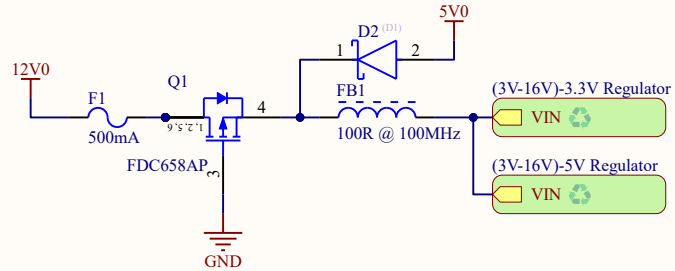
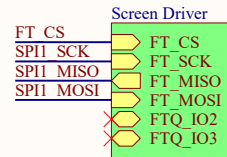


Steering Wheel Schematic

Power Input



Graphics Driver (FT810)

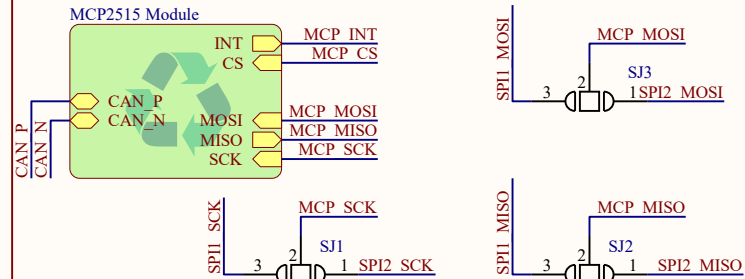


The two extra pins here are for Quad SPI, can be used in the future if there's a reason to

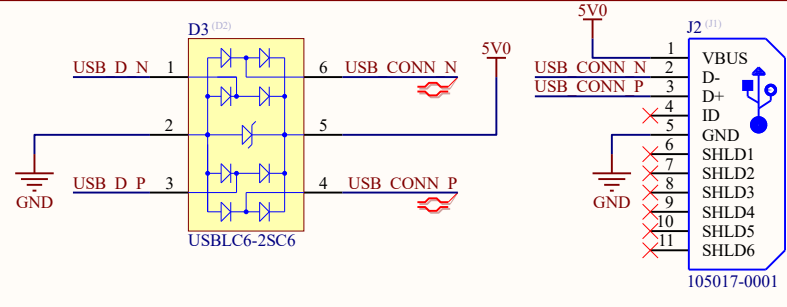
Notes:
Look at fuse size
Look at backlight inductor size

CAN Bus Module

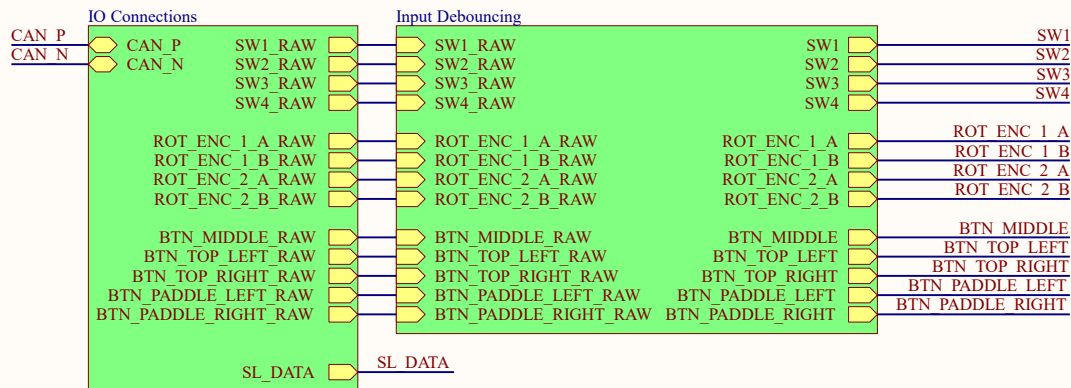
Solder Jumpers are here for prototyping. Update schematic once we know which options work



