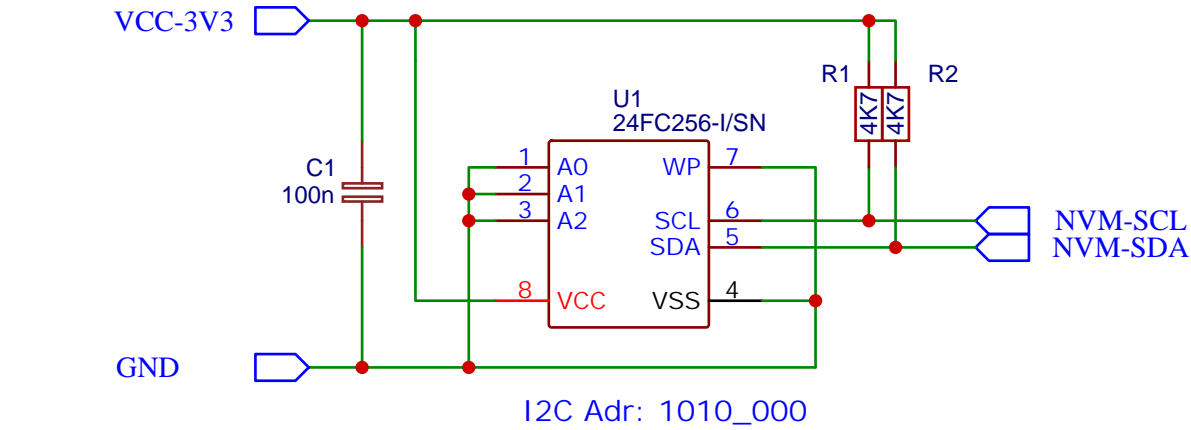
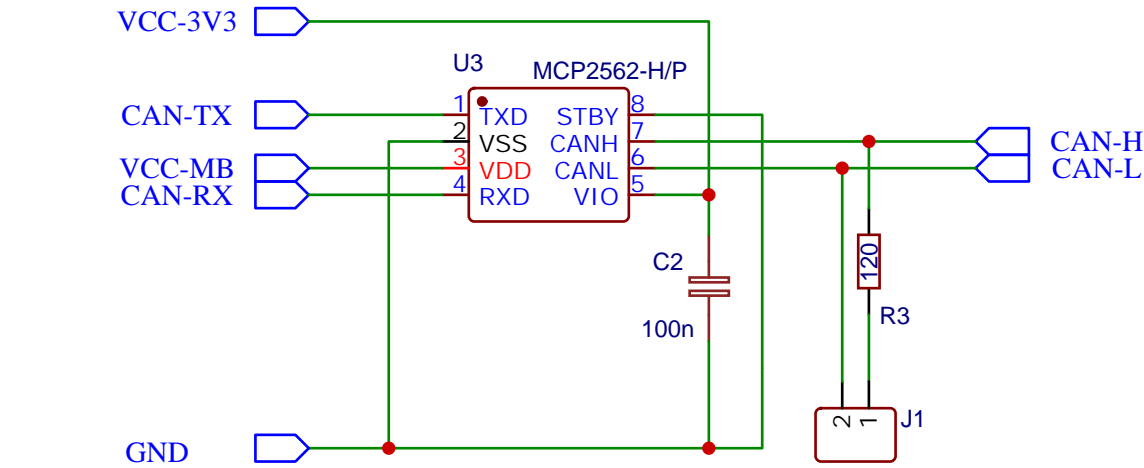


