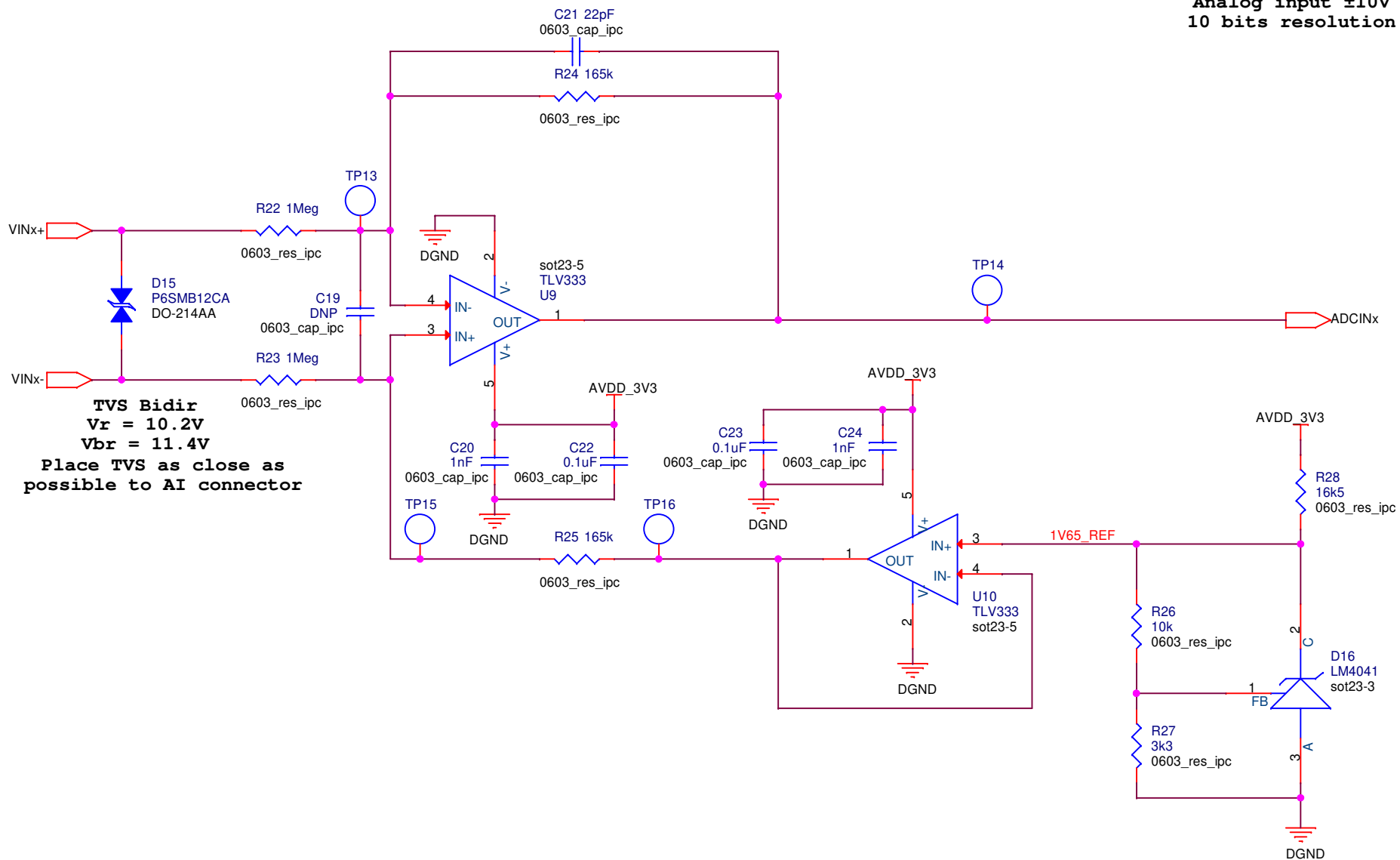
**TVS Bidir**  
**V<sub>r</sub> = 10.2V**  
**V<sub>br</sub> = 11.4V**  
**Place TVS as close as possible to AI connector**

-----  
**Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted**  
**Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted**

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Analog input $\pm 10V$		
Size A	Document Number <Doc>	Rev 0A
Date: Saturday, January 09, 2021	Sheet 3 of 21	



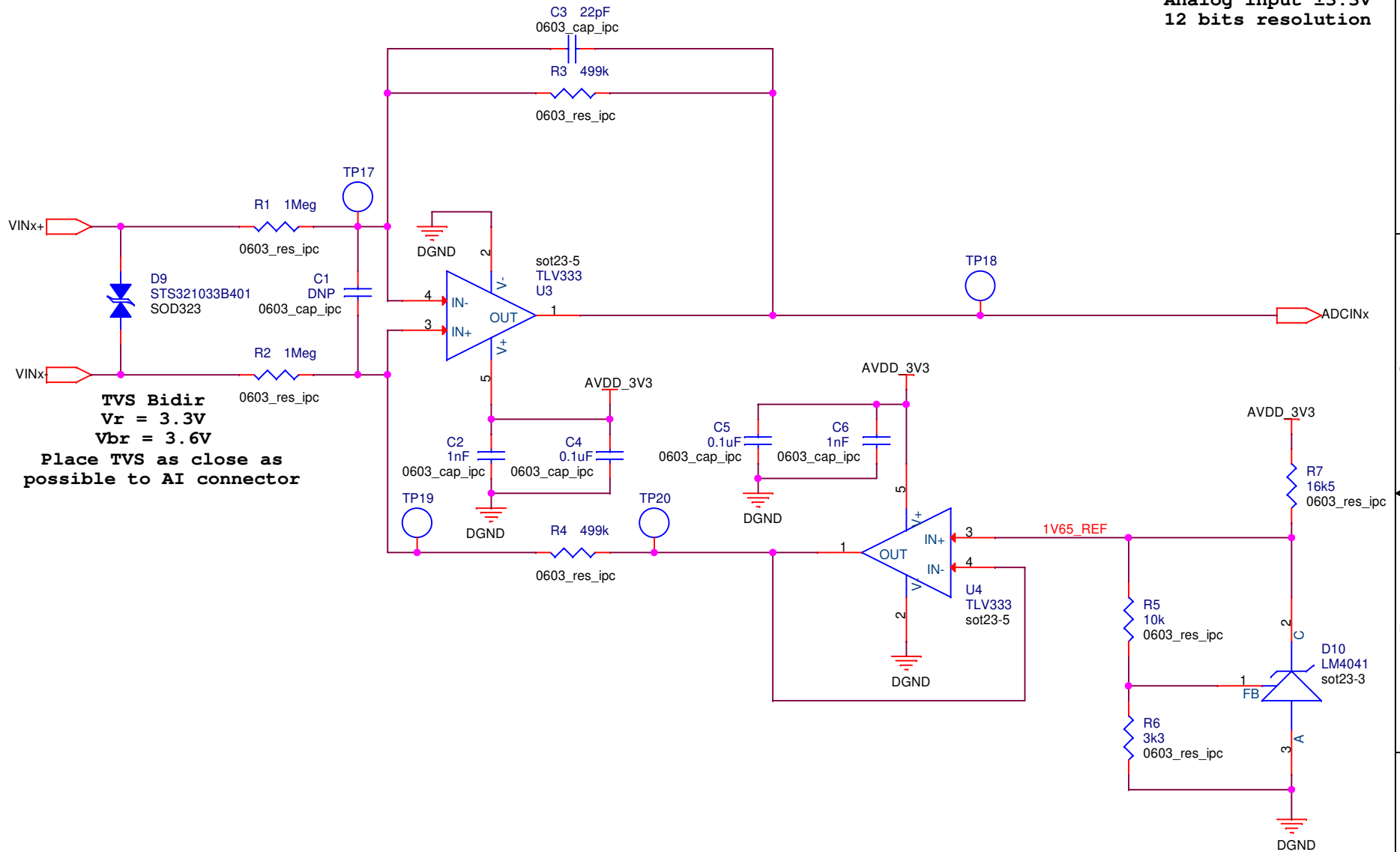
Analog input  $\pm 10V$   
10 bits resolution



Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Analog input $\pm 10V$		
Size A	Document Number <Doc>	Rev 0A
Date: Saturday, January 09, 2021	Sheet 5	of 21

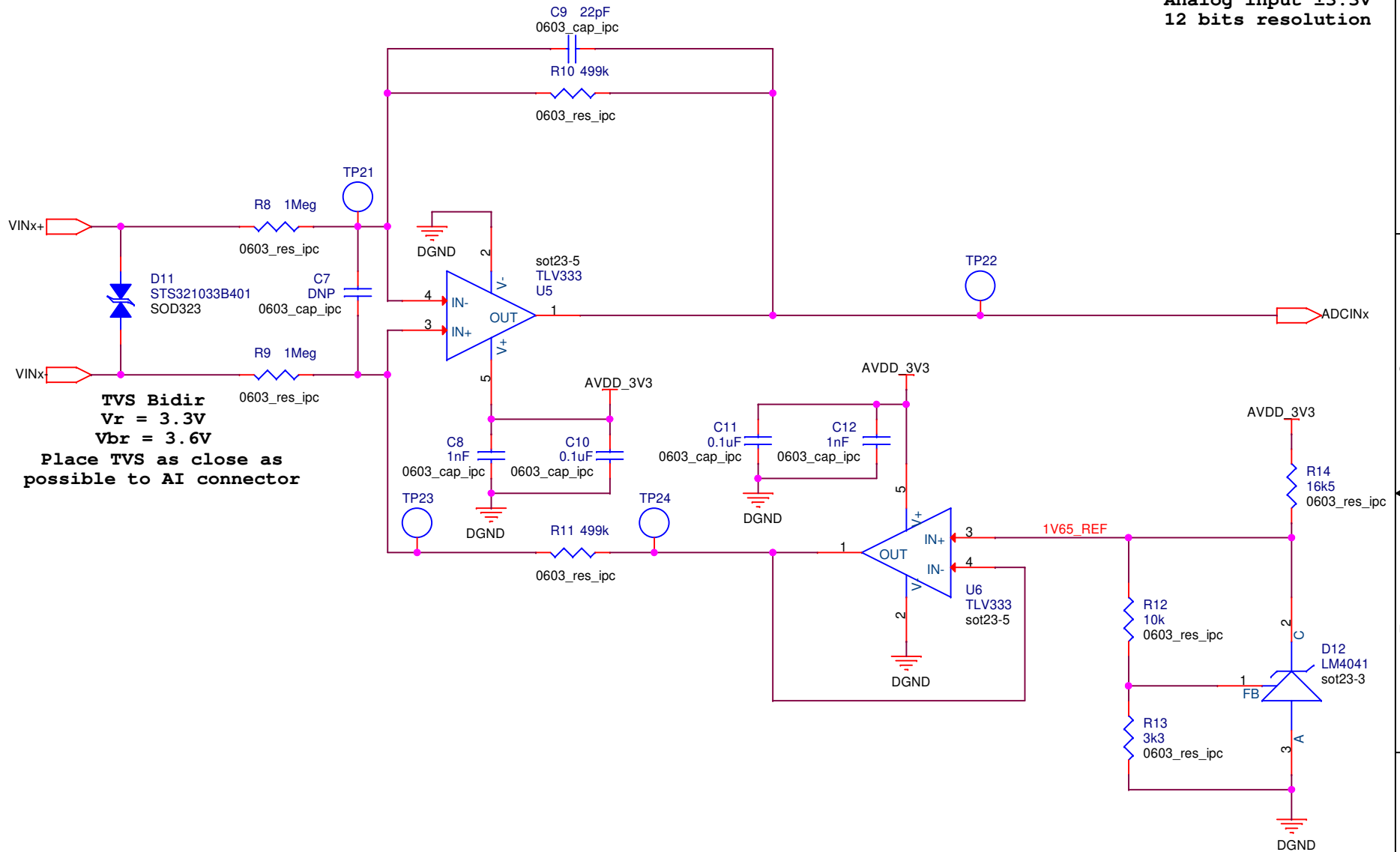
Analog input  $\pm 3.3V$   
12 bits resolution



Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Analog input $\pm 3V3$		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 6 of 21

