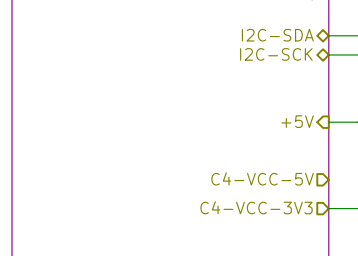
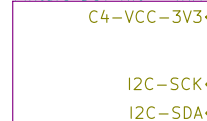


# Fixture Dev Kit – Functional Computer



FixtureDevKit-Functional-Computer.sch

## Fixture Dev Kit – INA



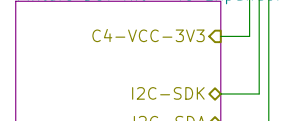
FixtureDevKit-INA.sch

## Fixture Dev Kit – ADS



FixtureDevKit-ADS.sch

## Fixture Dev Kit – IO Expander



FixtureDevKit-IOExpander.sch

# Fixture Dev Kit – DUT



Fixture-Dev-Kit\_DUT.sch

## Fixture Dev Kit Dummy Loads



FixtureDevKit-Loads.sch

## Fixture Dev Kit – PMosfets



FixtureDevKit-PMosfet.sch

## Fixture Dev Kits – NMosfets

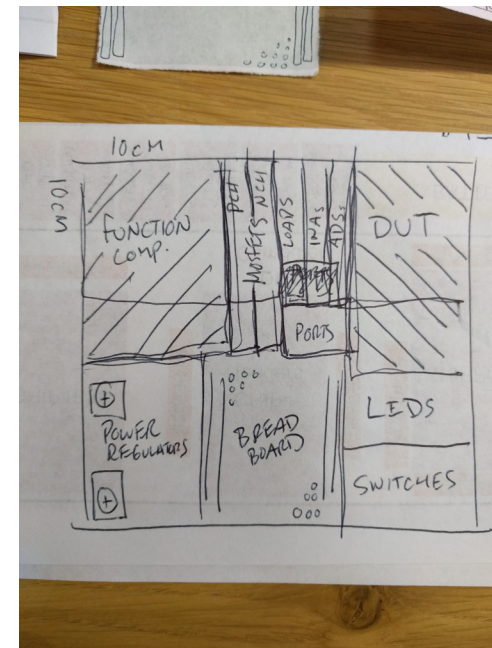


FixtureDevKit-NMosfets.sch

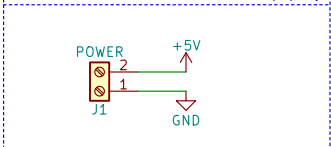
## Fixture Dev Kit Switches

- Led Part Number (color, size)
- confirm LED circuit
- is 1K resistor correct?

FixtureDevKit\_Switches.sch



## 5V-10A Power Supply



Havin' a Blast!

Next Thing Co

Sheet: /

File: Fixture-Dev-Kit.sch

Title: CHIP4 Fixture Dev Kit

Size: USLetter Date: 2017-10-25

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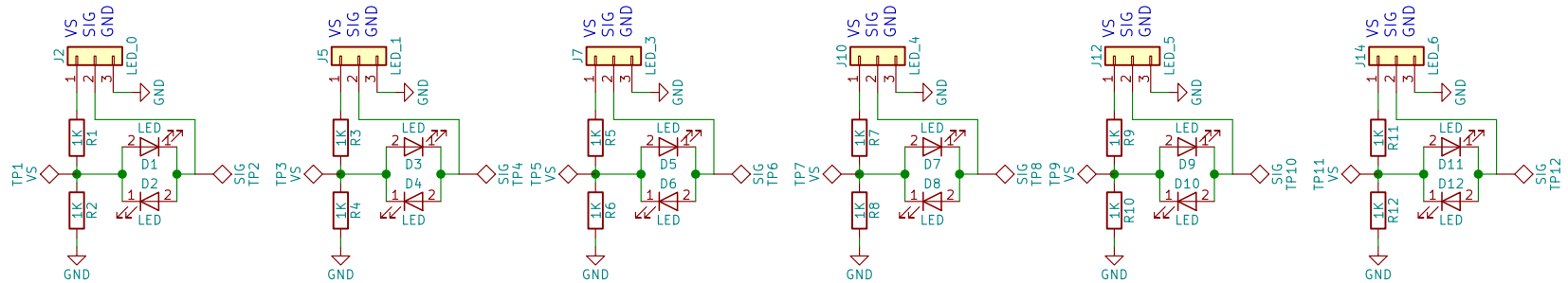
Rev: v0.01