Non-Volatile Memory

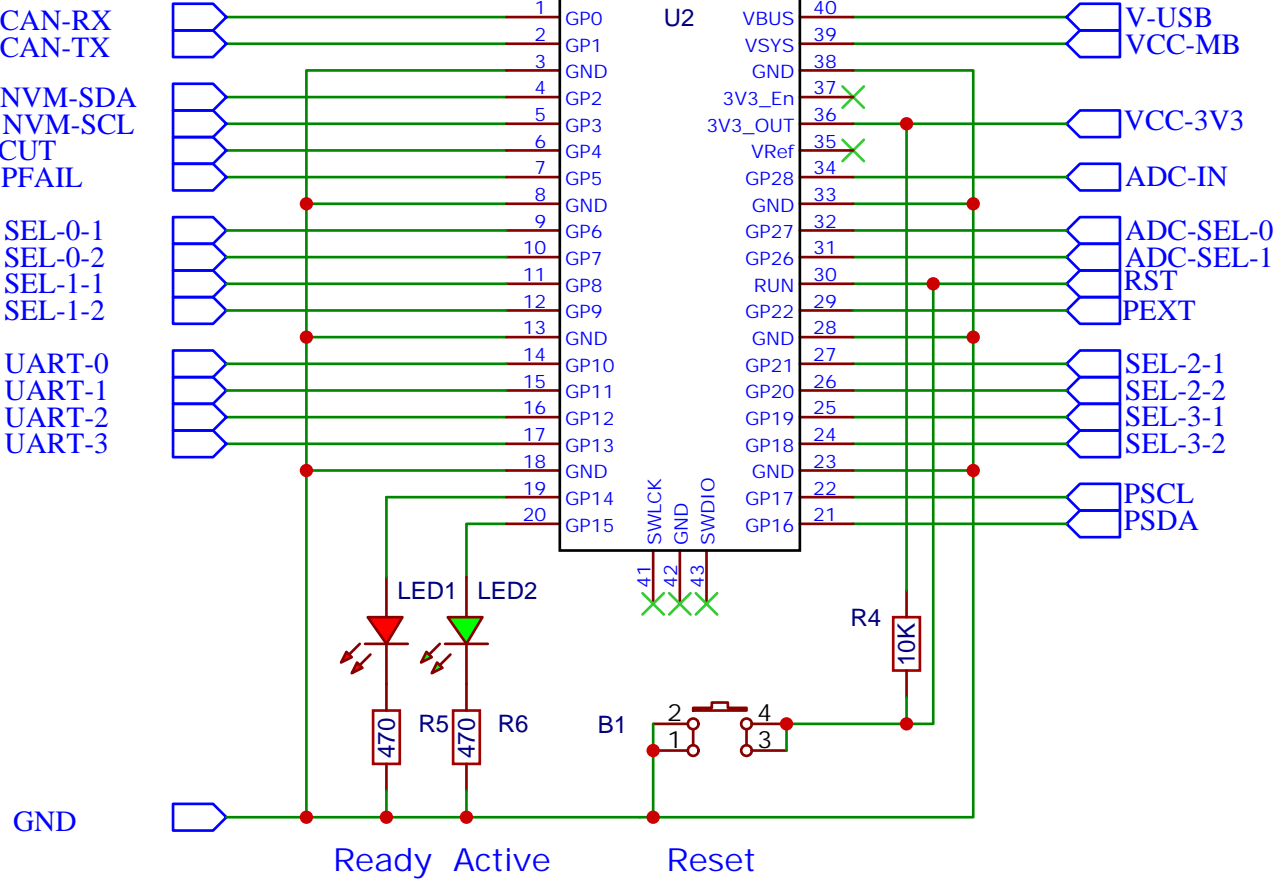
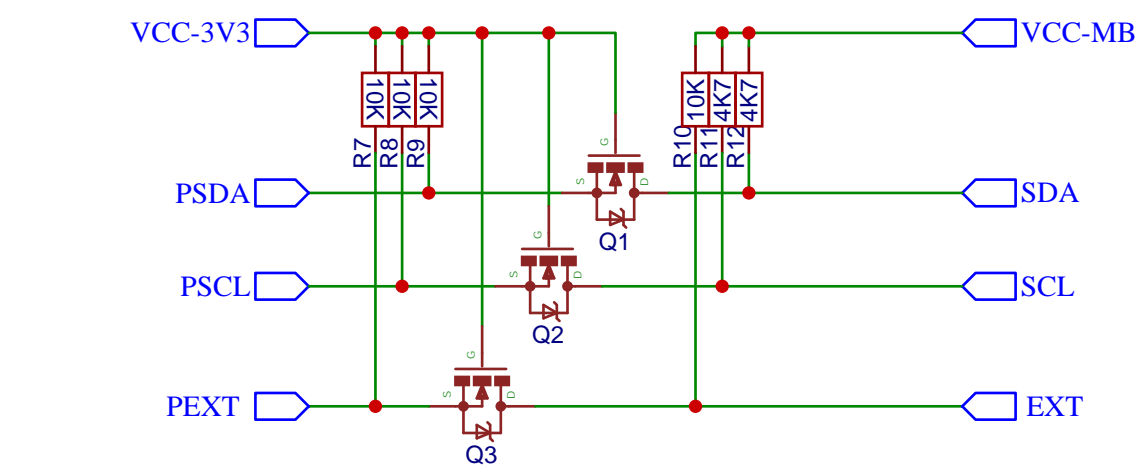
Main Controller - RASPBERRY Pi Pico

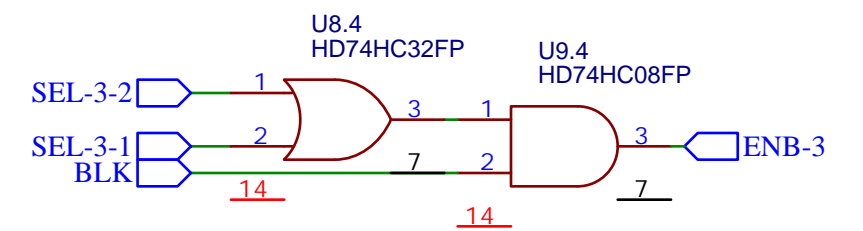
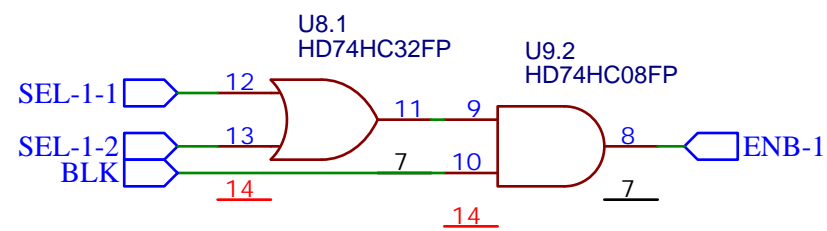
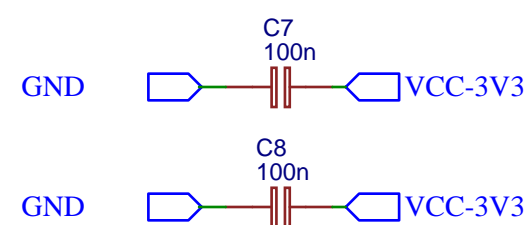
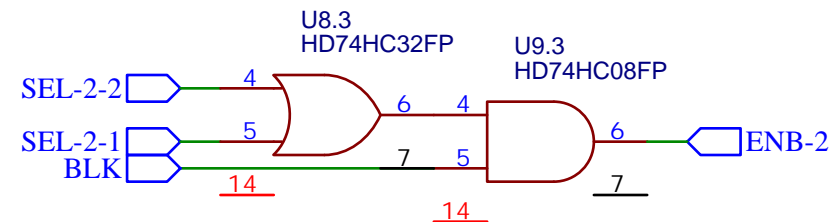
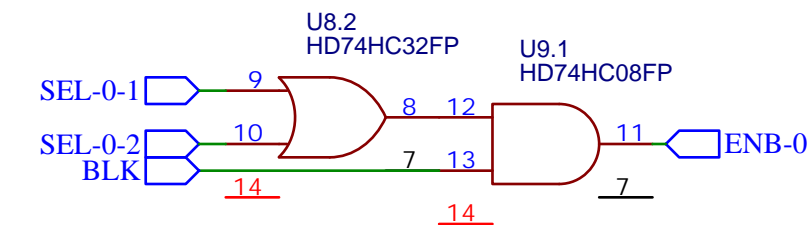
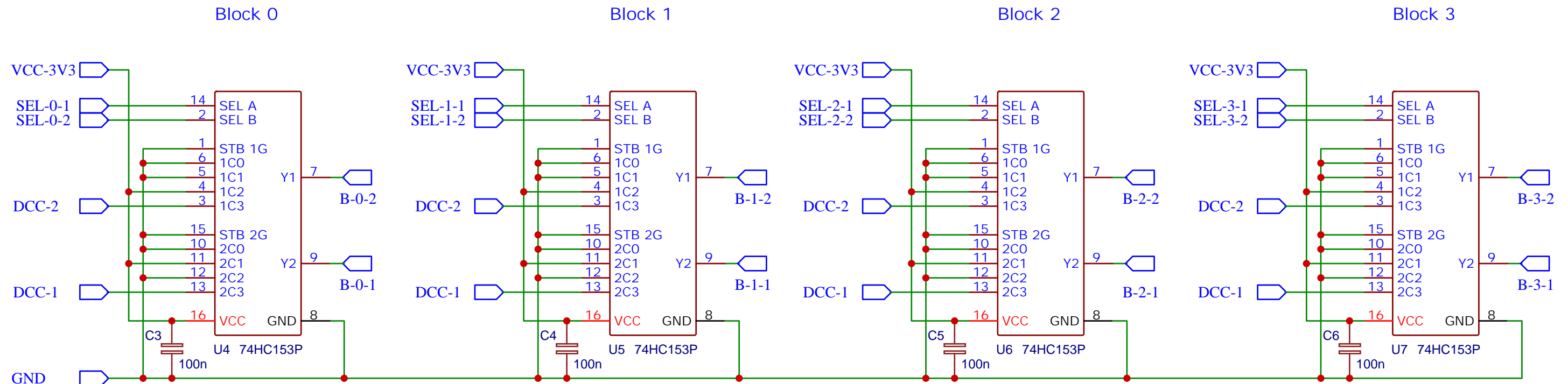