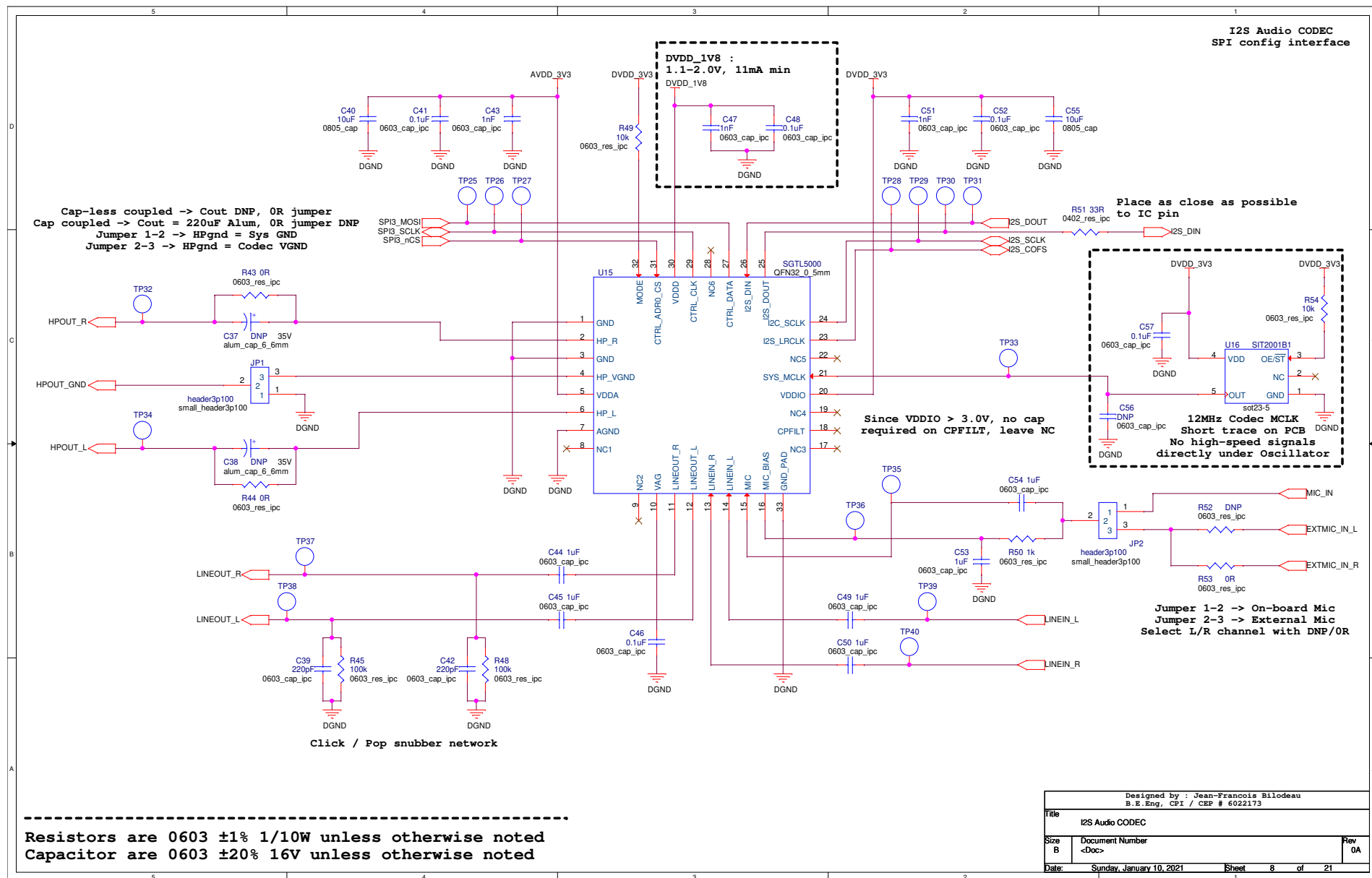
Analog input  $\pm 3.3V$   
12 bits resolution



**TVS Bidir**  
**Vr = 3.3V**  
**Vbr = 3.6V**  
**Place TVS as close as possible to AI connector**

-----  
**Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted**  
**Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted**

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Analog input $\pm 3V3$		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 7 of 21