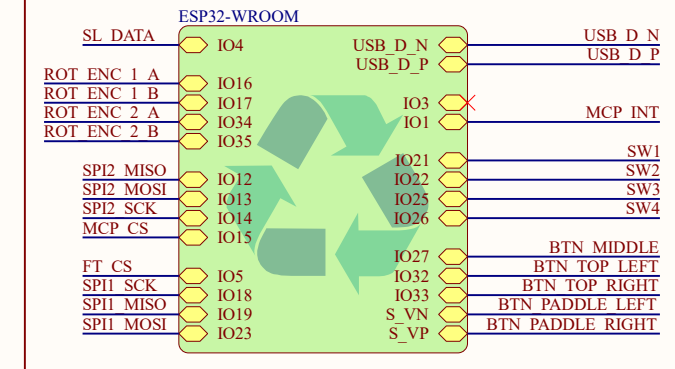
USB Connection/Protection



IO and Debouncing



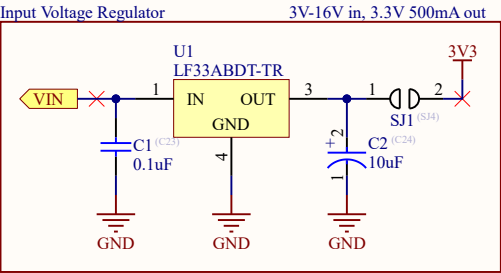
Microcontroller



Title			
Size	Number		Revision
A4			
Date:	10-04-2020		Sheet of
File:	C:\Users\...\Steering Wheel.SchDoc		Drawn By:

Voltage Regulator

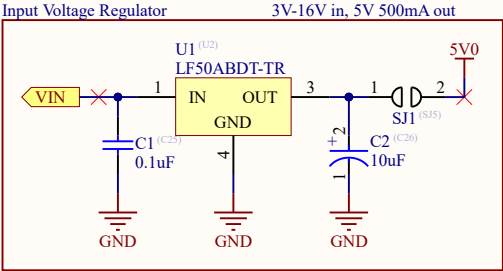
3V-16V in, 3.3V 500mA out



Title		
Size A4	Number	Revision
Date:	10-04-2020	Sheet of
File:	C:\Users\...\(3V-16V)-3.3V Regulator.Sch	Drawn By:

Voltage Regulator

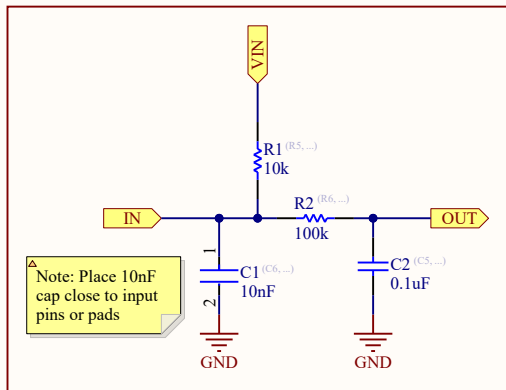
3V-16V in, 5V 500mA out



Title		
Size A4	Number	Revision
Date:	10-04-2020	Sheet of
File:	C:\Users\...\(3V-16V)-5V Regulator.SchDocDrawn By:	

Hardware Debounce Circuit

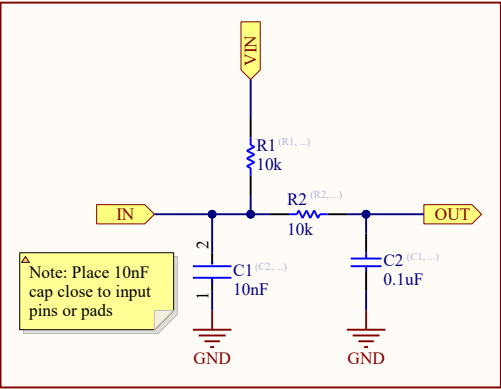
10ms Debouncing



Title		
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Date:	10-04-2020	Sheet of
File:	C:\Users\...\10ms Debouncer.SchDoc	Drawn By:

Hardware Debounce Circuit

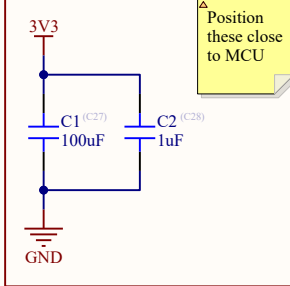
1ms Debouncing



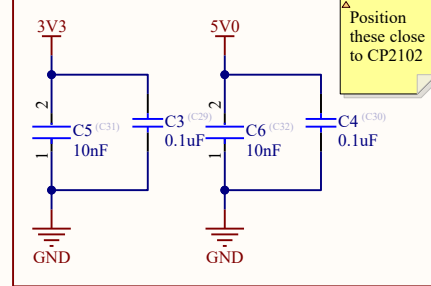
Title		
Size A4	Number	Revision
Date:	10-04-2020	Sheet of
File:	C:\Users\...\1ms Debouncer.SchDoc	Drawn By:

ESP32-WROOM 32U Implementation

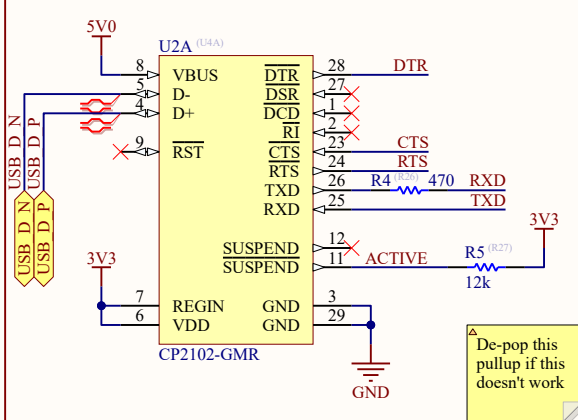
Input Decoupling



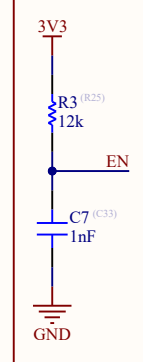
USB UART Input Decoupling



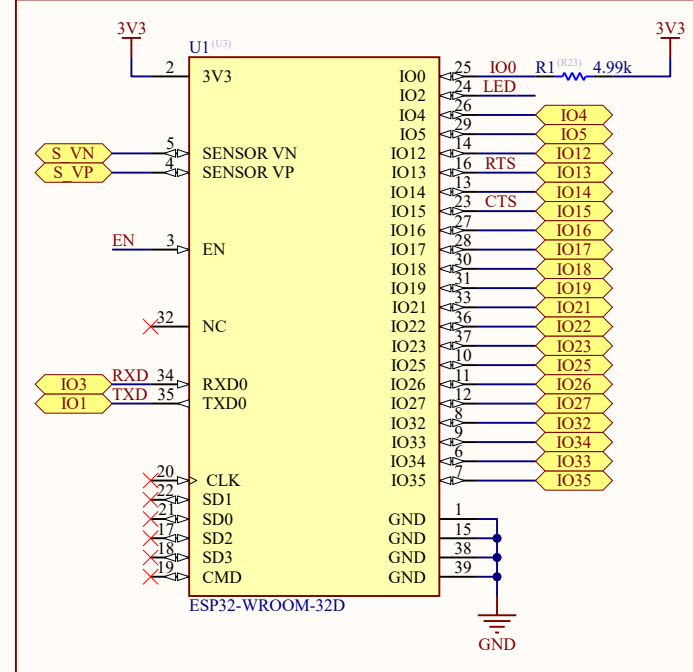
USB to UART Chip



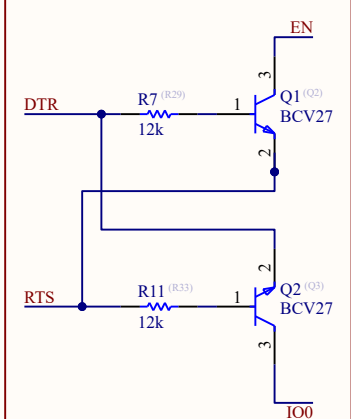
Enable Logic



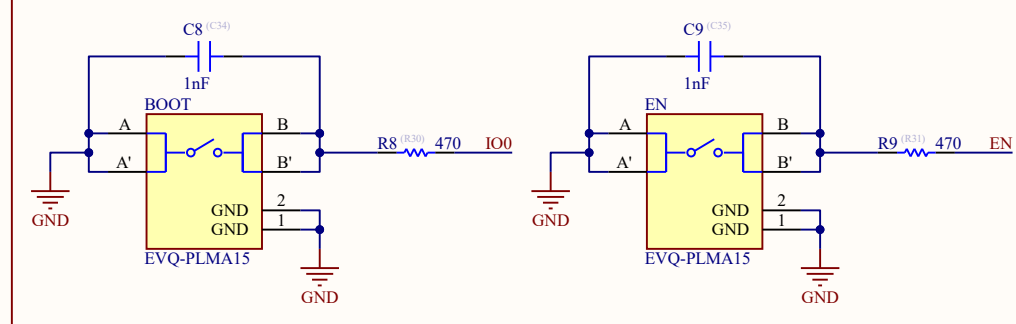