CAN Bus Line Driver



Level shifters





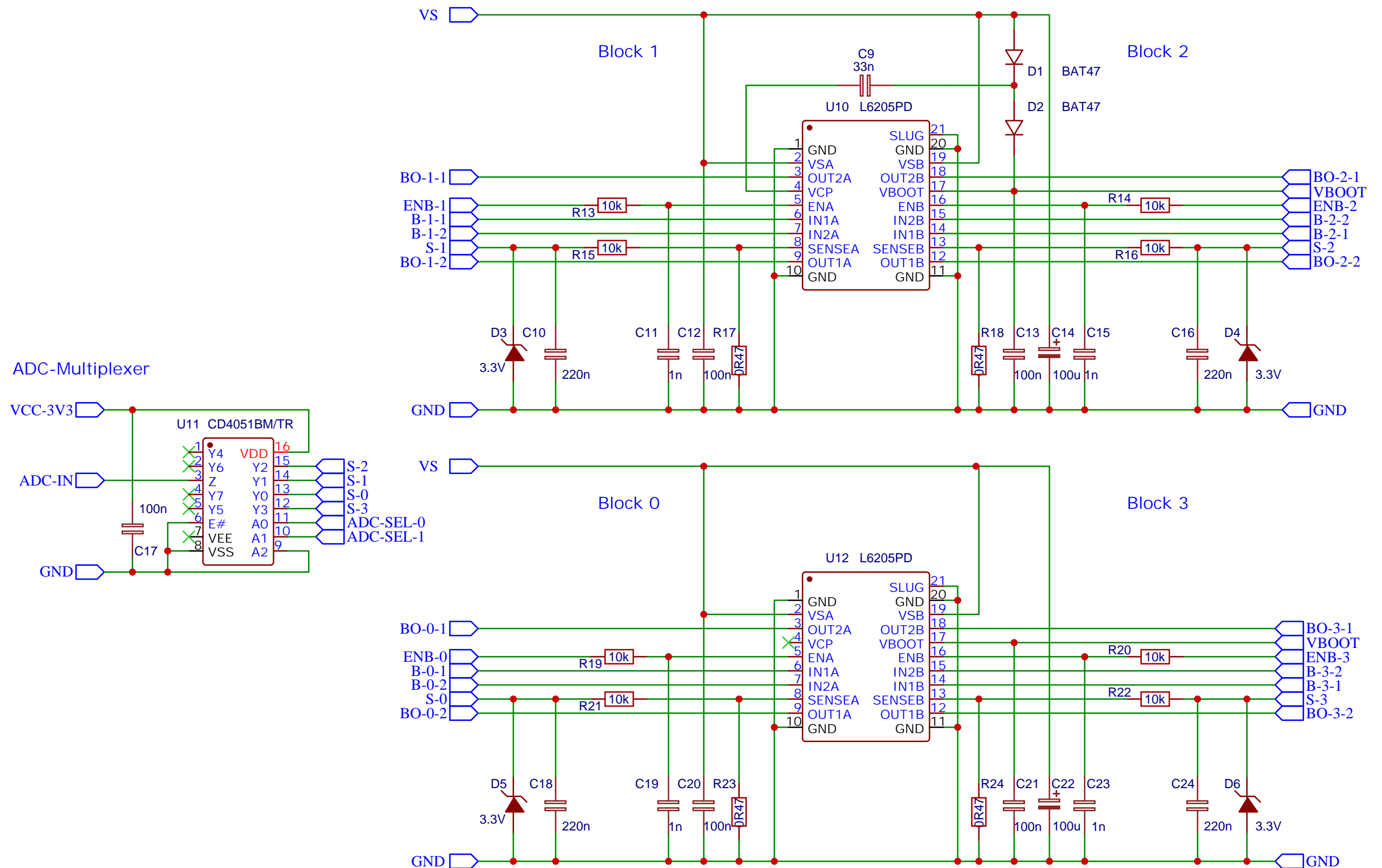
### Control Logic Signals:

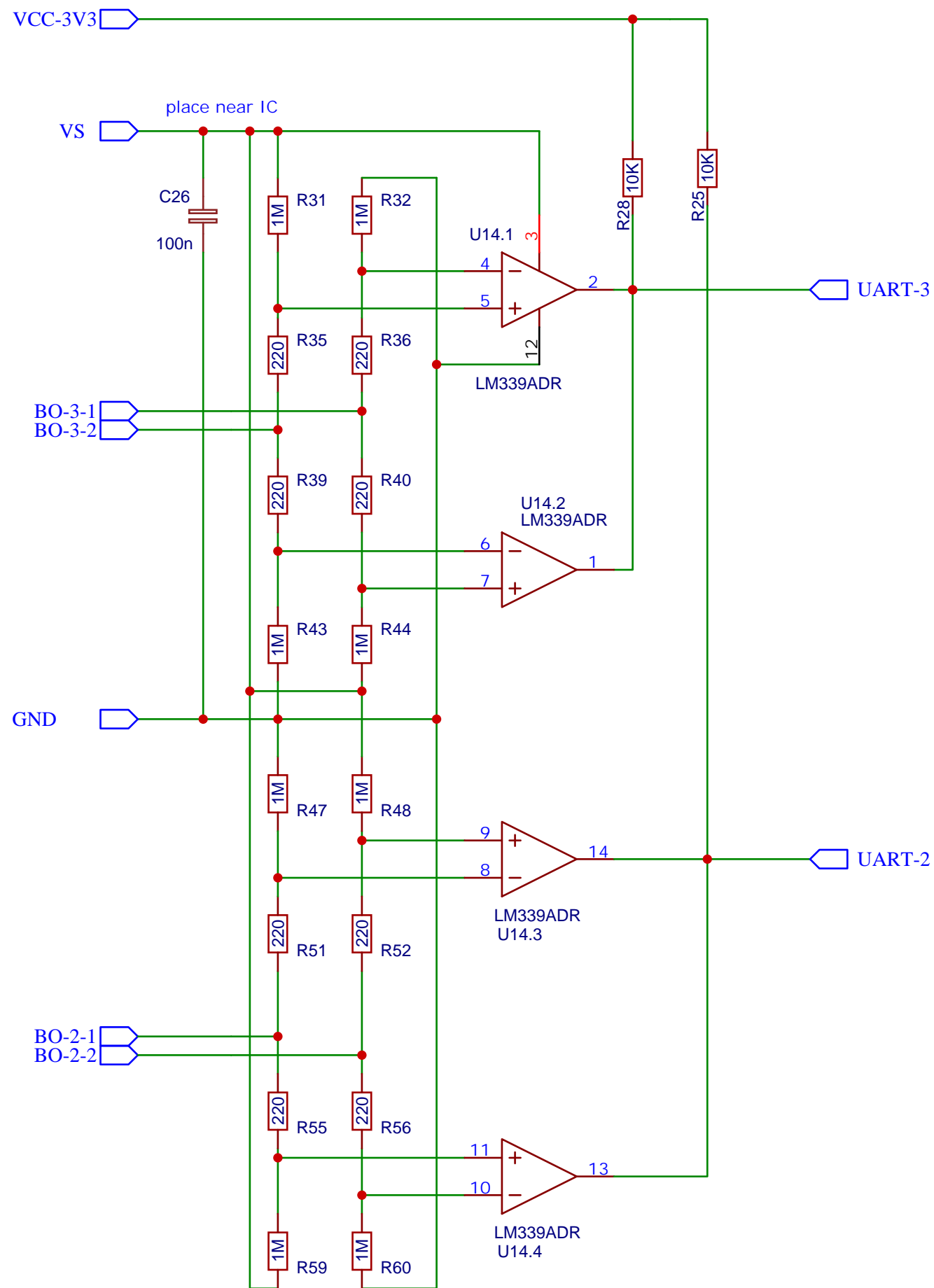