**CAN bus interface**  
**CAN 2.0B support**  
**Max bitrate 550kbps**

DVDD\_3V3

C58 10uF 0805\_cap

C59 0.1uF 0603\_cap\_ipc

DGND

TP41

CAN\_TX

TP42

CAN\_RX

33R R55 0402\_res\_ipc

DGND

TP92

CAN\_LBK

LPBK

U17 SN65HVD233 soic-8

1 D

2 GND

3 VCC

4 R

5 RS

6 CANH

7 CANL

8 LBK

9 LPBK

R56 10k 0603\_res\_ipc

DGND

D21 SZNUP2105LT1G sot23-3

DGND

Place TVS as close as possible to the CAN driver

TP90

R57 DNP 0603\_res\_ipc

L1 ACT45B-220

TP91

R58 DNP 0603\_res\_ipc

R59 60R0 0805\_res\_ipc

R60 60R0 0805\_res\_ipc

C60 4.7nF 0603\_cap\_ipc

DGND

Fc = 564kHz

D22 SZNUP2105LT1G sot23-3

DGND

Place TVS as close as possible to the CAN connector

CANH

CANL

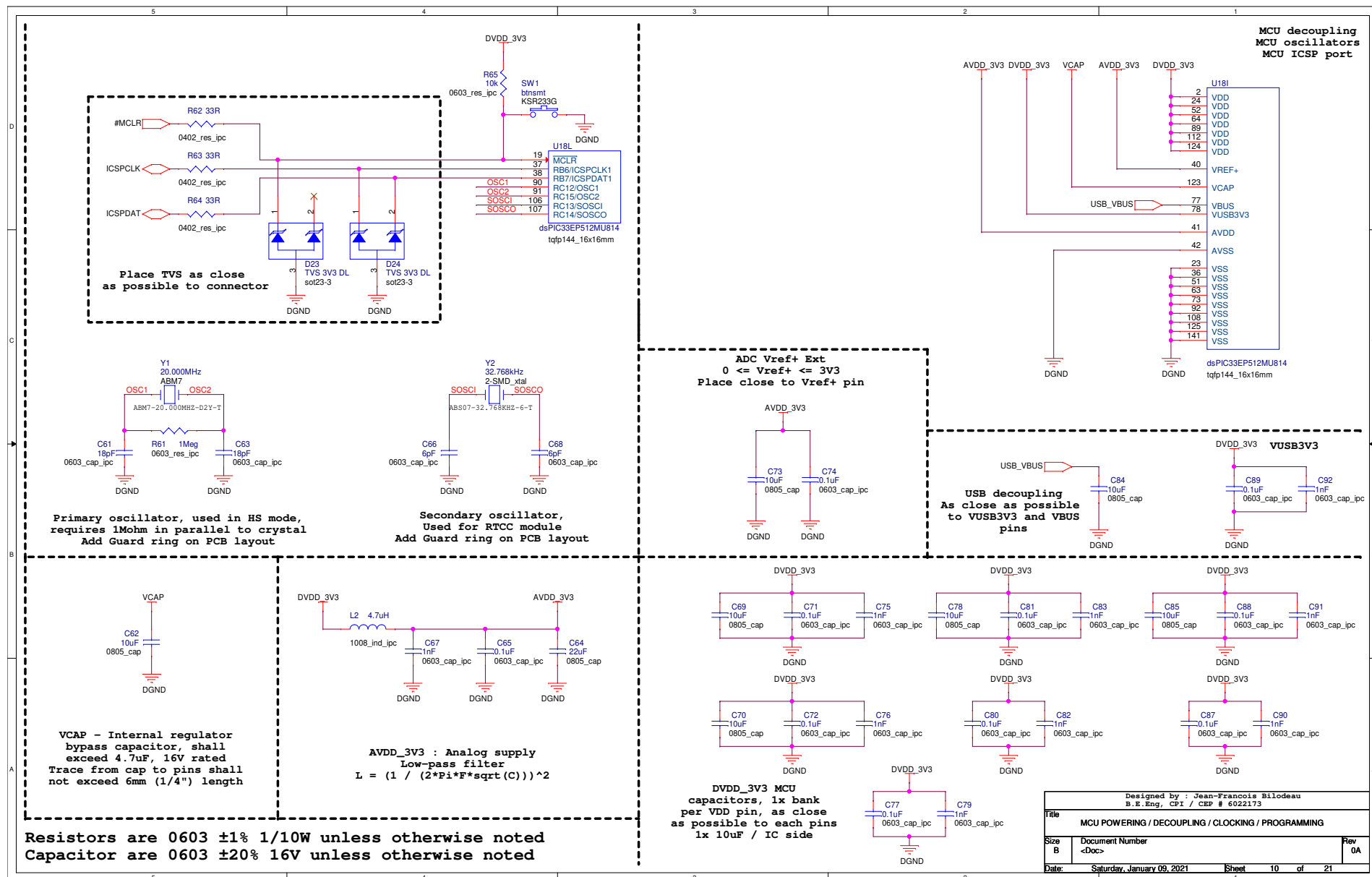
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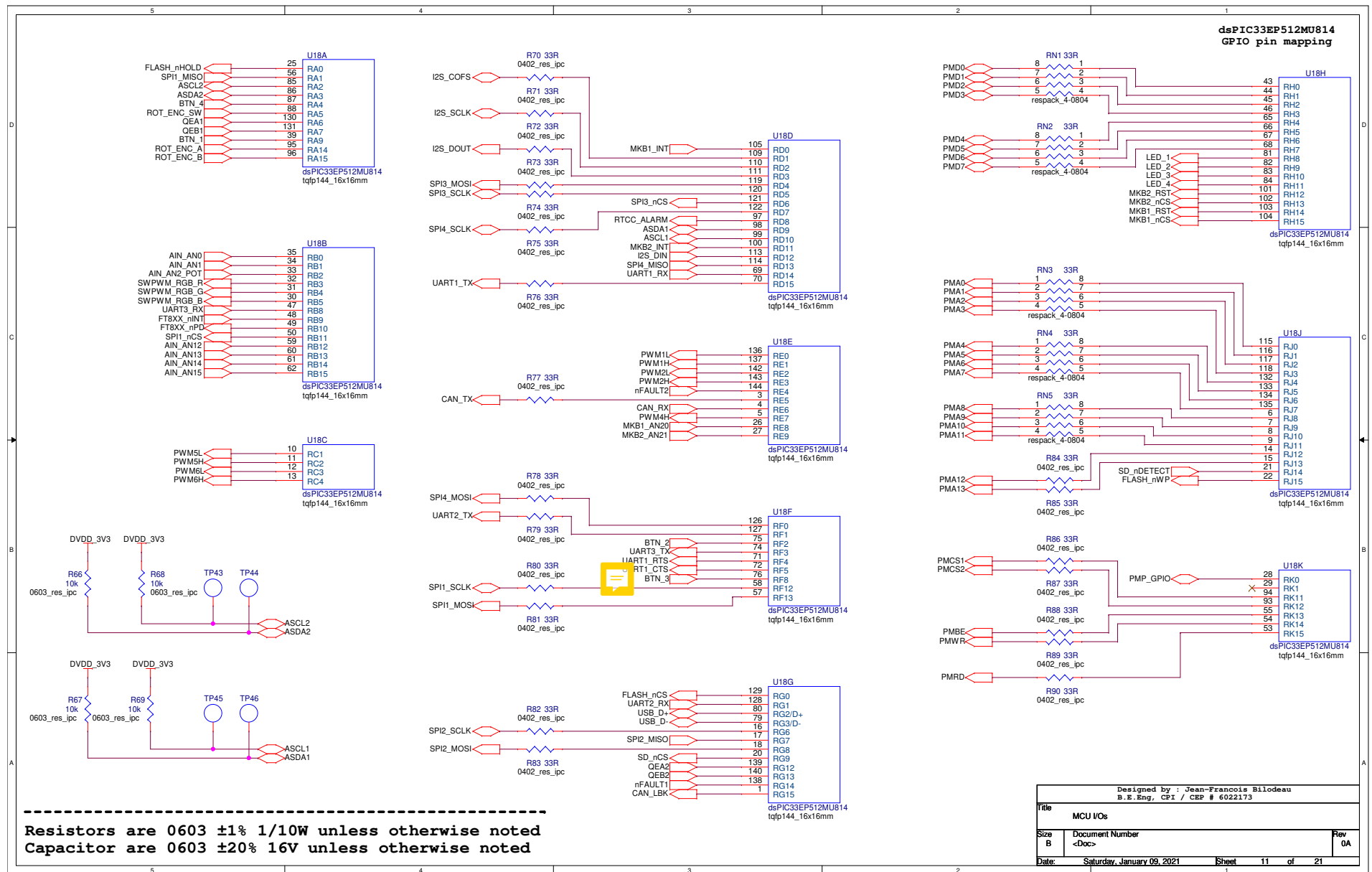
Resistors are 0603 ±1% 1/10W unless otherwise noted