Id: 1/10

## LED\_Status\_Indicators

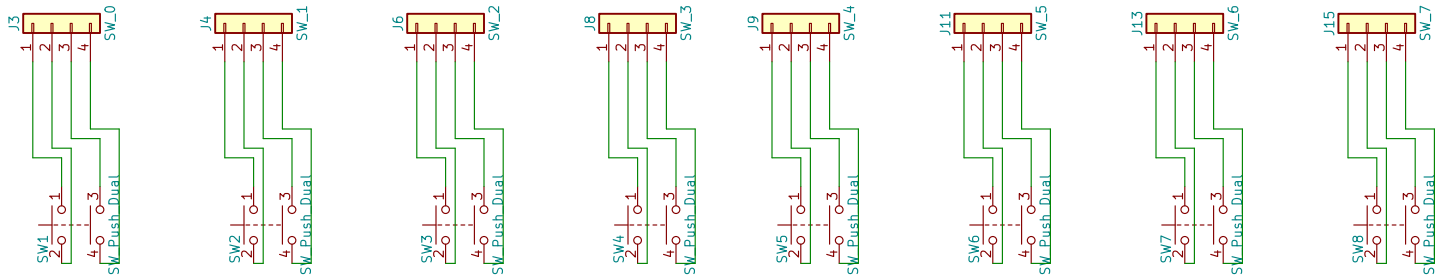
### NOTES:

HIGH side LED = Violet/Purple  
LOW side LED = Ultra Emerald Green



## BUTTONS :)

### NOTES:



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**Next Thing Co**

Sheet: /Fixture Dev Kit Switches/  
File: FixtureDevKit\_Switches.sch

**Title: Buttons and LEDs**

Size: USLetter Date: 2017-10-25




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**Rev: v0.01**

Id: 2/10

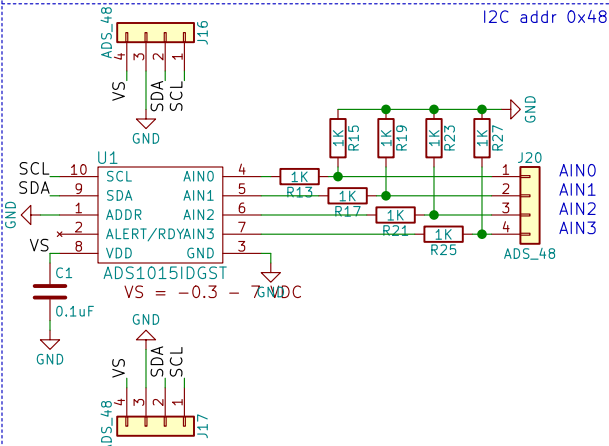
# ADS Voltage Read Circuit

## Sheet Connections

I2C-SDA  SDA  
I2C-SCK  SCL  
C4-VCC-3V3  VS

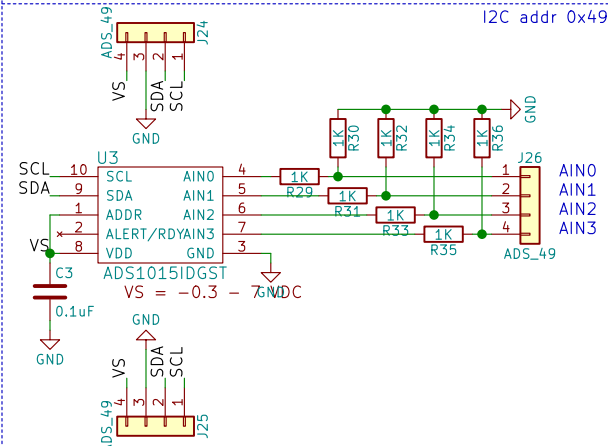
### ADS\_48

I2C addr 0x48



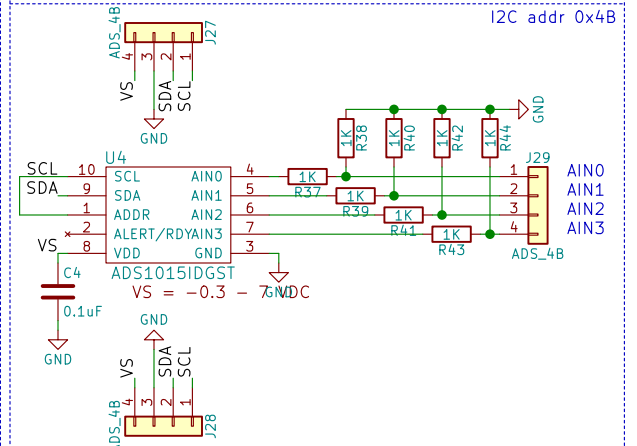
### ADS\_49

I2C addr 0x49



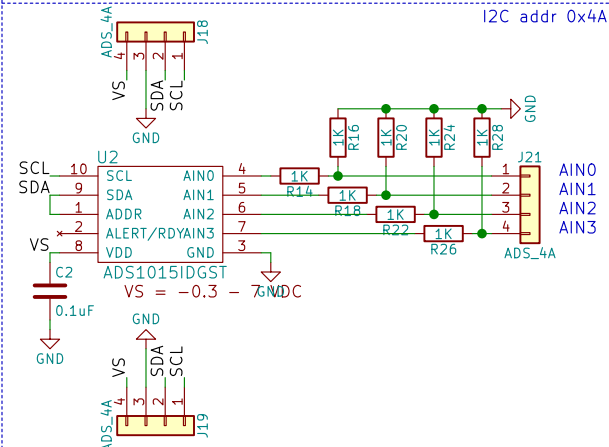
### ADS\_4B

I2C addr 0x4B

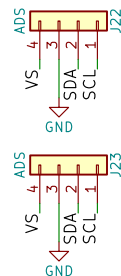


### ADS\_4A

I2C addr 0x4A



## Main Circuit Headers



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Next Thing Co

Sheet: /Fixture Dev Kit - ADS/

File: FixtureDevKit-ADS.sch

**Title: ADS Circuits**

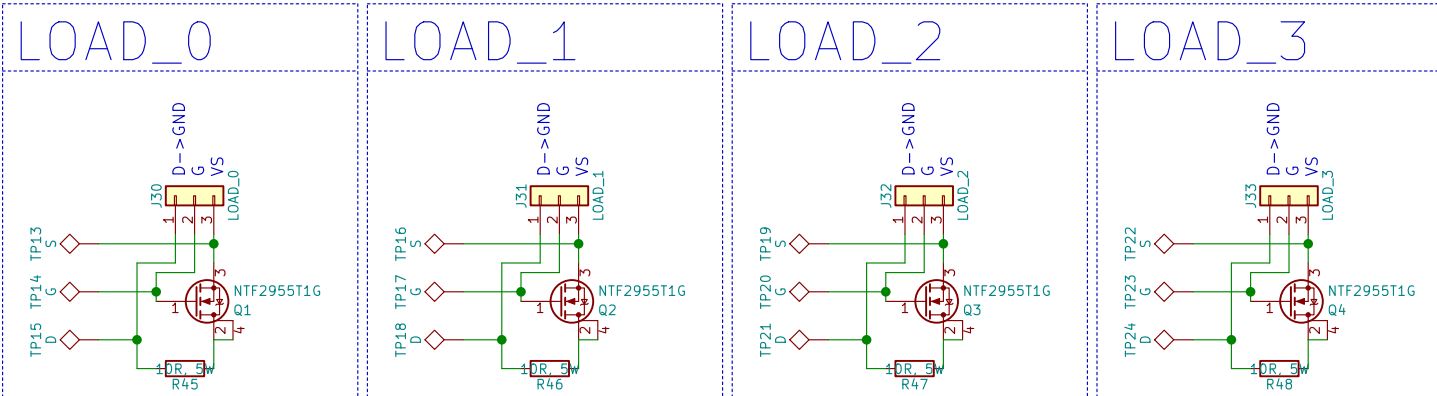
Size: USLetter Date: 2017-10-25

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**Rev: v0.01**

Id: 3/10

# Dummy Load Circuit



## Ohm's Law Cheat Sheet

$V = C * R$			
$P = V * I$			
V	I	R	P
5	0.5	10	5

Havin' a Blast!

