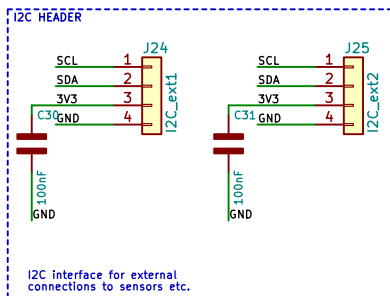
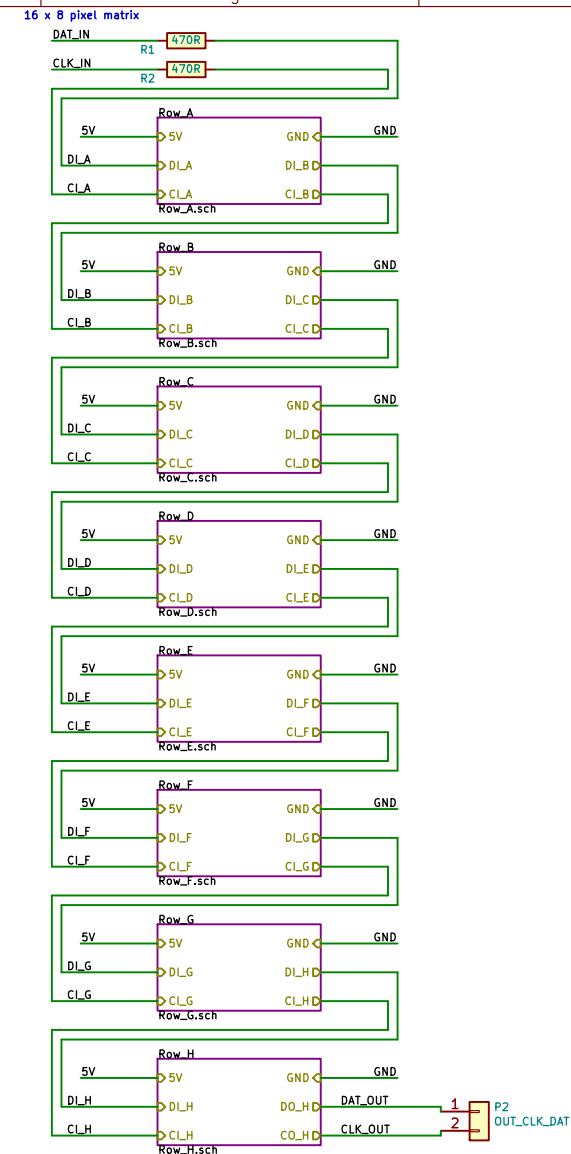
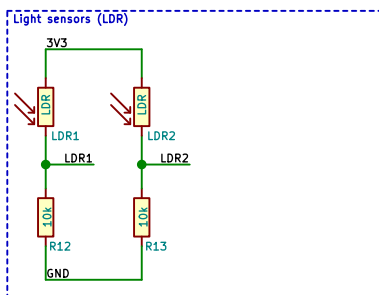
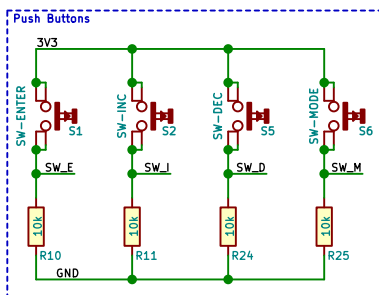
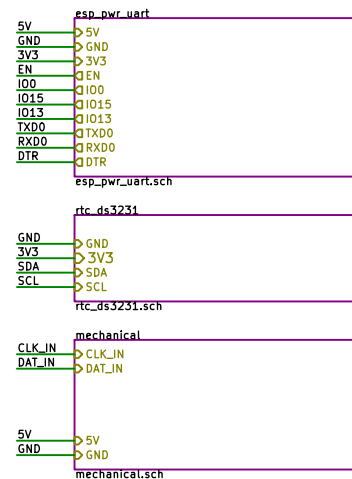


SPI header with breakout pins.  
Connect with wire to appropriate pins on ESP32

Native SPI pins are (clk, mosi, miso, cs):  
SPI1: 6, 8, 7, 11  
HSPI: 14, 13, 12, 15  
VSPI: 18, 23, 19, 5  
If using native pins max SPI clock can be set to 80 MHZ.  
Only HSPI & VSPI are supported by esp-idf driver.