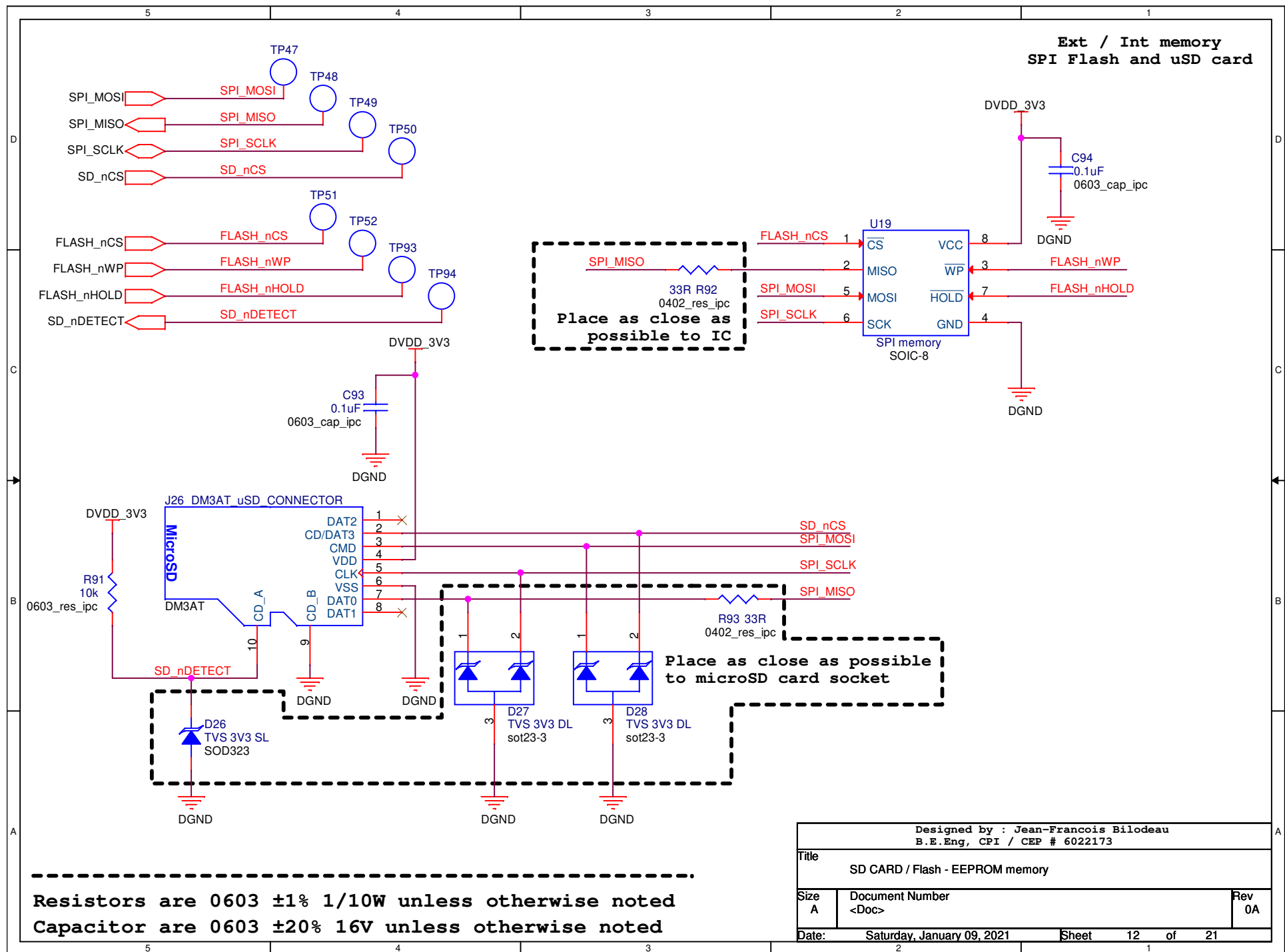
Capacitor are 0603 ±20% 16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title CAN bus interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 9 of 21

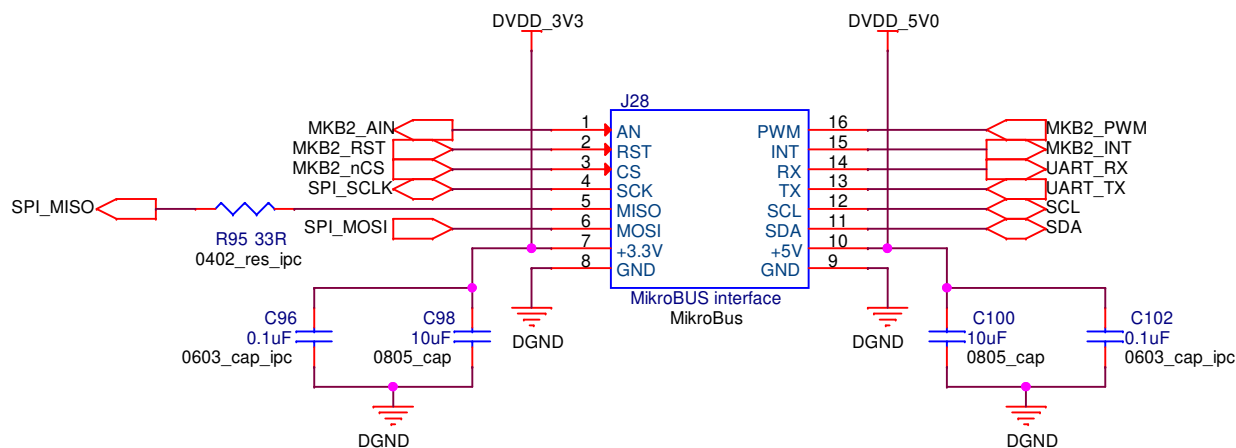
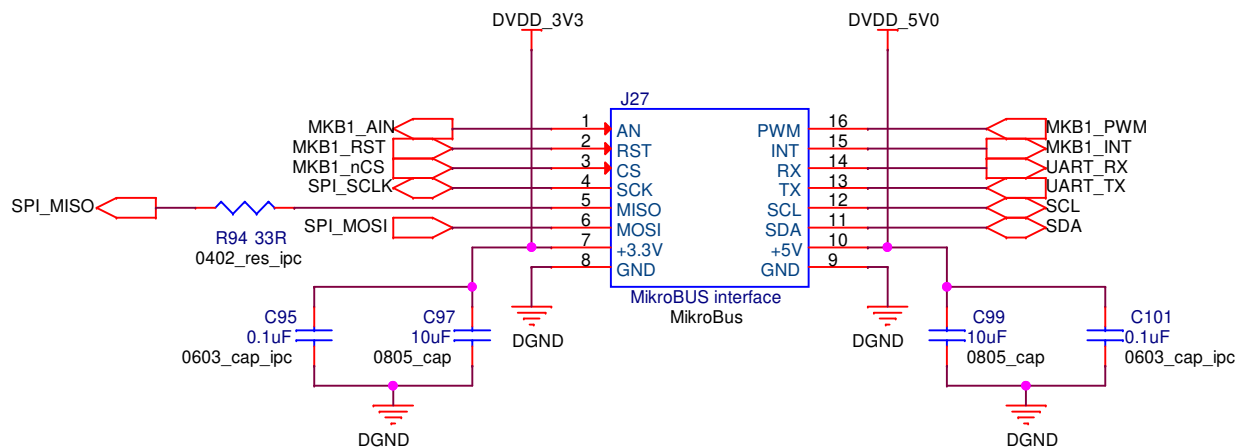
Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173			
Title CAN bus interface			
Size A	Document Number <Doc>		Rev 0A
Date:	Saturday, January 09, 2021	Sheet 9 of 21	