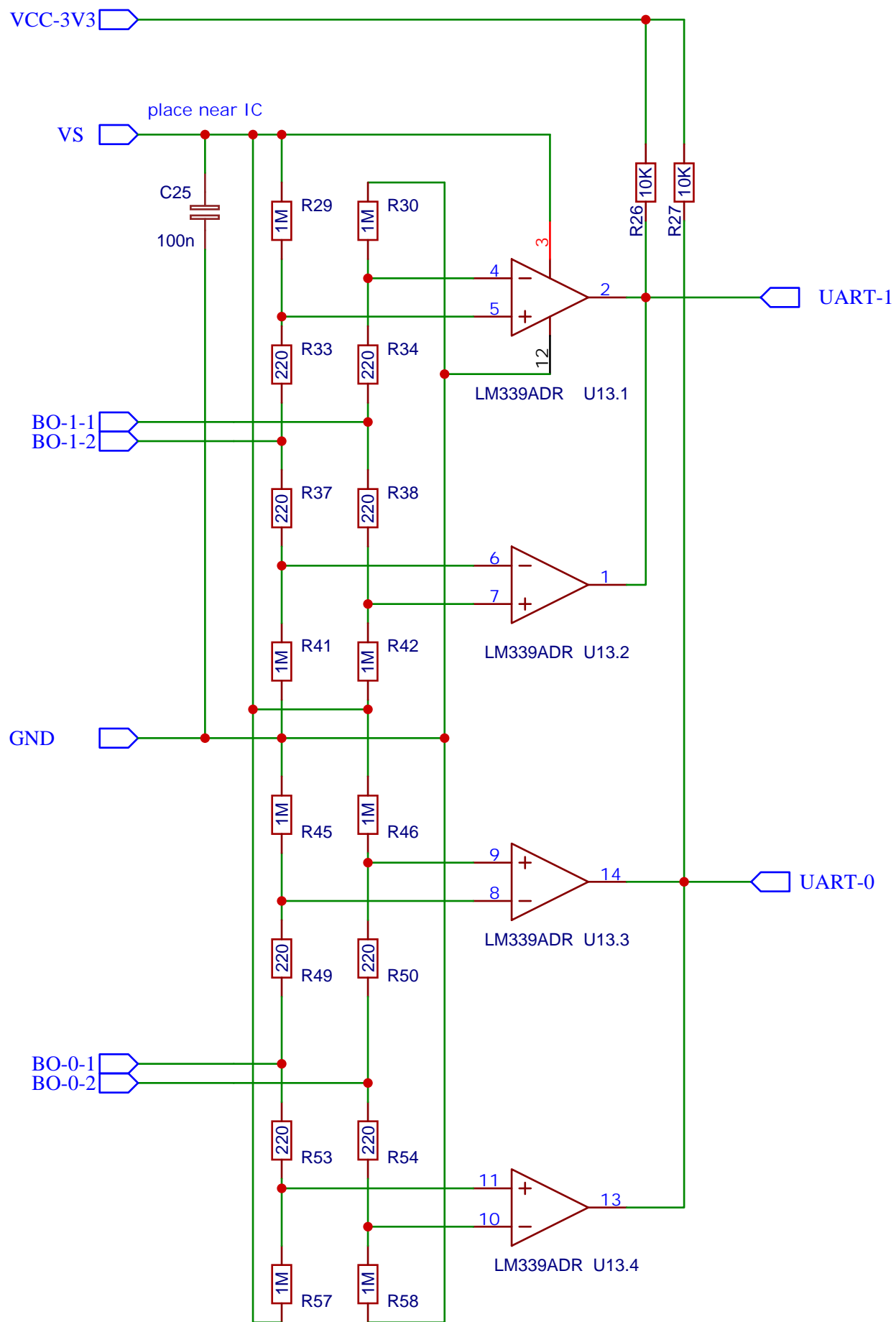
Select -> B-x-1 B-x-2 ENB-x STATE