**Next Thing Co**

Sheet: /Fixture Dev Kit Dummy Loads/  
File: FixtureDevKit-Loads.sch

**Title: Dummy Loads**

Size: USLetter Date: 2017-10-25

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**Rev: v0.01**

Id: 4/10

**DUT**

**DUT - Left Header**

J34 J36 J38

GND VCC-5V VCC-3V3 IPSOUT I2C\_SDA\_A0 I2C\_SCK\_A0 GND GPIOH\_6 GPIOH\_7 GPIOH\_8 GPIOH\_9 GPIOX\_8 GPIOX\_9 GPIOX\_10 GPIOX\_11 GPIOX\_16 AXP\_GPIO\_1 AXP\_GPIO\_2 GND GND

CHG-IN GND TS BAT PWRON GND PWM\_A0\_A PWM\_A0\_B PWM\_C GPIODV\_6 GPIODV\_7 GPIODV\_14 GPIODV\_15 GPIODV\_22 GPIODV\_23 SARADC\_1V8\_OUT SARADC\_CH2 SARADC\_CH3 GND GND

D-TS D-BAT D-PWRON\_SW

Conn\_01x20

CHIP4LH

**DUT - Right Header**

J47 J52 J53

GND UART\_TX\_A0\_A UART\_RX\_A0\_A UPDATE VCC-3V3 GPIOH\_4 GPIODV\_16 GPIODV\_17 GPIODV\_18 GPIODV\_19 GPIODV\_20 GPIODV\_21 GPIODV\_24 GPIODV\_25 GPIODV\_26 GPIODV\_27 GPIODV\_28 GPIODV\_29 GND

VCC-5V LOLP LOLN LORP LORN AGND GPIODV\_0 GPIODV\_1 GPIODV\_2 GPIODV\_3 GPIODV\_4 GPIODV\_5 GPIODV\_8 GPIODV\_9 GPIODV\_10 GPIODV\_11 GPIODV\_12 GPIODV\_13 GPIODV\_14

GND

Conn\_01x20

CHIP4RH

**DUT - B2B Conn**

J54 J55 J56

GND GND GND GND PWRON LOLN LORP LORN GPIOZ\_0 GPIOZ\_1 GPIOZ\_2 GPIOZ\_3 GPIOZ\_4 GPIOZ\_5 GPIOZ\_6 GPIOZ\_7 GPIOZ\_8 GPIOZ\_9 GPIOZ\_10 GPIOZ\_11 GPIOZ\_12 GPIOZ\_13 GPIOZ\_14 GPIOZ\_15 USBOTG\_B\_DP USBOTG\_B\_DM USBOTG\_B\_ID UPDATE HW\_ID GND GND GND GND GND

BAT BAT BAT BAT BAT TS GPIODV\_0 GPIODV\_1 GPIODV\_2 GPIODV\_3 GPIODV\_4 GPIODV\_5 GPIODV\_8 GPIODV\_9 GPIODV\_10 GPIODV\_11 GPIODV\_12 GPIODV\_13 GPIODV\_16 GPIODV\_17 GPIODV\_18 GPIODV\_19 GPIODV\_20 GPIODV\_21 GPIODV\_24 GPIODV\_25 GPIODV\_26 GPIODV\_27 GPIODV\_28 GPIODV\_29 USB\_VBUS USB\_VBUS USB\_VBUS USB\_VBUS

D-PWRON\_SW D-TS D-BAT

Conn\_01x35

CHIP4B2B

**D-PWRON\_BUTTON**

D-PWRON\_SW

SW\_Push

GND

**D-USBOTG-TPs**

J37 USB\_OTG

TP25 VBUS TP26 B\_D+ TP27 B\_D- TP28 USB-ID

J40 J43 J44 J49 J50 J51

VBUS TP29 A\_D+ A\_D- TP30

GND

**D-USB-A-TPs**

J48 USB\_A

VBUS TP29 A\_D+ A\_D- TP30

GND

**D-BAT\_CONN**

J35

D-BAT

GND

**STATUS\_LED**

D-STATUS\_LED

47K1

D13 LED

GND

**DUT TPs**

J45 J46

UPDATE ANT--SELECT

**Title: DUT**

Size: USLetter Date: 2017-10-25 Rev: v0.01

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## DUT – Right Header

D-PWRON BUTTON

## D-USBOTG-TPs

## D-USB-A-TPs

## D-BAT CONN

STATUS LED

DUT TP<sub>s</sub>

**Next Thing Co**

**Title:** DUT

Size: USLetter	Date: 2017-10-25
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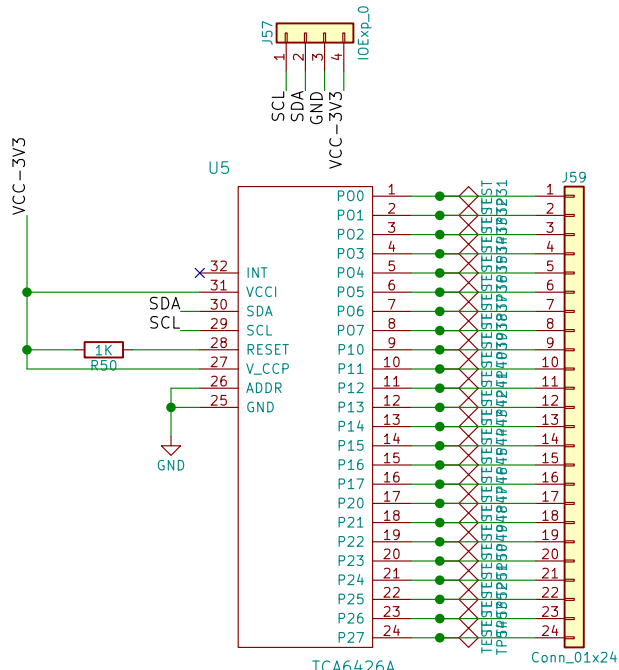
KiCad E.D.A.	kicad 4.0.7-e2-637658ubuntu17.04.1
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Rev: v0.01

Id: 5/10

# IO Expander

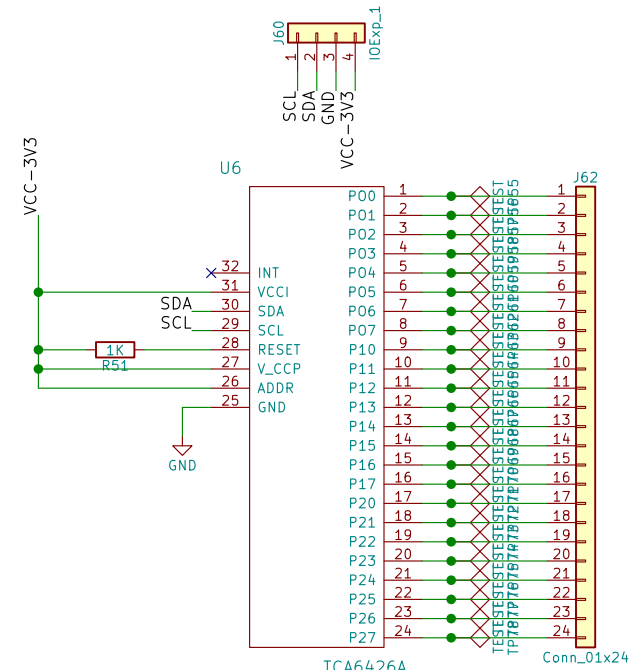
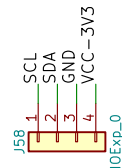
## Sheet Connections