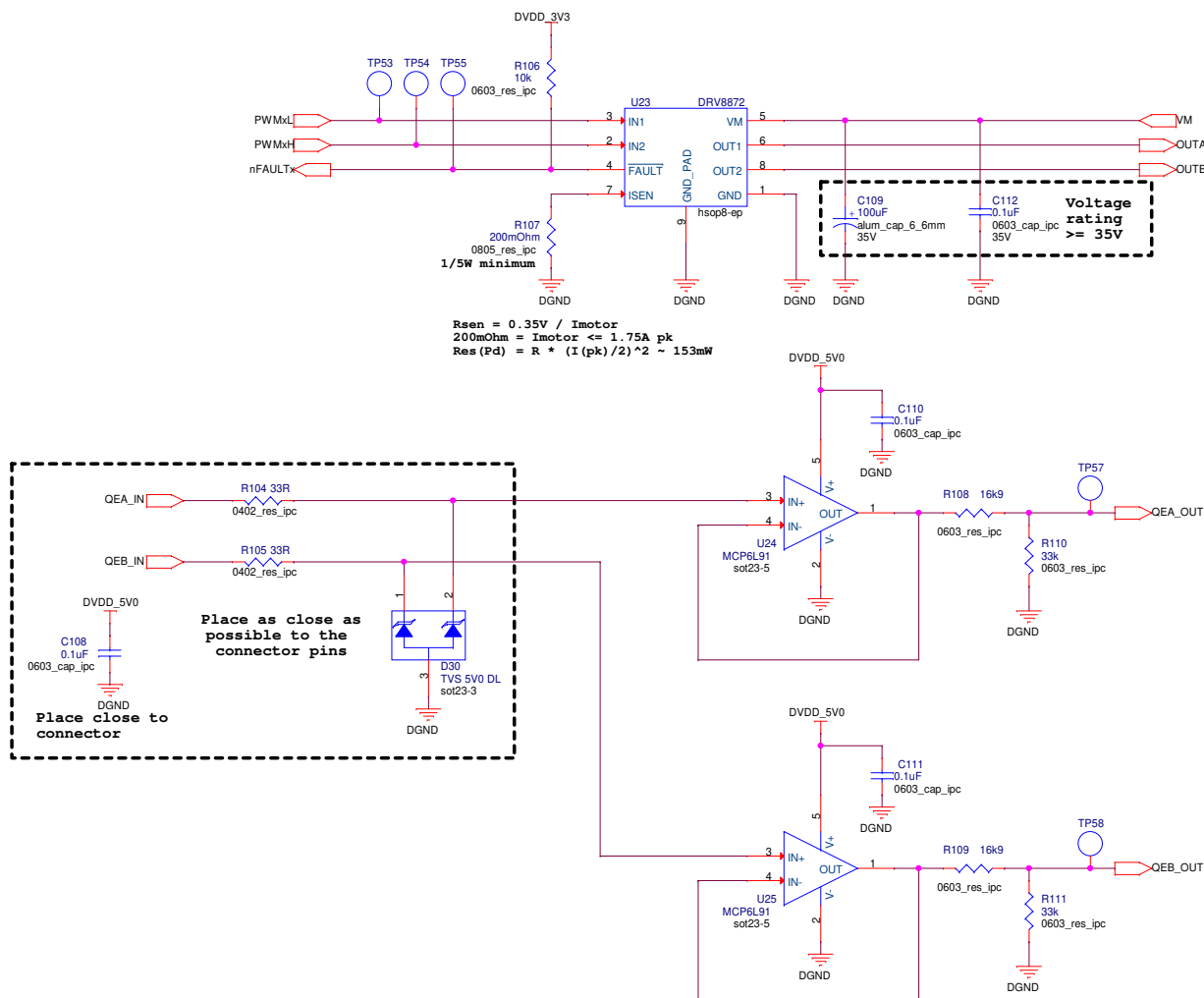
**MikroBus port**  
**Click Board compatible**  
**General purpose I/Os**



-----  
**Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted**  
**Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted**

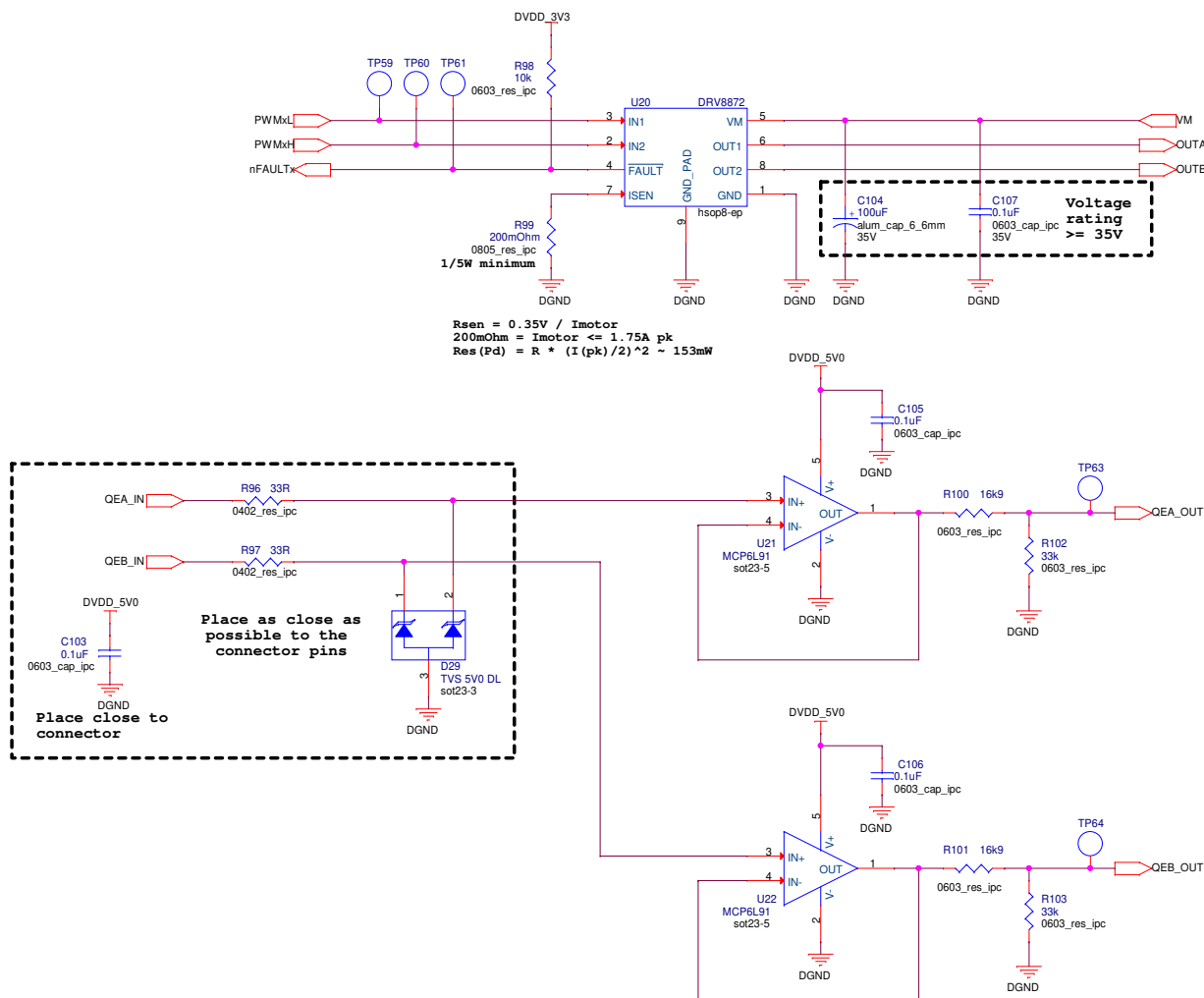
Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title MikroBUS interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 13 of 21

