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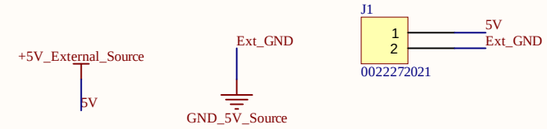
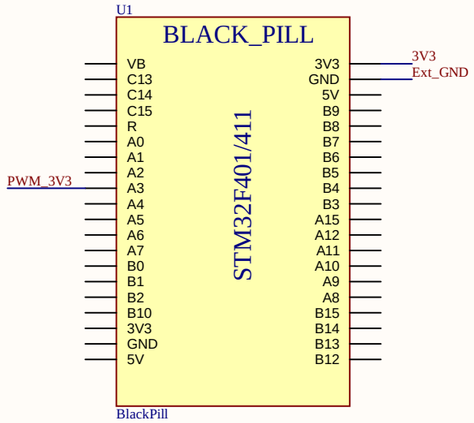
REVISION	DESCRIPTION	DATE	APPROVED

POWER

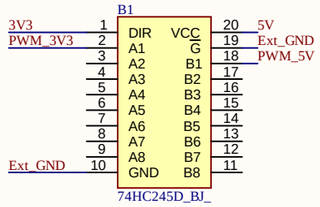


Current from blackpill is not enough to power up LEDs properly. Use an external 5V DC power supply. Connect external power supply's ground to the MCU's ground.

MCU

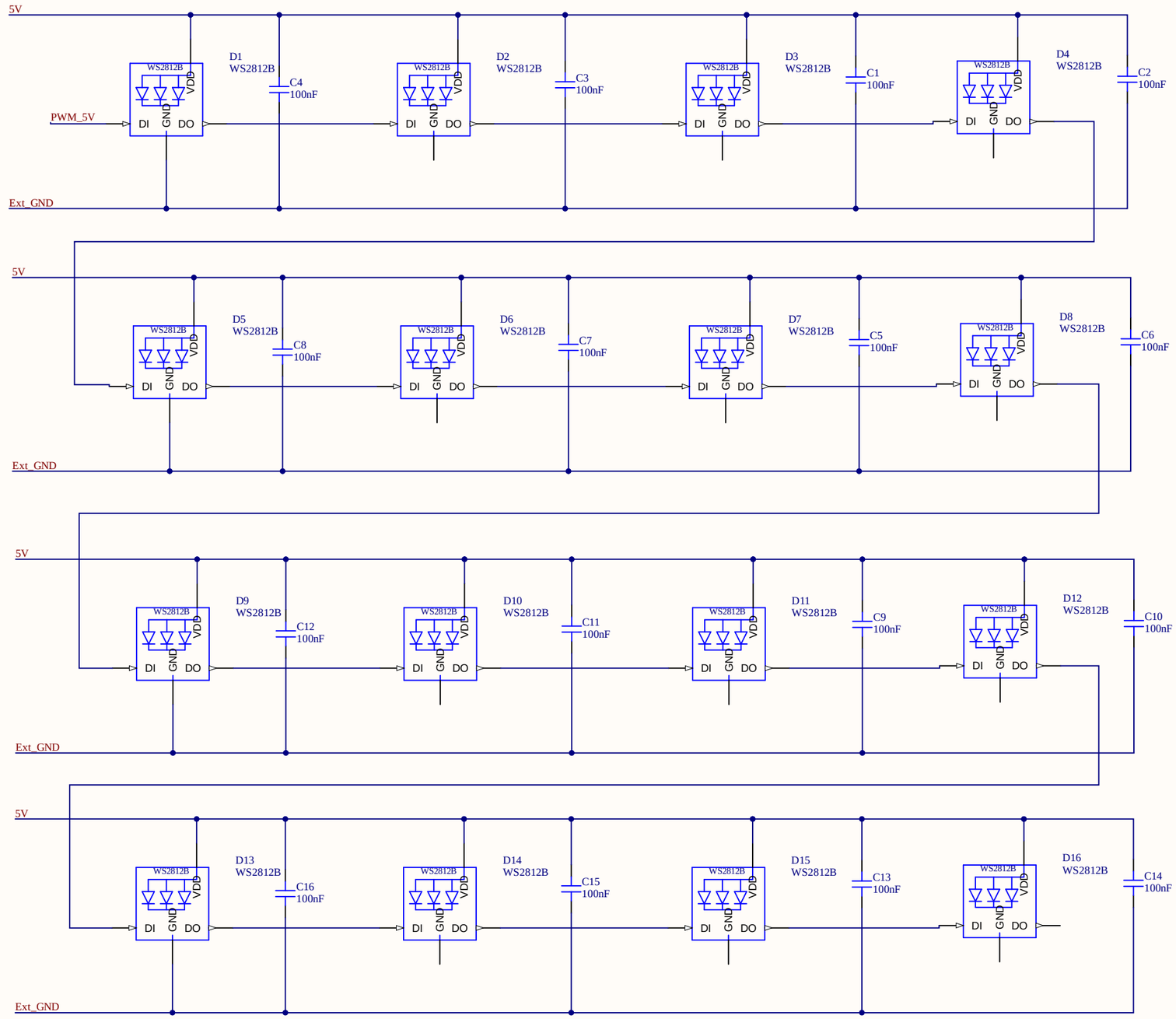


LEVEL SHIFTER



As the number of LEDs increases, signal degradation may occur in the PWM signal. To prevent this, a 5V PWM signal is used to ensure stable and reliable communication with all LEDs.

4x4 LED MATRIX



APPROVALS	DATE
ENG: *	
DSN: *	
CHK: *	
REFERENCE DOCUMENTS	
BOM:	
ASSY DWG:	
FAB DWG:	
PCB DWG:	

PROJECT: Altium *****

PROJECT REVISION: Not in version control | DOCUMENT REVISION: Not in version control | DESIGN ITEM:

TITLE: *

SIZE	CAGE CODE	DWG NO.	REV
A3			

SCALE: | FILE NAME: Sheet2.SchDoc | SHEET 1 OF 1