TCA6426A

Conn\_01x24

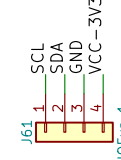
I2C Addr: 0x22



TCA6426A

Conn\_01x24

I2C Addr: 0x23



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**Next Thing Co**

Sheet: /Fixture Dev Kit - IO Expander/  
File: FixtureDevKit-IOExpander.sch

**Title: IO Expanders**

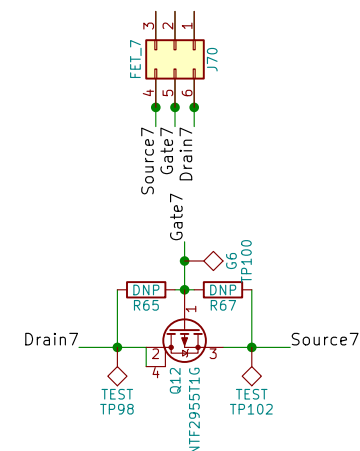
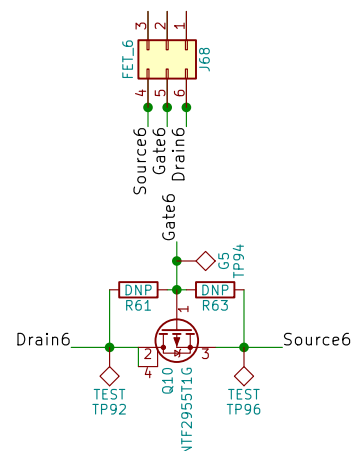
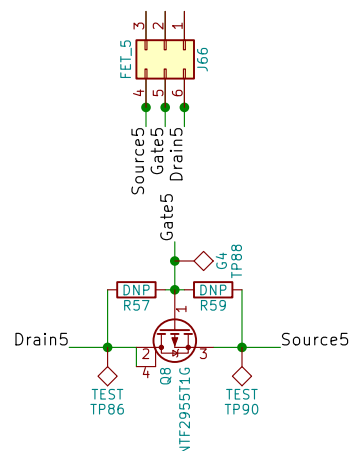
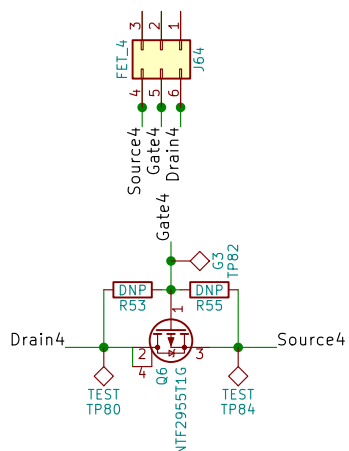
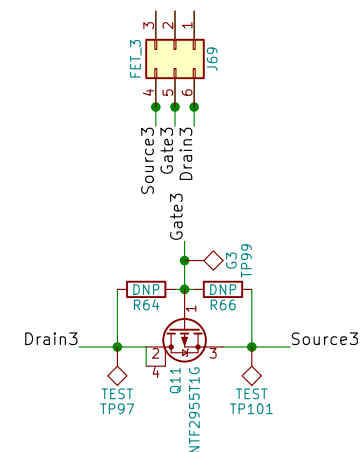
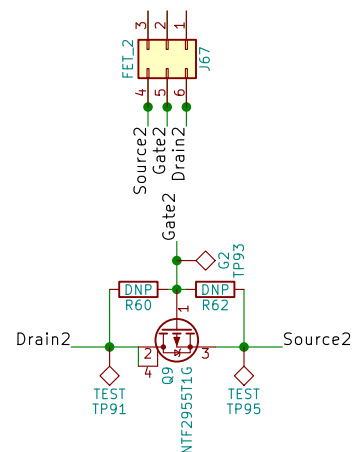
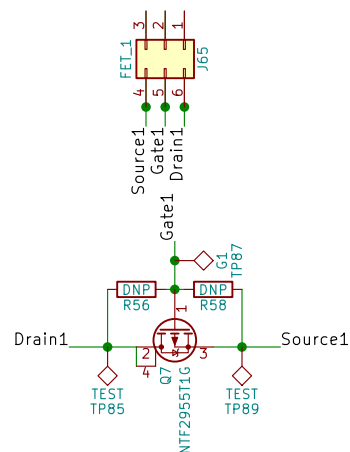
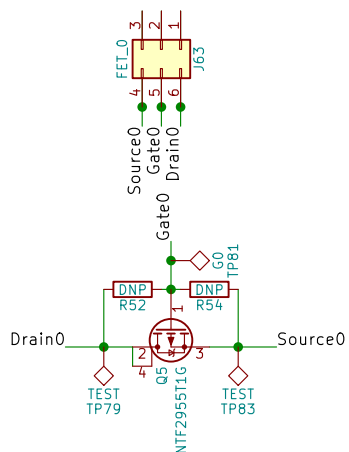
Size: USLetter Date: 2017-10-25

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**Rev: v0.01**

Id: 6/10

# P-Channel Mosfet Circuits



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**Next Thing Co**

Sheet: /Fixture Dev Kit - PMosfets/

File: FixtureDevKit-PMosfet.sch

**Title: P-Channel MOSFETS**

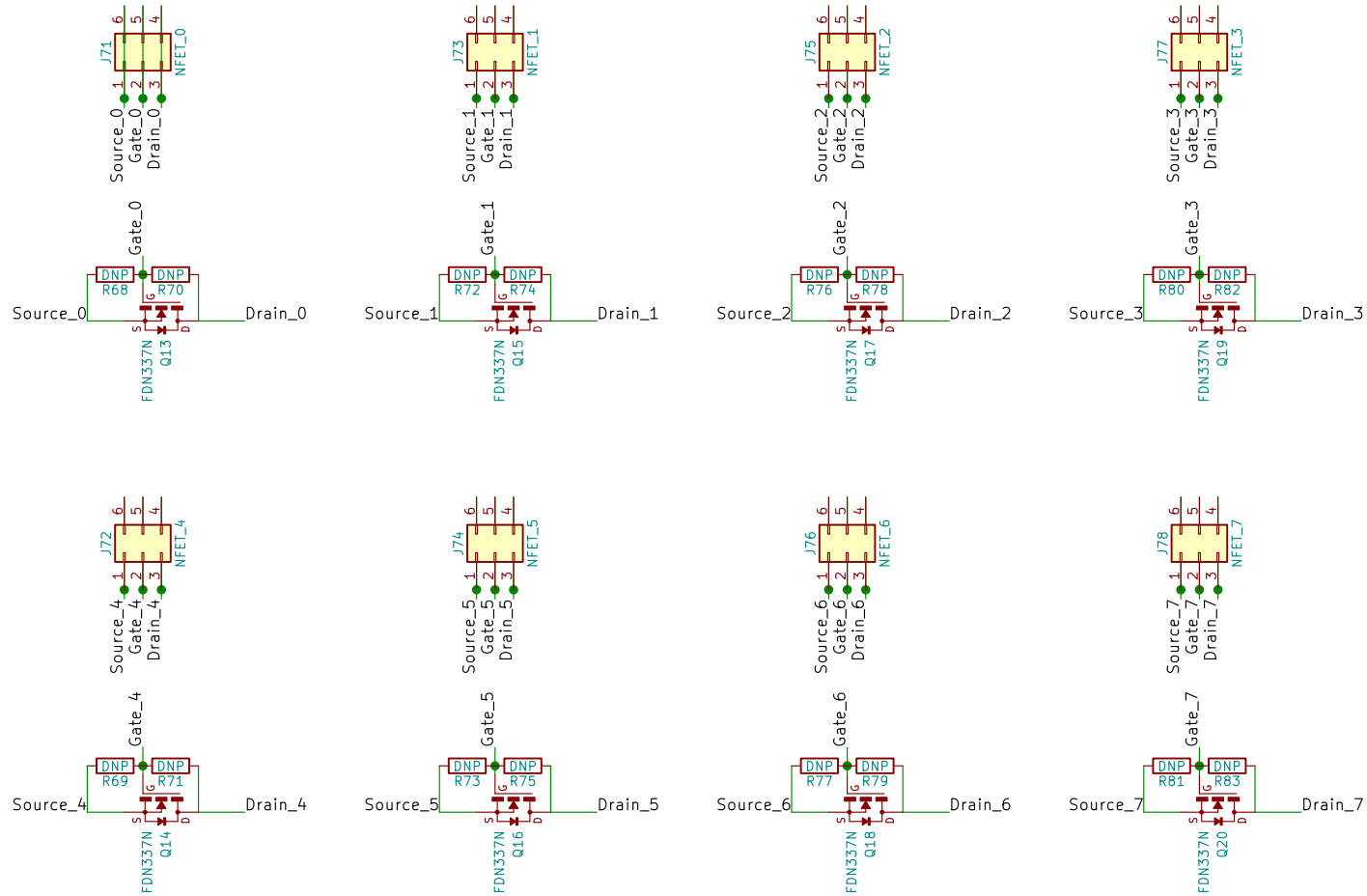
Size: USLetter Date: 2017-10-25

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**Rev: v0.01**

Id: 7/10

# N-Channel Mosfets



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**Next Thing Co**

Sheet: /Fixture Dev Kits - NMosfets/  
File: FixtureDevKit-NMosfets.sch

**Title: N-Chanel MOSFETS**

Size: USLetter Date: 2017-10-25

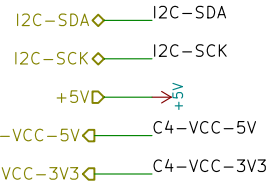
KiCad E.D.A. kicad 4.0.7-e2-637658ubuntu17.04.1