Brushed DC motor driver  
QEI encoder feedback

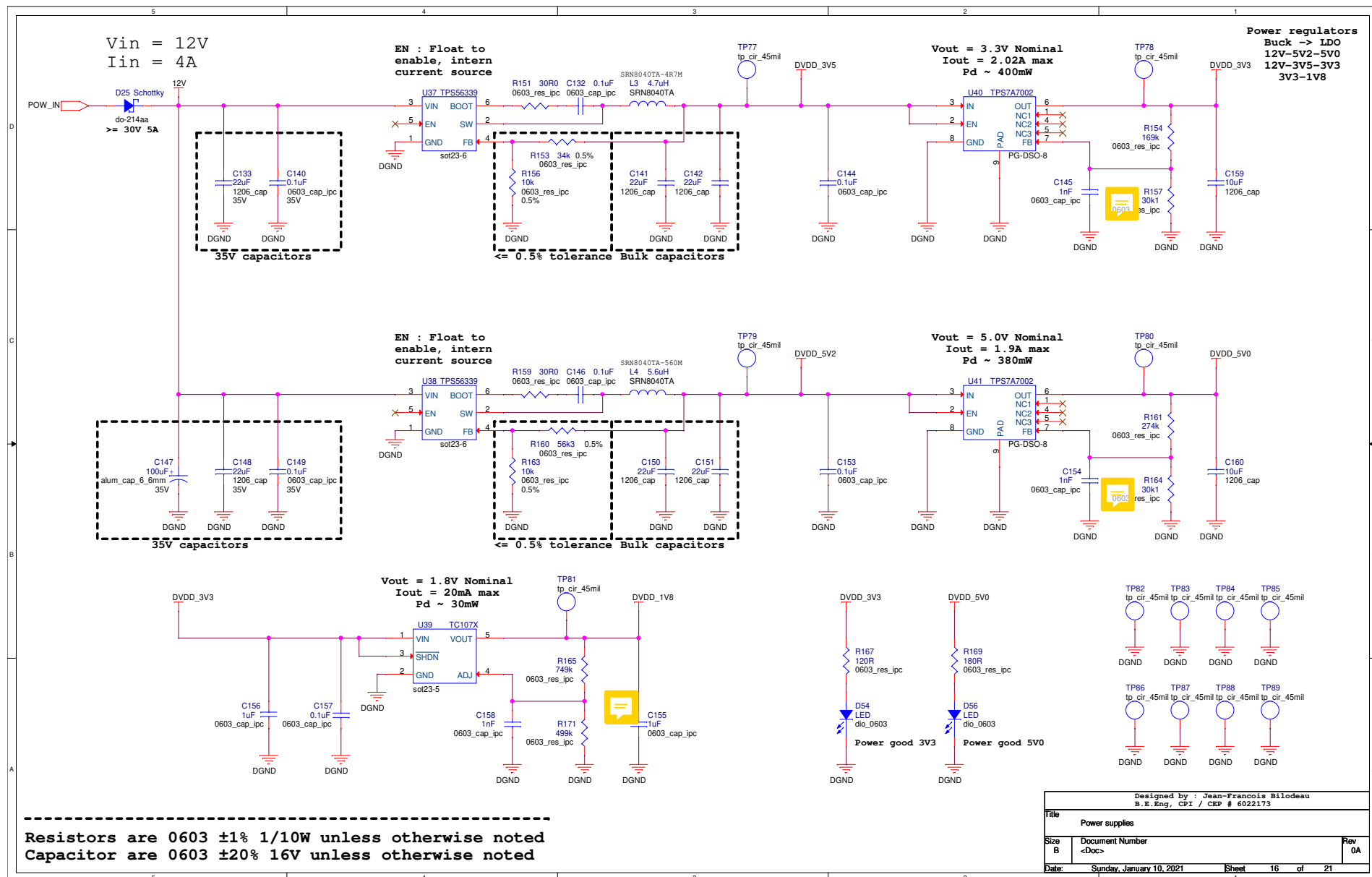


Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title H-Bridge motor driver with encoder feedback		
Size B	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 14 of 21