00	->	GND	GND	GND	"Z"
01	->	VCC	GND	PWM/BLK	"FWD"
10	->	GND	VCC	PWM/BLK	"REV"
11	->	DCC1	DCC2	DCC/BLK	"DCC"

ENB == LOW -> Z

## H-Bridges





The diagram illustrates the DCC Signal Input stage. It features two input signals, DCC-SIG-1 and DCC-SIG-2, which are connected to a 4-pin connector J2. DCC-SIG-1 is connected to pin 1, and DCC-SIG-2 is connected to pin 3. The circuit includes a 470Ω resistor (R63) on the DCC-SIG-1 line and a 470Ω resistor (R66) on the DCC-SIG-2 line. The signals are then connected to the inputs of a 4-pin connector J2. The output of J2 is connected to the inputs of a 4-pin connector J3. The circuit also includes a 470Ω resistor (R64) on the output line, a 4k7 resistor (R65), and a 100nF capacitor (C27). The output is connected to the inputs of a 4-pin connector J4. The circuit is powered by VCC-3V3 and GND.

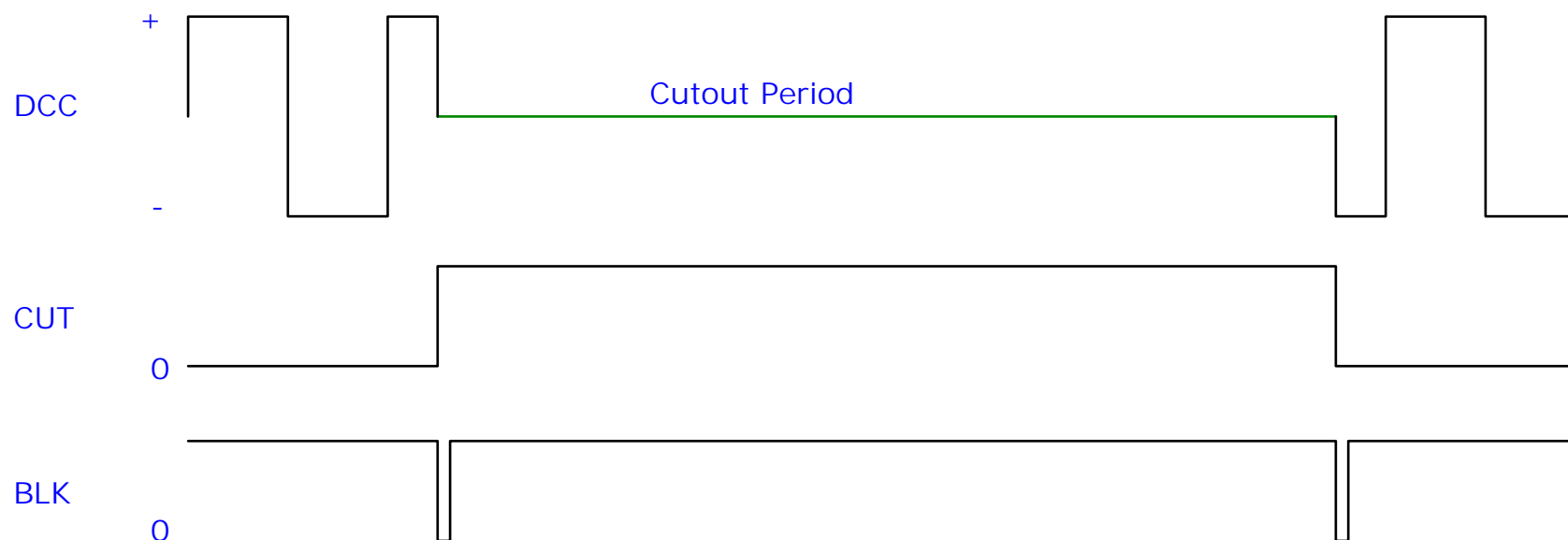
DCC Signal, Cutout and Block Signal.

