

APA102–2020 LEDs

IR Reflective Sensor

I2C Board Temp Sensor

Connections to Driver Board

HDD Clock V3.0 LED Board

This is the schematic for the LED board of my HDD Persistence of Vision clock.

Main improvements over V2.0:

1. LEDs changed to APA102–2020 from WS2812
 - These LEDs are capable of 25x faster transfer speeds.
 - The 2020 package is 60% smaller allowing me to place many more in the same space.
2. On–board PCB temperature sensor.
 - I2C communication. Sensing board temperature.
3. Wires eliminated from assembly
 - Connections to the driver board are made with spring loaded SMT(pogo) pins.

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File: HDD Clock V3.0_LED Board.kicad_sch

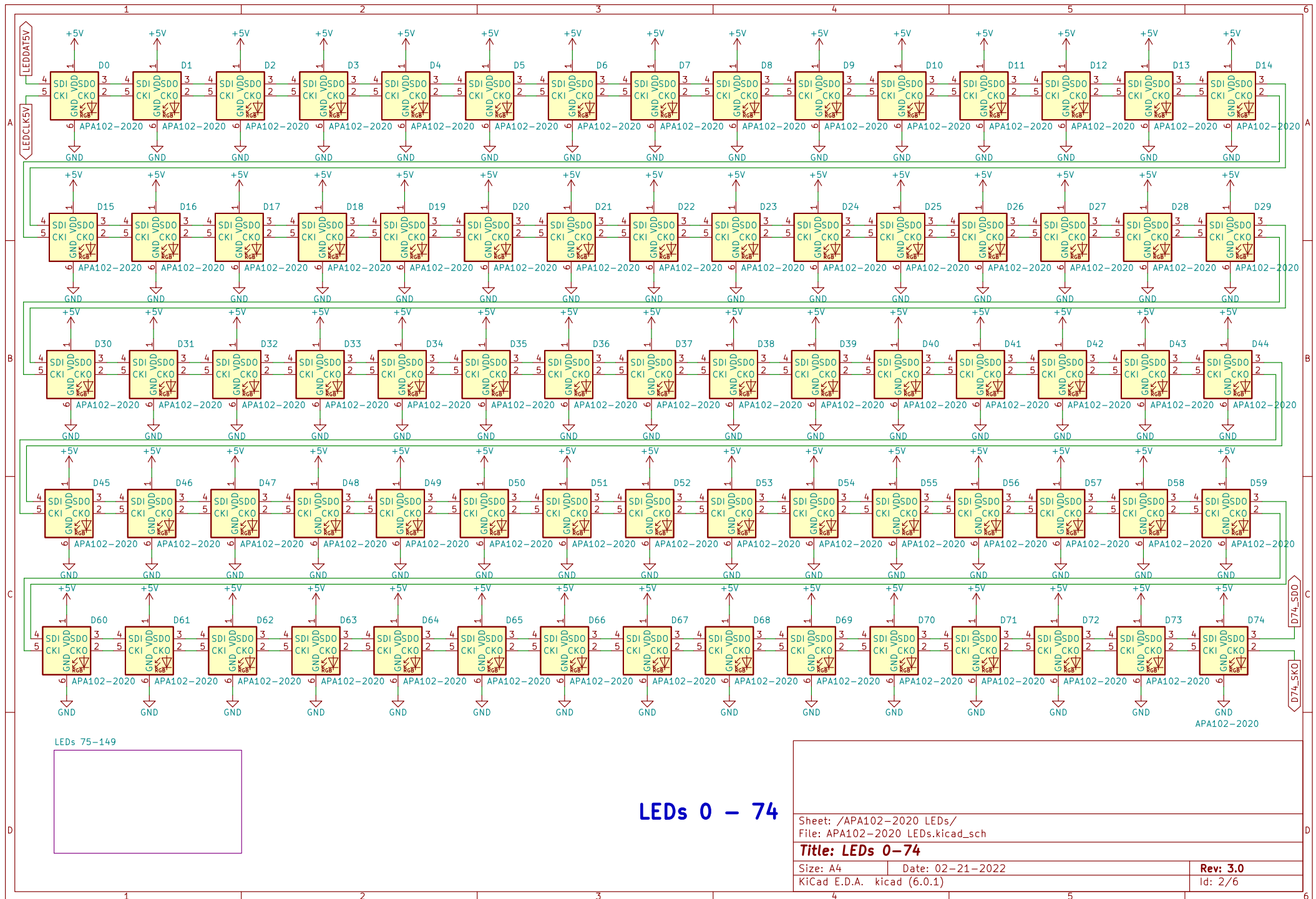
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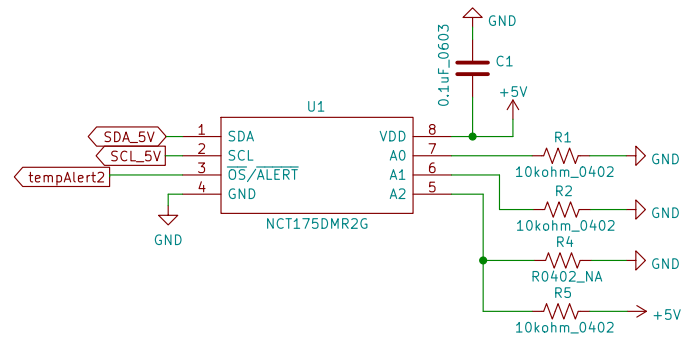
Size: A4 Date: 02–21–2022

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Rev: 3.0

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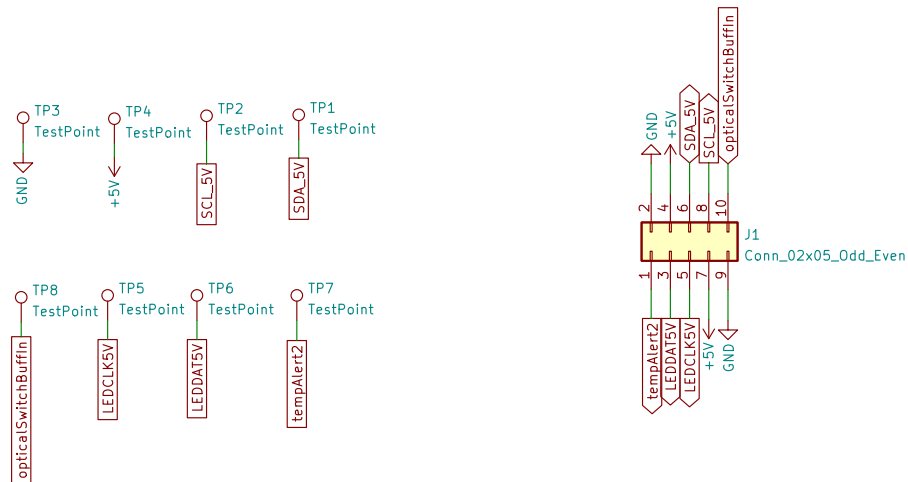




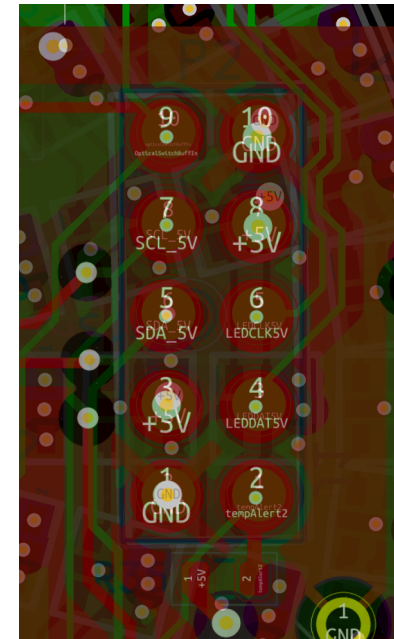
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File: I2C Board Temp Sensor.kicad_sch

Title: I2C Board Temperature Sensor

Size: A4	Date: 02-21-2022	Rev: 3.0
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Confirmed stackup connections



Sheet: /Connections to Driver Board/
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Title: Connections to Driver Board PCB

Size: A4	Date: 02-21-2022	Rev: 3.0
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