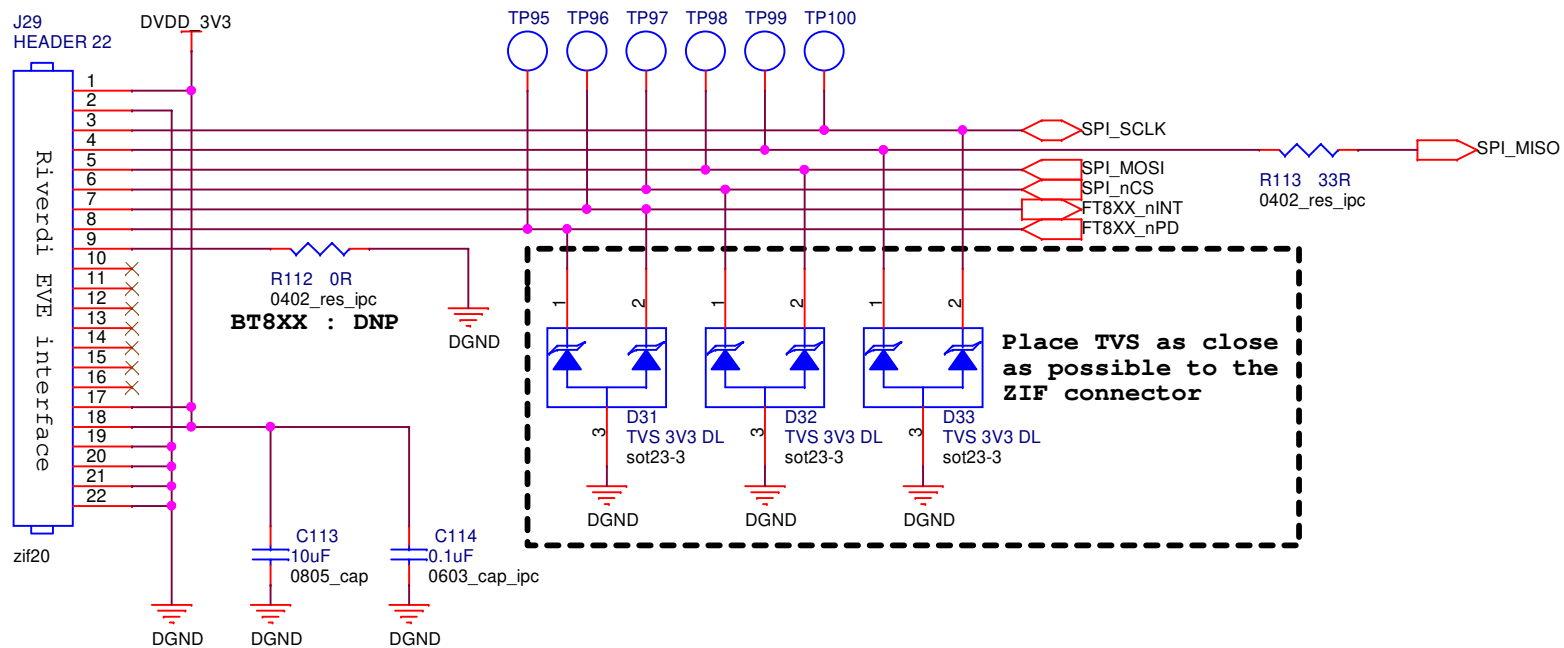


Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title H-Bridge motor driver with encoder feedback		
Size B	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 15 of 21





**Riverdi EVE TFT  
Interface with FT/BT8xx**



Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title Riverdi EVE LCD interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 17 of 21

RS485 bus interface  
Max bitrate 550kbps

As close as possible to IC pin

UART1\_RX

DVDD\_3V3

33R R114  
0402\_res\_ipc

C115  
0.1uF  
0603\_cap\_ipc

DGND

UART1\_RTS

UART1\_CTS

TP65

TP66

TP67

DGND

U26  
SN74LVC1G14  
sot23-5

VCC

GND

NC

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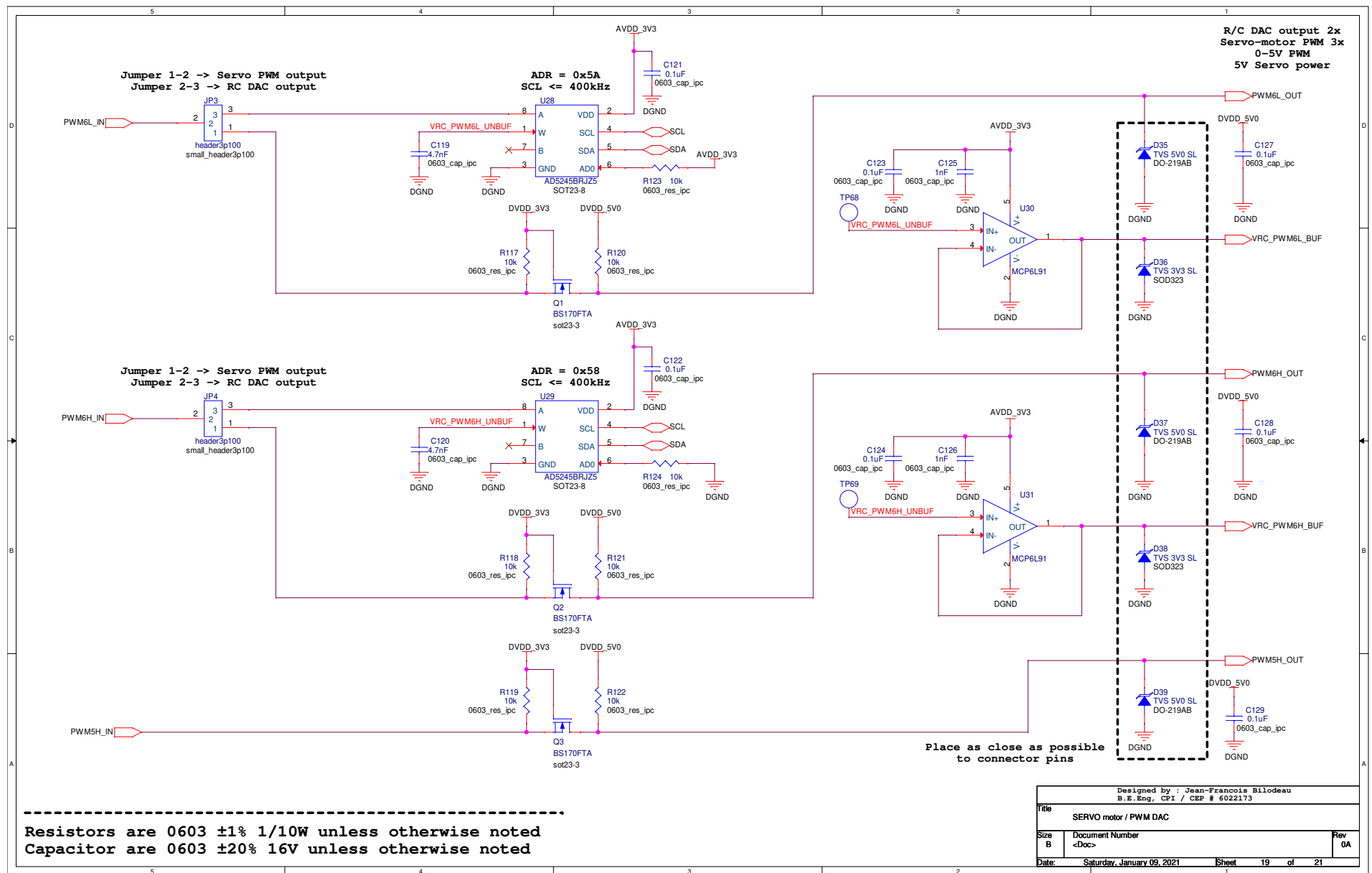
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Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173			A
Title RS485 bus interface			
Size A	Document Number <Doc>	Rev 0A	
Date:	Saturday, January 09, 2021	Sheet 18 of 21	



**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

**USB-UART Converter  
SW debug interface**

Resistors are 0603  $\pm 1\%$  1/10W unless otherwise noted  
Capacitor are 0603  $\pm 20\%$  16V unless otherwise noted

Designed by : Jean-Francois Bilodeau B.E.Eng, CPI / CEP # 6022173		
Title USB-UART debug interface		
Size A	Document Number <Doc>	Rev 0A
Date:	Saturday, January 09, 2021	Sheet 20 of 21