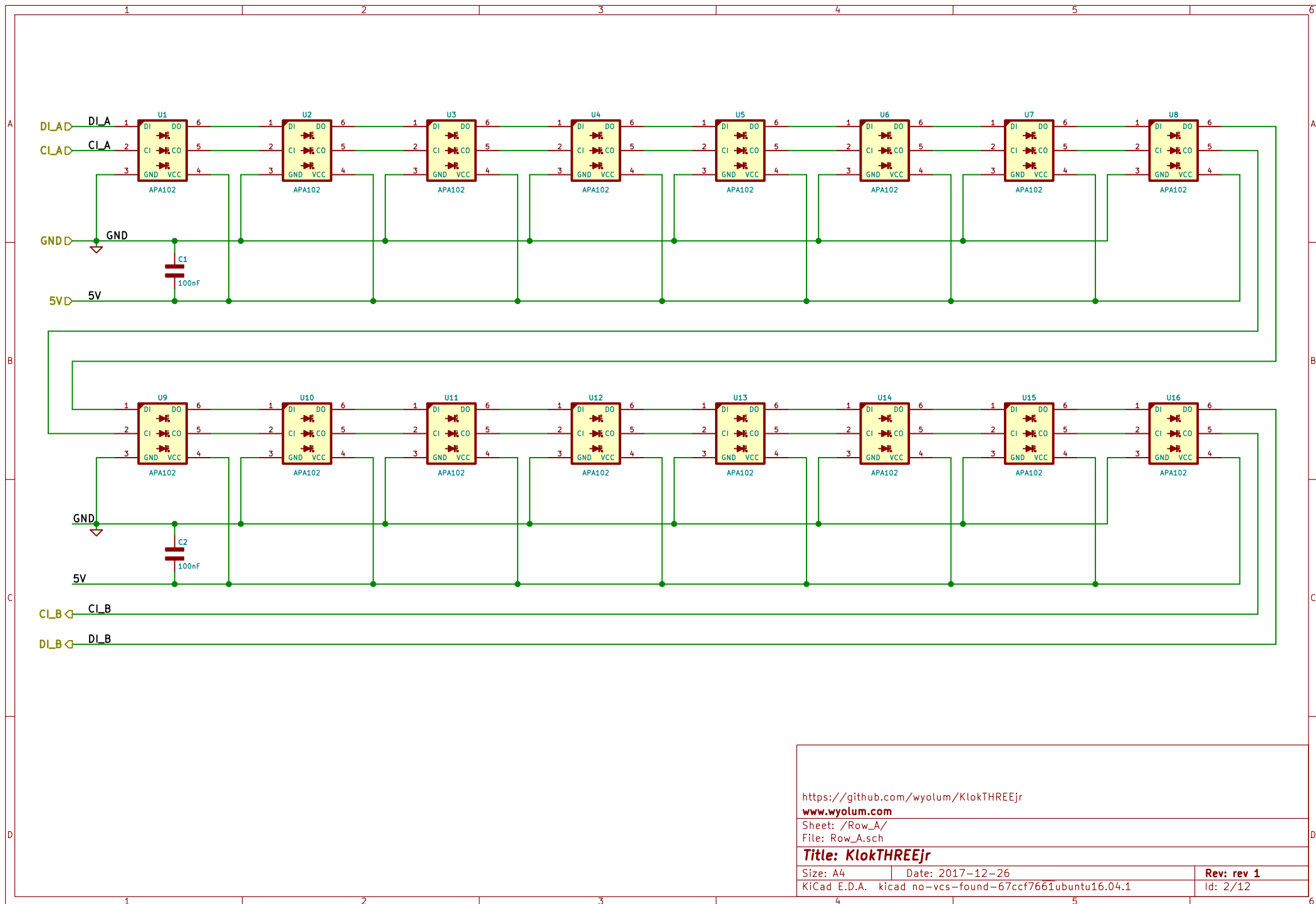
I2C interface for external connections to sensors etc.



**Wyolum**   
<https://github.com/wyolum/KlokTHREEjr>  
[www.wyolum.com](http://www.wyolum.com)

**KiCad** 

Sheet: /  
 File: KlokTHREEjr.sch  
**Title: KlokTHREEjr**  
 Size: A4 Date: 2017-12-26  
 KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1  
 open source hardware  
 Rev: rev 1  
 Id: 1/12



<https://github.com/wyolum/KlokTHREEjr>

[www.wyolum.com](http://www.wyolum.com)

