

900



Sheet: /UI_LED/
File: UI_LED.kicad_sch

Title:

Size: A4
KiCad E.D.A. kicad-cli 7.0.11+1

Date:

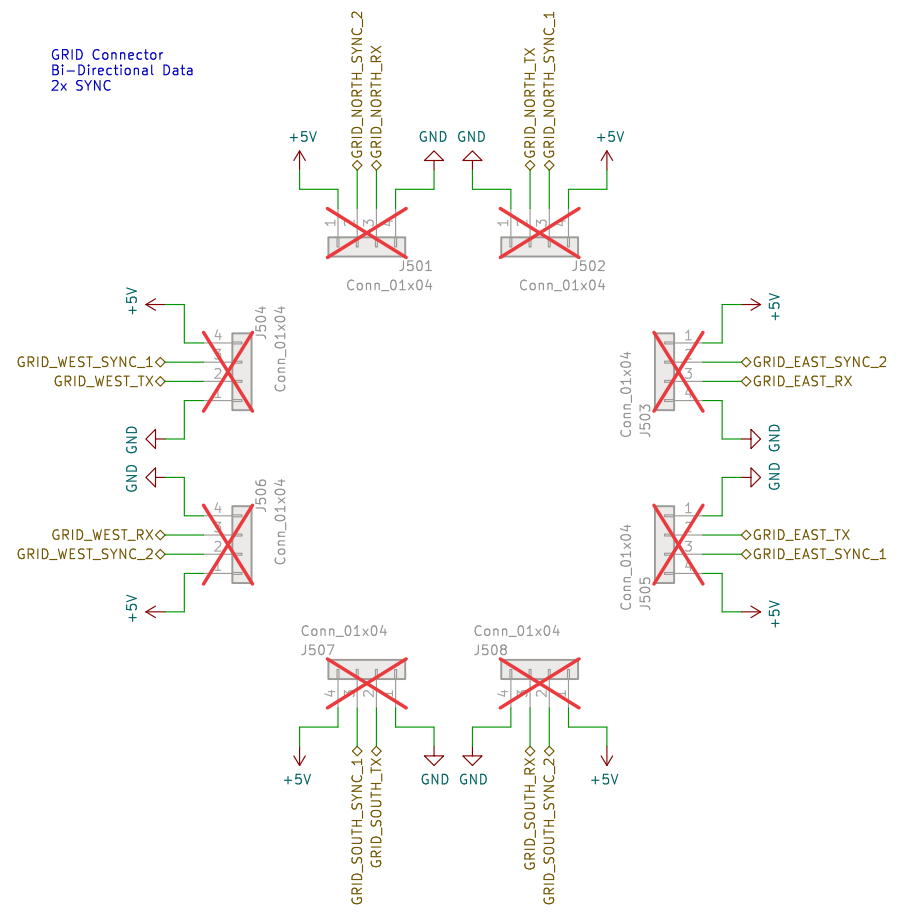
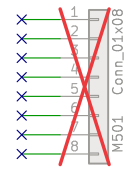
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GRID Connector
Bi-Directional Data
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
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ESD Diodes
ESD protection for all of the externally accessible nets.

+3V3 LDO Regulators
Regulators for generating independent power rails for the microcontroller and the user interface.

Components and Connections:

- J601 (TYPE-C-32-M-12):** USB Type-C connector. Pins A9B4, A4B9, A5, B5, A7, B7, A6, B6, A8, BB, A1B12, A12B1, S1, S2, S3, S4, and SHIELD are shown. S1, S2, S3, and S4 are connected to ground via capacitors C603 (4n7) and resistors R603 (1M).
- U601 (C5451661):** ESD protection diodes for USB_DATA_N, USB_DATA_P, and VBUS.
- U602 (LN1134A332MR-G):** +3V3 LDO regulator. Input is connected to VBUS +5V via inductor L601. Output is connected to +3V3. EN pin is connected to PWR_FLAG. GND pin is connected to ground.
- Passive Components:**
 - Capacitors: C601 (1u), C602 (1u), C603 (4n7).
 - Resistors: R601 (5k1), R602 (5k1), R603 (1M).
- Test Points:** TP601 (GND), TP602 (VBUS), TP603 (D-), TP604 (D+), TP605 (UI).

**Sheet: /MCU/Sheet60F06FE1/
File: USB_POWER.kicad_sch**

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OPEN IF EN16
CLOSED IF NO DETENT

JP801
(NF)

R801
5k1

+3V3

GND

DATA_IND

U801
74HC165

SI

D0

D1

D2

D3

D4

D5

D6

D7

CLK

INH

SH/LD

VCC

Q0

Q1

Q2

Q3

HWCFG_DATA

HWCFG_LOW

HWCFG_HIGH

C801
100n

GND

HWCFG_CLOCKD

HWCFG_SHIFTD

GND

Board Identification

Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

4b'Model + 4b'Revision + nb'Reserved (Multiple shift registers)

D0: MODEL (LSB)
D1: MODEL
D2: MODEL
D3: MODEL (MSB)
D4: REVISION (LSB)
D5: REVISION
D6: REVISION
D7: REVISION (MSB)

Model Codes (D3-D0):

Po16 0000
Bo16 0001
PBF4 0010
EN16 0011
...

Revision Codes (D7-D4):

RevA 0000
RevB 0001
RevC 0010
RevD 0011
...

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Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

D0: MODEL (LSB)
D1: MODEL
D2: MODEL
D3: MODEL (MSB)
D4: REVISION (LSB)
D5: REVISION
D6: REVISION
D7: REVISION (MSB)

Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

```
RevA 0000
RevB 0001
RevC 0010
RevD 0011
...
```

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Sheet: /UI_ENC/ENCODER_0/
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Sheet: /UI_ENC/ENCODER_3/
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Sheet: /UI_ENC/ENCODER_1/
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Title:

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