DCC Input:  
00->CUTOUT  
01->DCC+  
10->DCC-

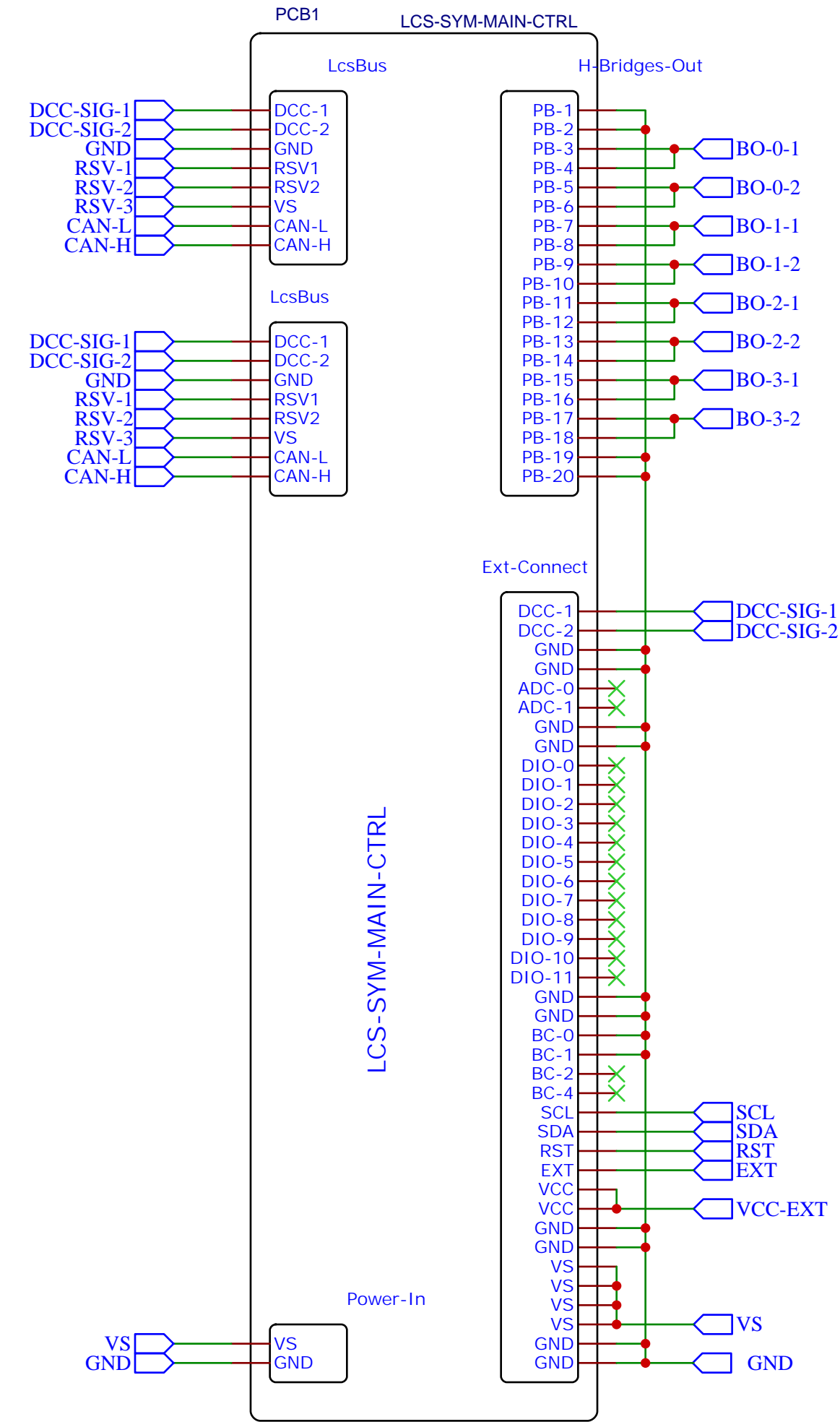
The diagram illustrates the timing relationship between three signals: DCC, CUT, and BLK. The DCC signal is a differential pair with levels marked as '+' and '-'. A green line labeled 'Cutout Period' spans the duration where the DCC signal is in a high-impedance state. The CUT signal is a single-bit signal that transitions from low to high at the start of the cutout period and returns to low at the end. The BLK signal is a single-bit signal that transitions from high to low at the start of the cutout period and returns to high at the end.

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00->CUTOUT  
01->DCC+  
10->DCC-



Block Controller PCB connectors



Power Supply with Powerfail Option