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File: Row\_A.sch

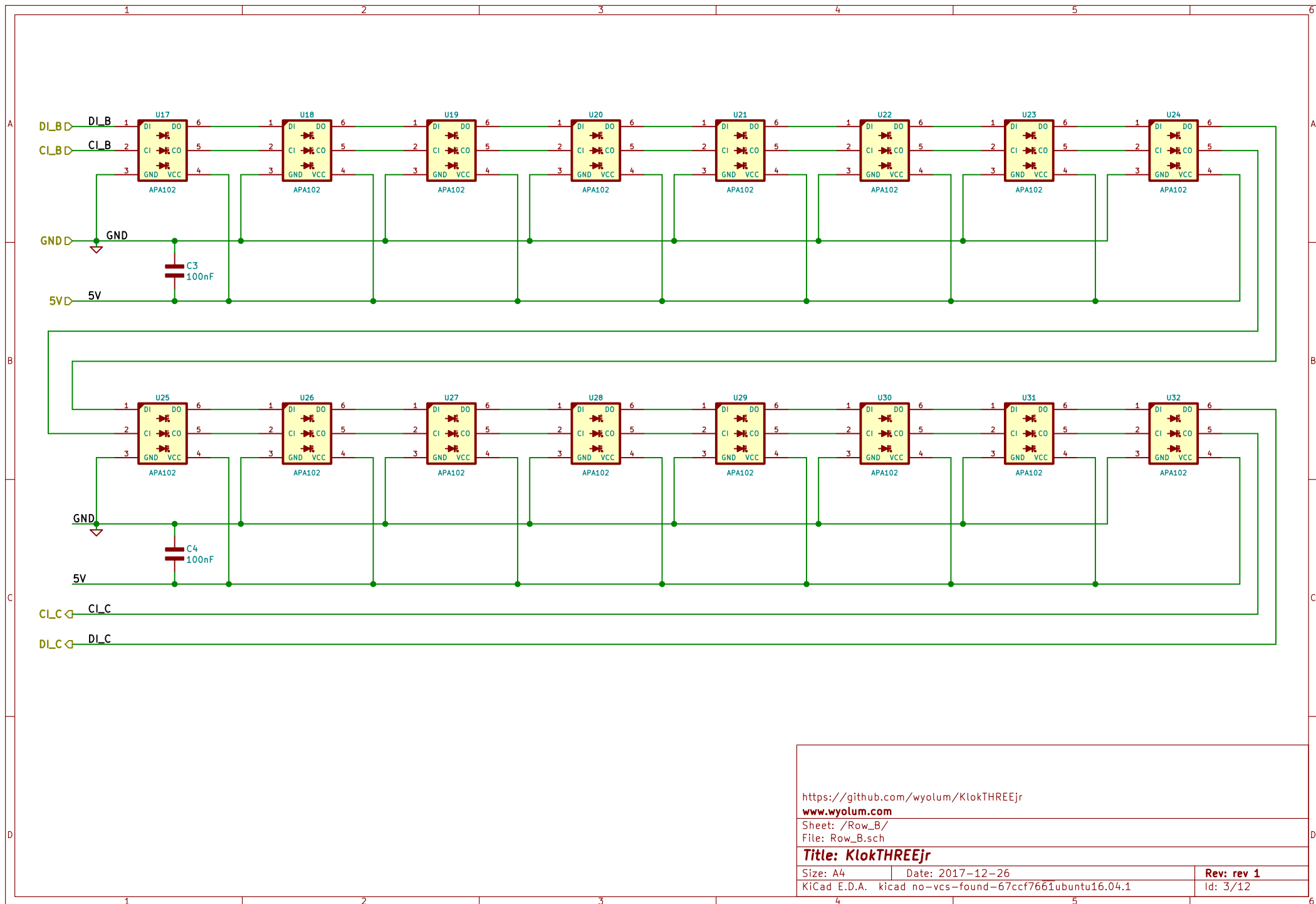
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Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