ESP32-WROOM-32D



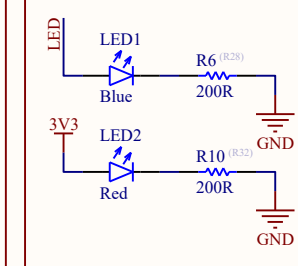
Programming Logic



Buttons



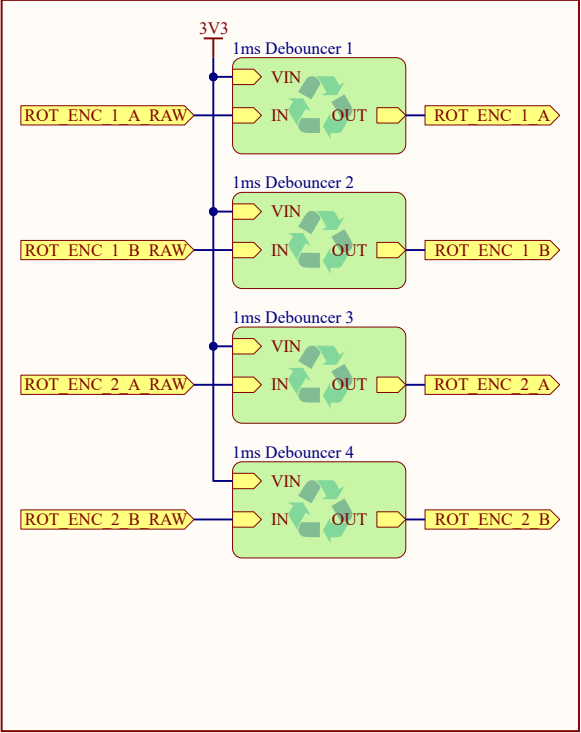
LEDs



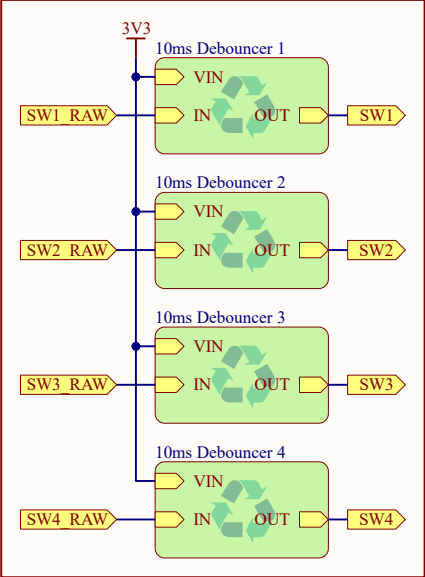
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Date:	10-04-2020	Sheet of
File:	C:\Users\...\ESP32-WROOM.SchDoc	Drawn By:

Input Debouncing

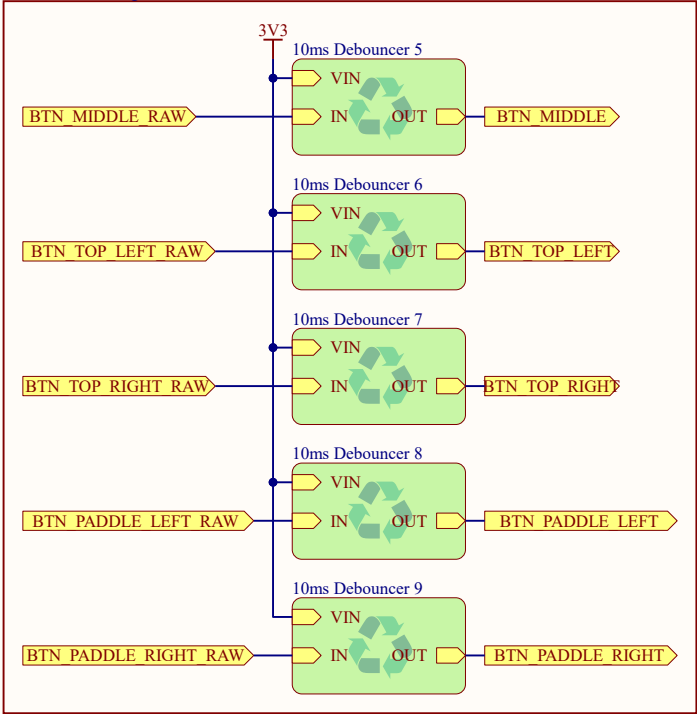
Rotary Encoder Debouncing



Switch Debouncing



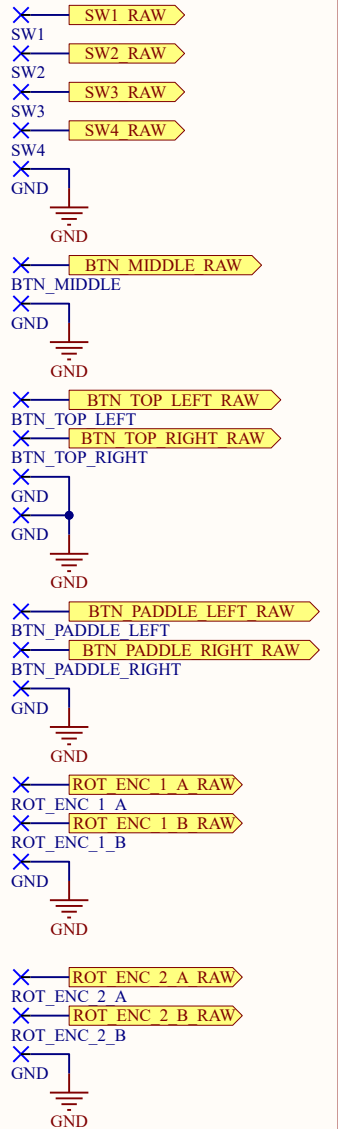
Button Debouncing



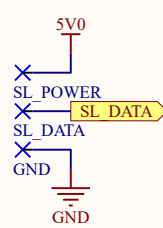
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Size A4	Number	Revision
Date:	10-04-2020	Sheet of
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I/O Connections

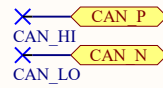
Digital Inputs (Pullup)



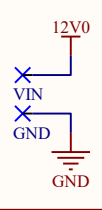
Shift Light Connections



CAN Bus



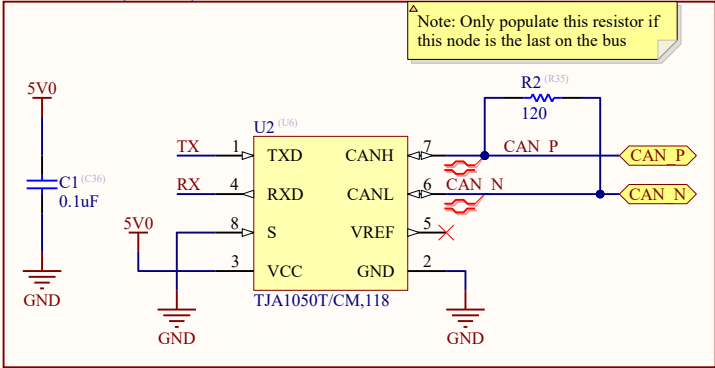
Power Inputs



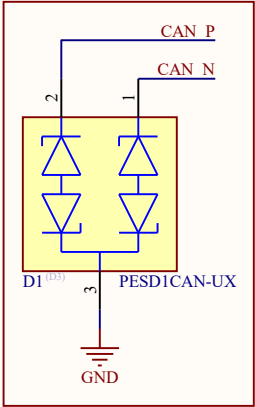
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Size A4	Number	Revision
Date:	10-04-2020	Sheet of
File:	C:\Users\...IO Connections.SchDoc	Drawn By:

MCP2515 Implementation

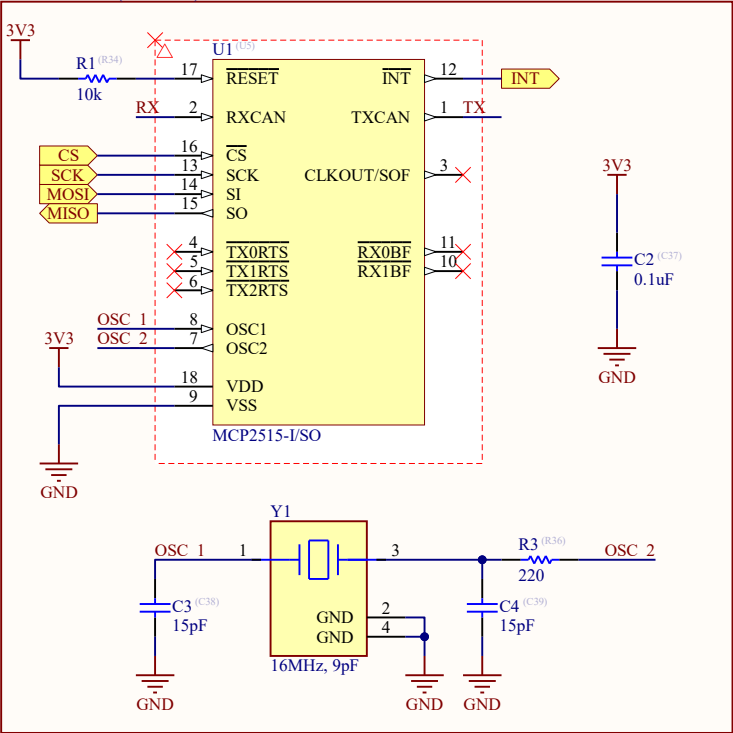
Can Transceiver (TJA1050)



ESD Protection



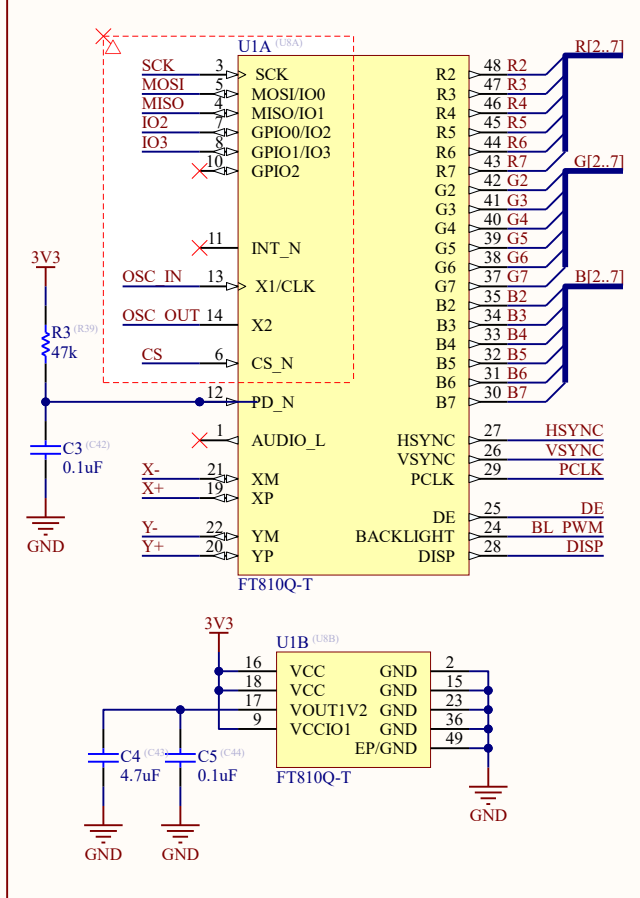
CAN Controller (MCP2515)



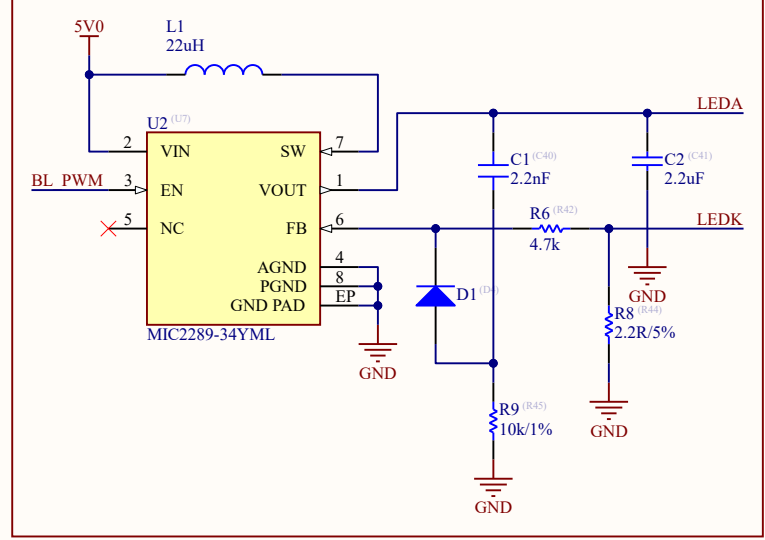
Title		
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A4		
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File:	C:\Users\...\MCP2515 Module.SchDoc	Drawn By:

Screen Driver

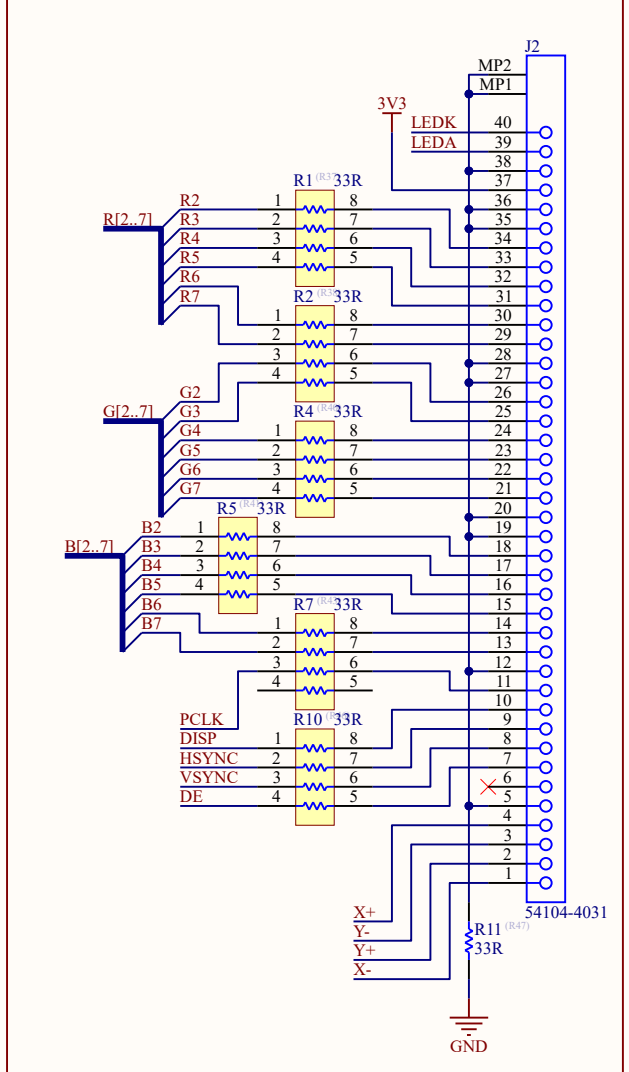
Graphics Driver (FT810)



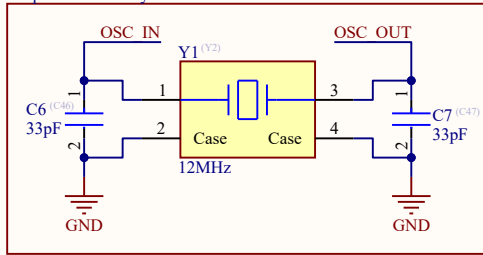
Backlight Driver



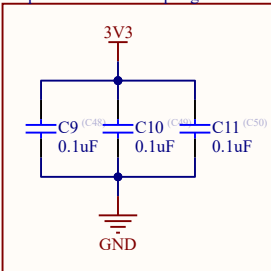
LCD Ribbon Cable Connector



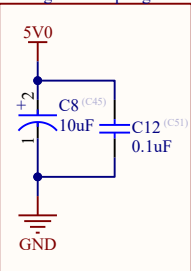
Graphics Driver Crystal



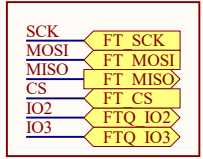
Graphics Driver Decoupling



Backlight Decoupling



FT800 SPI I/O



Title		
Size	Number	Revision
A4		
Date:	10-04-2020	Sheet of
File:	C:\Users\...\Screen Driver.SchDoc	Drawn By: