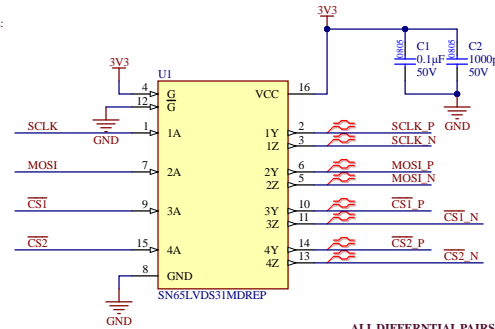
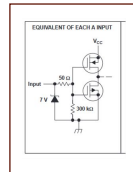
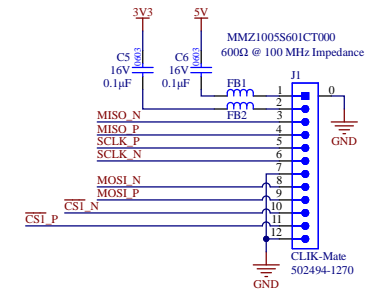


# SPI Low Voltage Differential Signaling (LVDS) Breakout Board

1A - 4A have internal pull-down resistors:

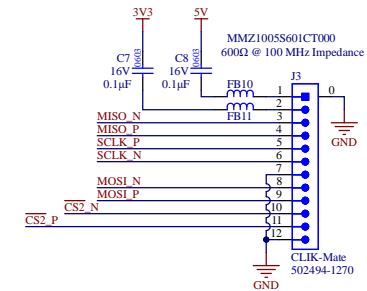


ALL DIFFERENTIAL PAIRS - DIFFERENTIAL IMPEDANCE OF 100Ω  
DIFFERENTIAL BUS LINES BUILT IN 12kV ESD PROTECTION



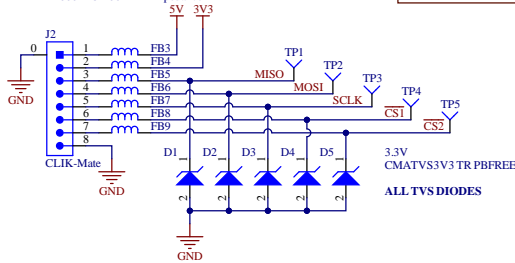
TO SPI ENCODERS

[Avago AEAT-6010/6012 Magnetic Encoder](#)  
[RLS Orbis BR10/BR20](#)



ALL FERRITE BEADS

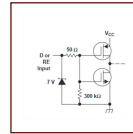
MMZ1005S601CT000  
600Ω @ 100 MHz Impedance



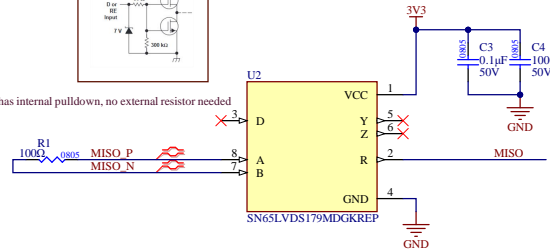
TO ODRIVE

ODrive

ALL TVS DIODES



D has internal pulldown, no external resistor needed



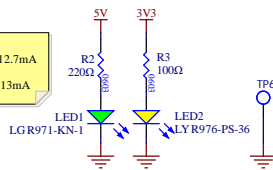
Mounting Holes



References

[Low Voltage Differential Signaling \(LVDS\) Application Notes](#)  
[Transmitting SPI signals over LVDS Interface](#)

A  
LED Current  
Green:  $I_g = (5V - 2.2V) / 220 = 12.7mA$   
Yellow:  $I_y = (3V3 - 2V) / 100 = 13mA$



		University of Waterloo Robotics Team 200 University Ave W Waterloo, Ontario, Canada N2L 3G1	REV
PROJECT SPI LVDS Master.PrjPcb, [No Variations]			
DOCUMENT SPI LVDS Master.SchDoc		MODIFIED 2022-02-25	
ENGINEER JGao	REVIEWER	SHEET 1 OF 1	

+9V