**Rev: rev 1**

Id: 2/12



<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_B/

File: Row\_B.sch

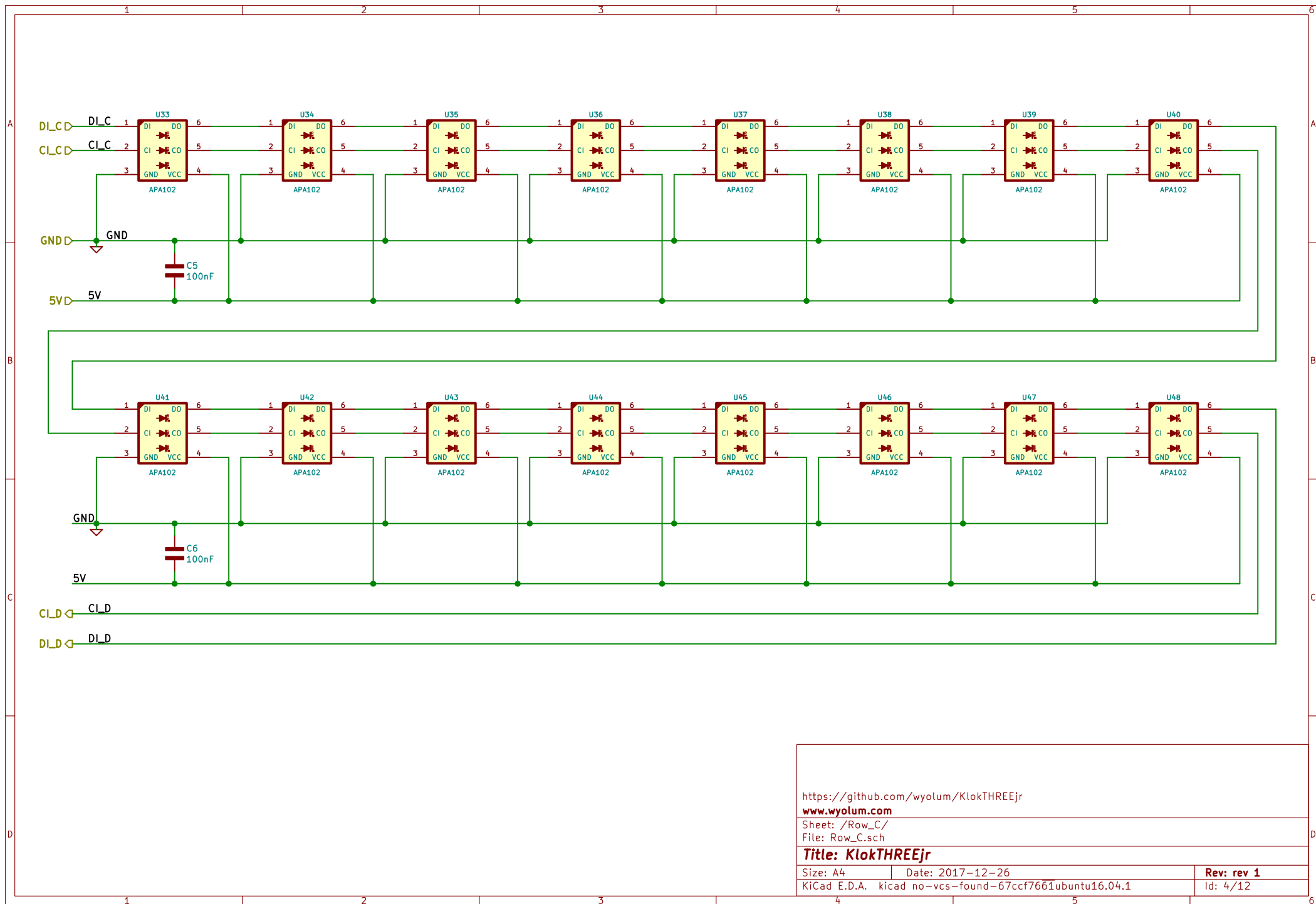
**Title: KlokTHREEjr**

Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

Id: 3/12



<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_C/

File: Row\_C.sch

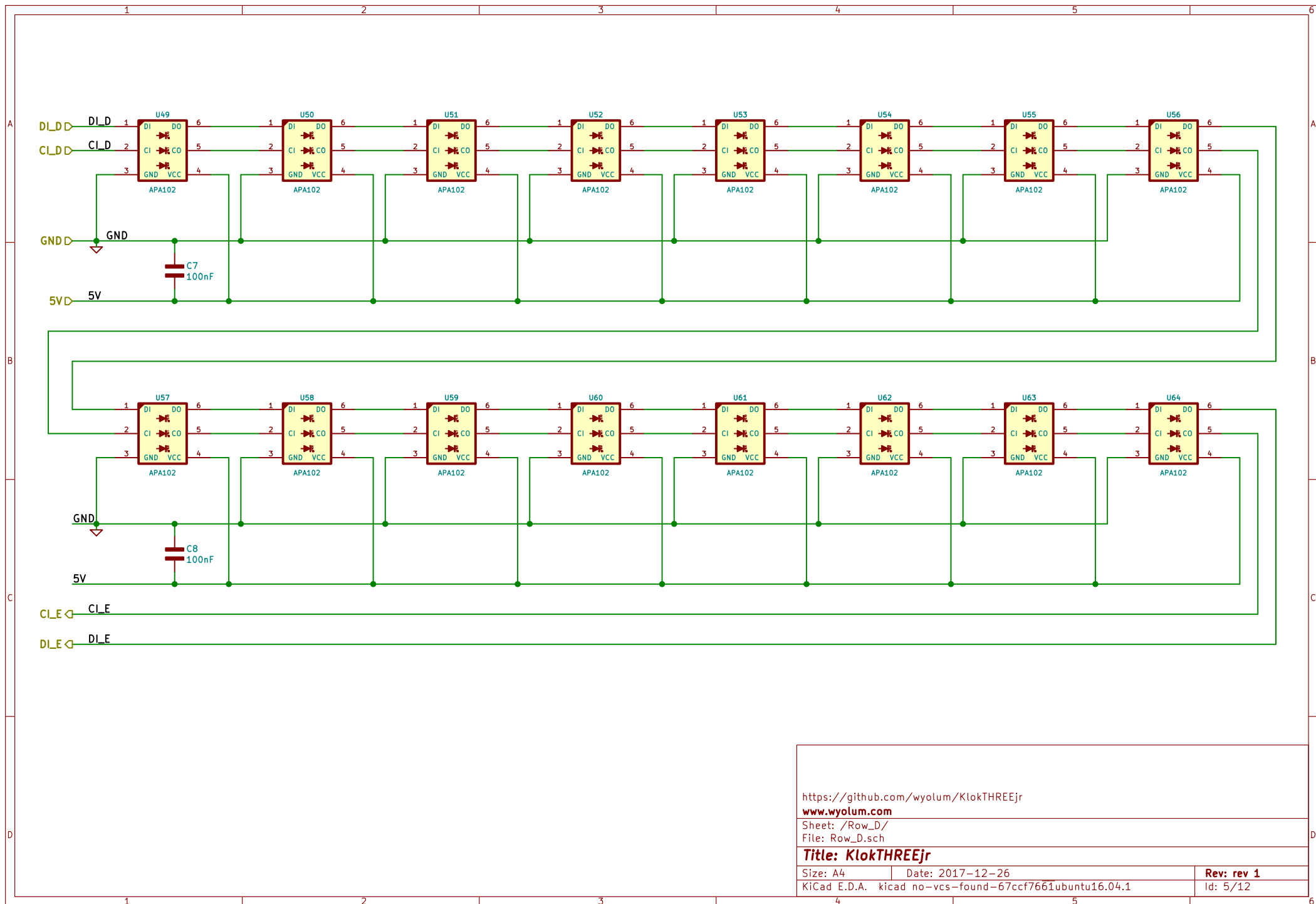
**Title: KlokTHREEjr**

Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

Id: 4/12



<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_D/

File: Row\_D.sch

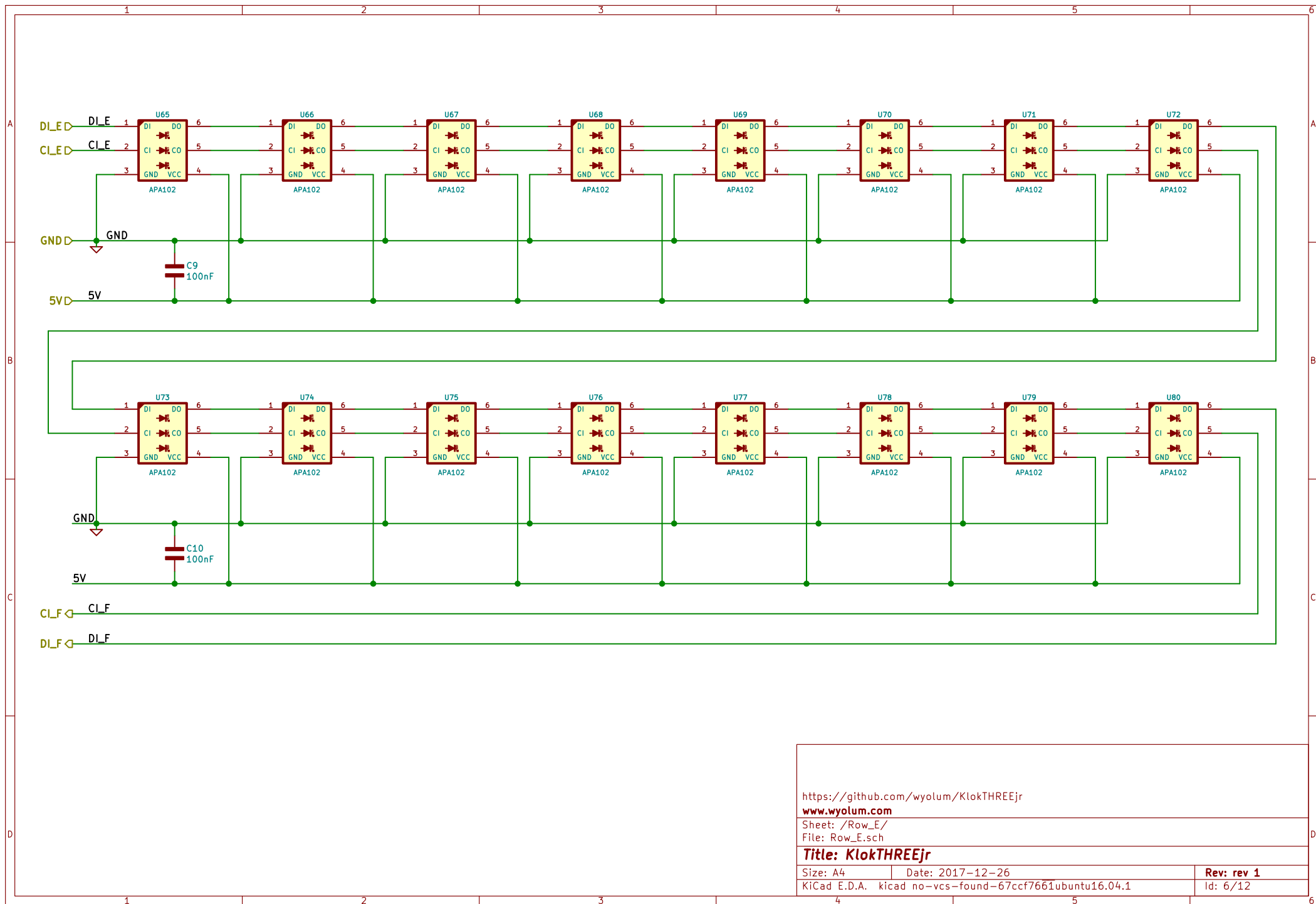
