Notes

Calculations

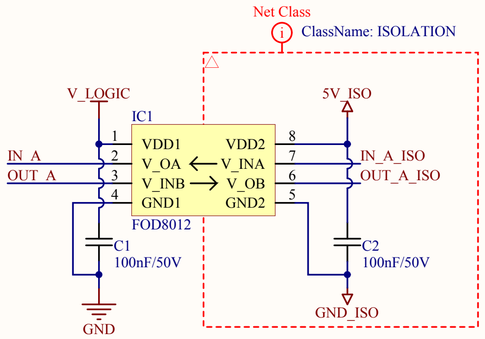
Important Note

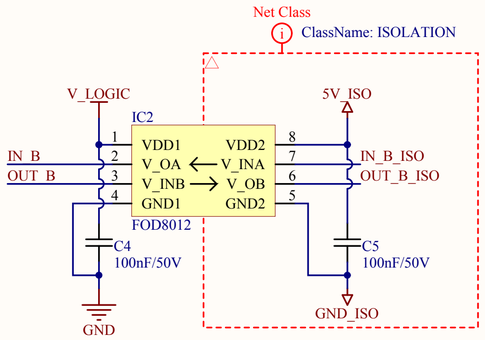
Software Note

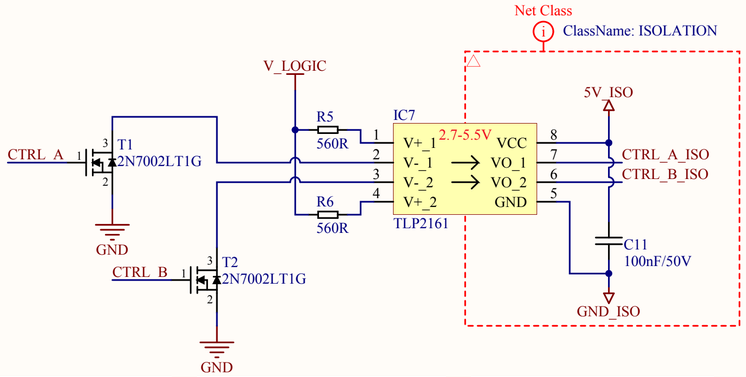
Mounting Note

To fix

GPIO



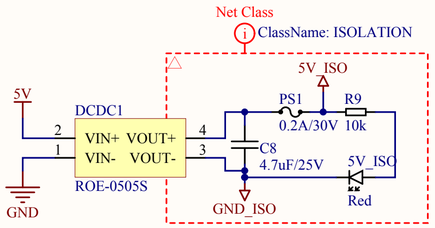




CTRL_A	CTRL_B	Mode
0	0	A in, B In
0	1	A in, B Out
1	0	A out, B in
1	1	A out, B out

TLP2161 V_forward: 1.5V typ.
Recommended current: 2-6mA
Max current: 10mA
@5V_logic -> 6.25mA
@3.3V_logic -> 3.21mA

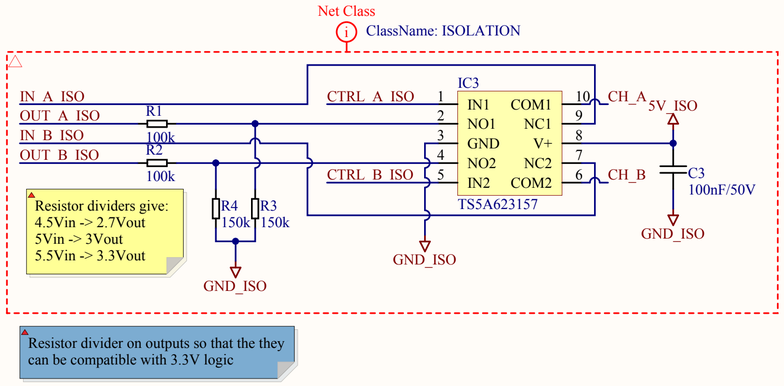
TLP2161:
LED On -> Output Low
LED Off -> Output High



Current Usage 5V_ISO:
TLP2160: 5 mA max
FOD8012: 2x8 mA max = 16 mA
TS5A623157: 10-150mA ???
= 168 mA max

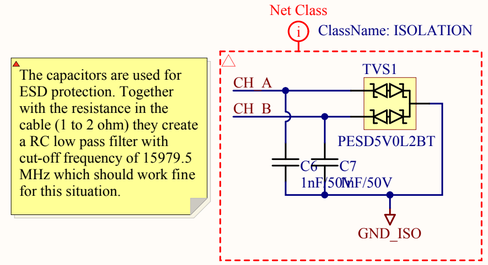
ROE-0505S 200mA out max
-> 200-168 = 32 mA left

Add load resistor on 5V_ISO to get better output voltage at standby

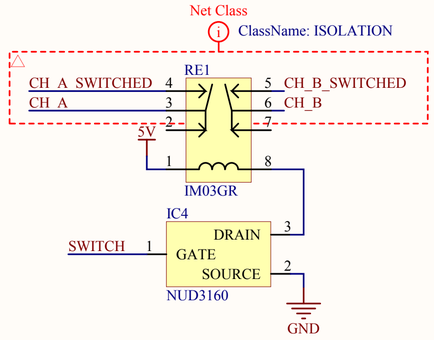


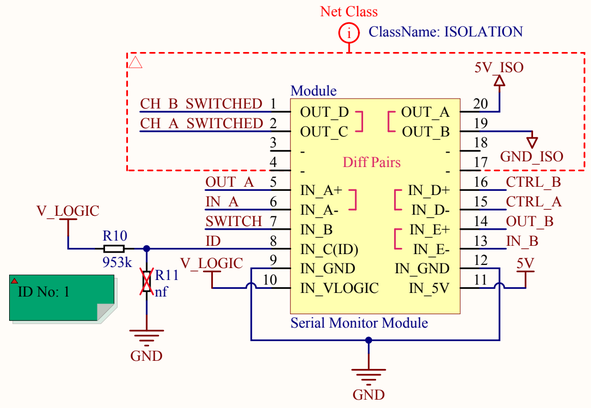
Resistor dividers give:
4.5Vin -> 2.7Vout
5Vin -> 3Vout
5.5Vin -> 3.3Vout

Resistor divider on outputs so that the they can be compatible with 3.3V logic



The capacitors are used for ESD protection. Together with the resistance in the cable (1 to 2 ohm) they create a RC low pass filter with cut-off frequency of 15979.5 MHz which should work fine for this situation.





Title: GPIO Module		
Size: A3	Number: 1	Revision: Rev 1
Date: 8/25/2015	Time: 11:38:00 AM	Sheet 1 of 1
File: Serial Monitor GPIO Module Schematic.SchDoc		