**Title: KlokTHREEjr**

Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

Id: 5/12



<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_E/

File: Row\_E.sch

**Title: KlokTHREEjr**

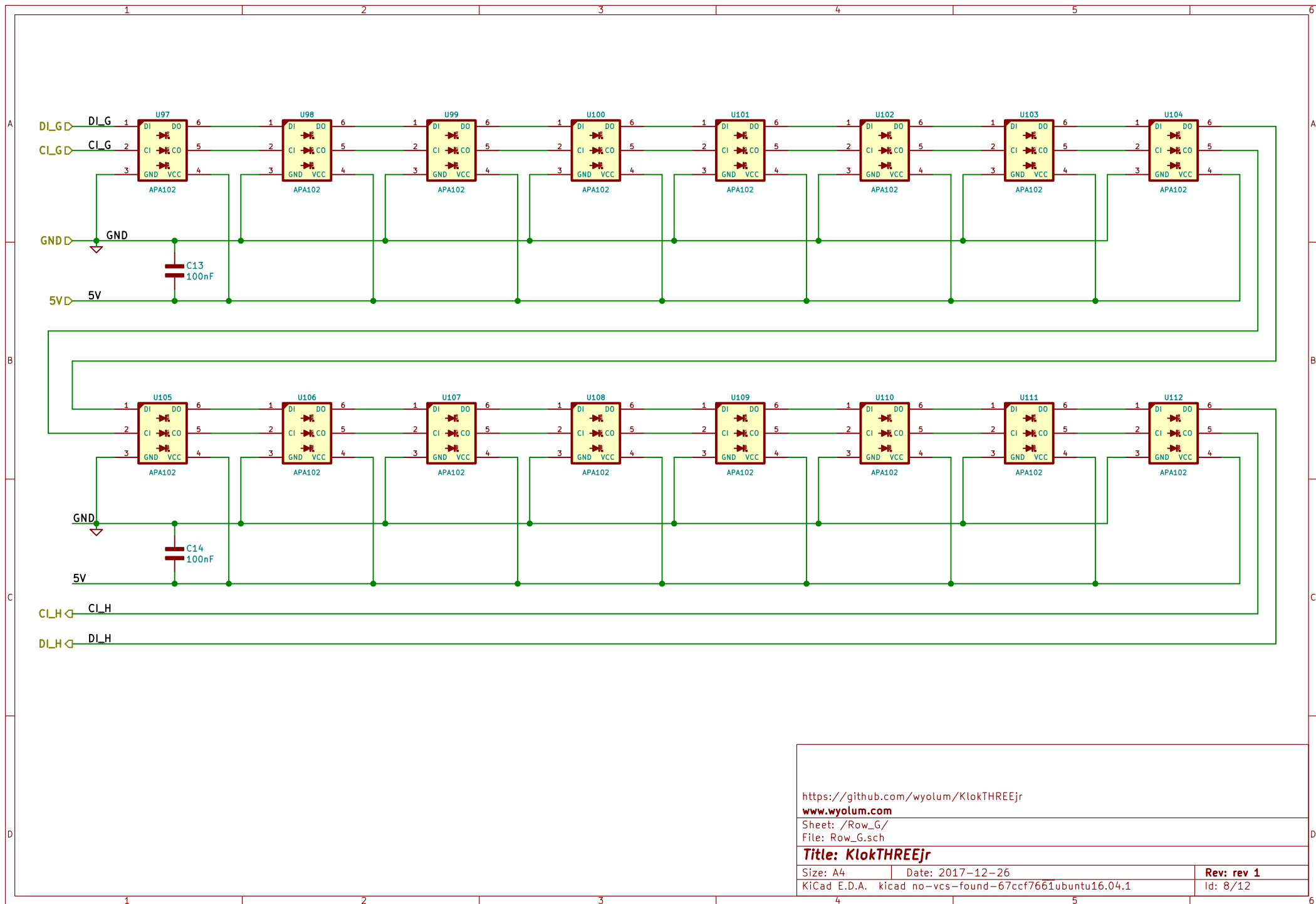
Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

Id: 6/12





<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_G/

File: Row\_G.sch

**Title: KlokTHREEjr**

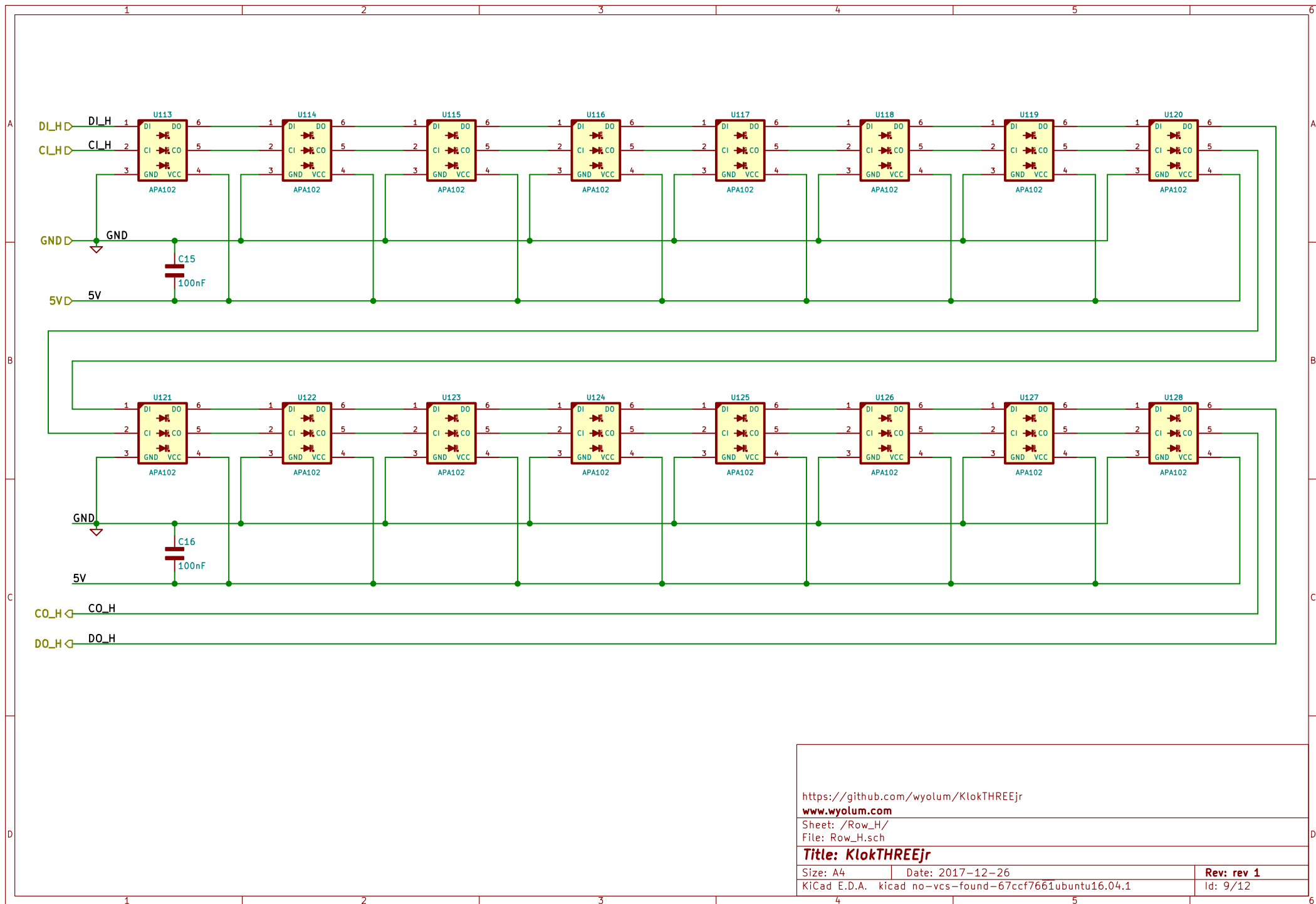
Size: A4 Date: 2017-12-26

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

Id: 8/12





<https://github.com/wyolum/KlokTHREEjr>

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Sheet: /Row\_H/

File: Row\_H.sch

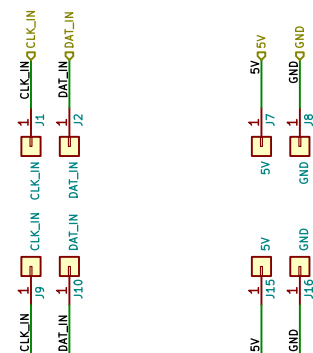
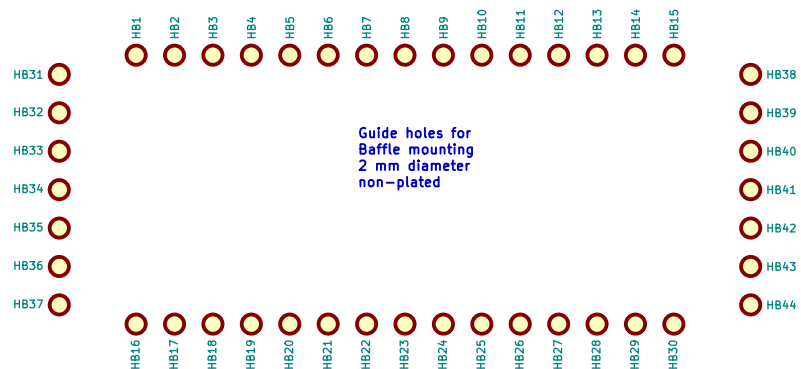
**Title: KlokTHREEjr**

Size: A4 Date: 2017-12-26

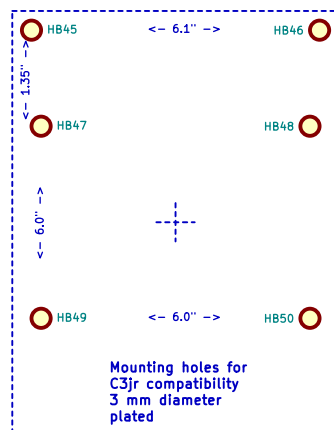
KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Rev: rev 1

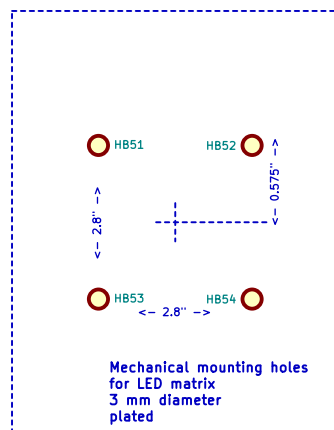
Id: 9/12



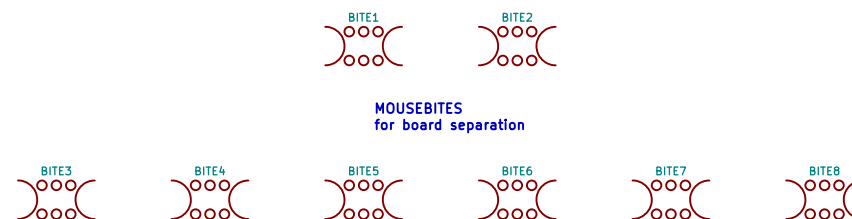
Mounting holes for piggy back attachment of "snap-off" control board. Use M3 HEX posts to connect LED board to control board



Mounting holes for C3jr compatibility 3 mm diameter plated



Mechanical mounting holes for LED matrix 3 mm diameter plated



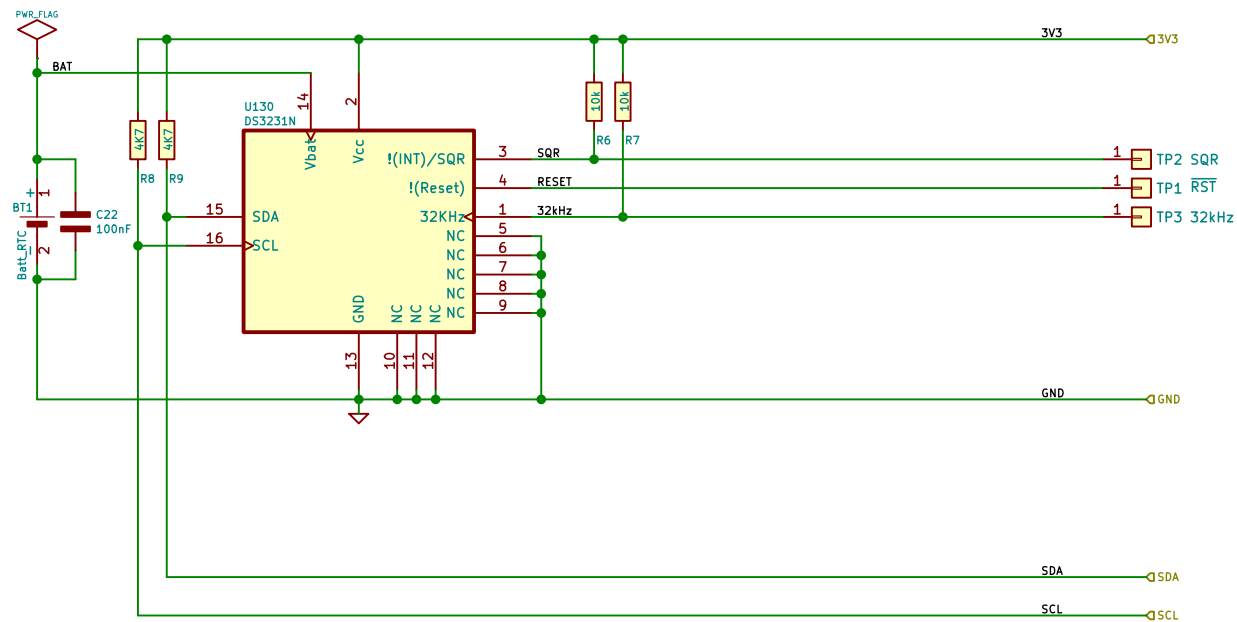
<https://github.com/wyolum/KlokTHREEjr>  
[www.wyolum.com](http://www.wyolum.com)

Sheet: /mechanical/  
 File: mechanical.sch

**Title: KlokTHREEjr**

Size: A4 Date: 2017-12-26  
 KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

**Rev: rev 1**  
 Id: 10/12



<https://github.com/wyolum/KlokTHREEjr>

[www.wyolum.com](http://www.wyolum.com)

Sheet: /rtc\_ds3231/

File: rtc\_ds3231.sch

**Title: KlokTHREEjr**

Size: A4

Date: 2017-12-26

Rev: rev 1

KiCad E.D.A. kicad no-vcs-found-67ccf7661ubuntu16.04.1

Id: 11/12