**Rev: v0.01**

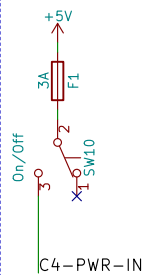
Id: 8/10



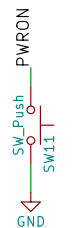
## Sheet Connections



## PWRSW



## PWRON



## STATUS LED



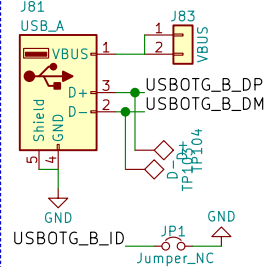
## TS



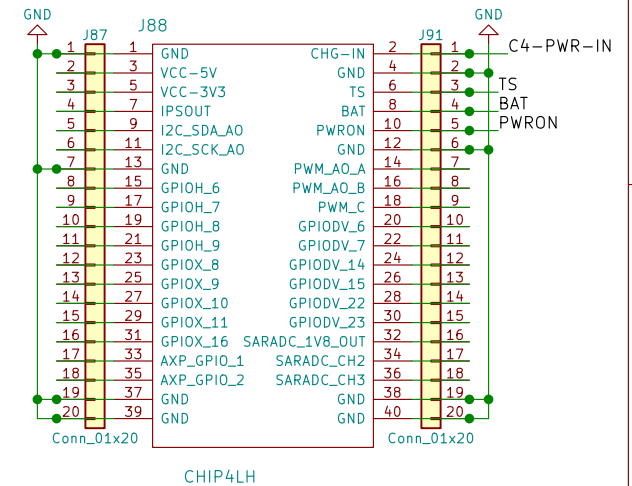
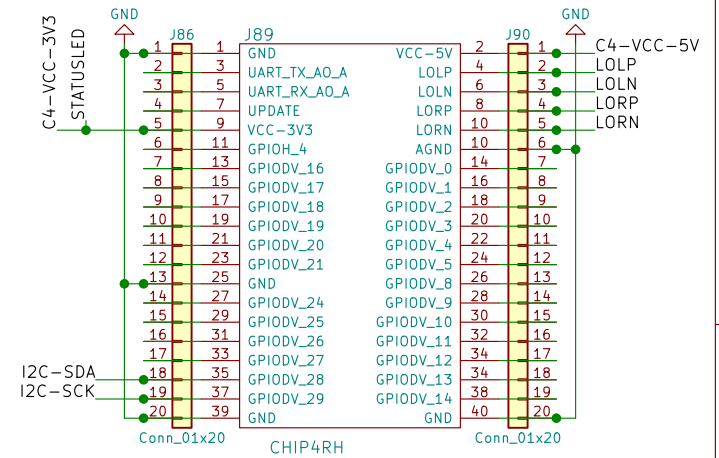
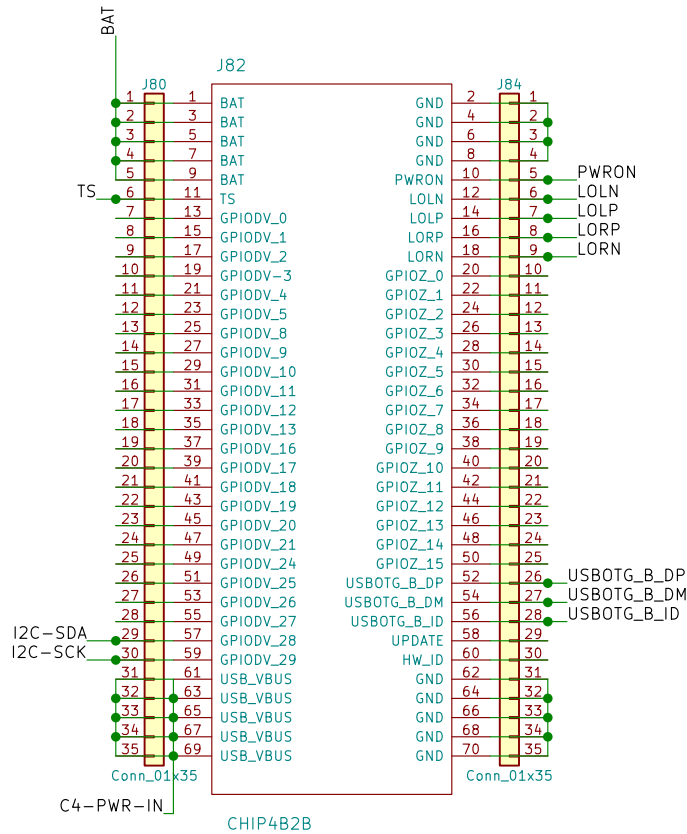
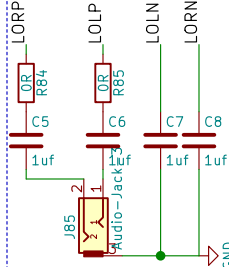
## BAT



## B2B USB-A



## B2B Audio



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Next Thing Co

Sheet: /Fixture Dev Kit - Functional Computer/  
 File: FixtureDevKit-Functional-Computer.sch

Title: CHIP4 Functional Computer

Size: USLetter Date: 2017-10-25

KiCad E.D.A. kicad 4.0.7-e2-637658ubuntu17.04.1

Rev: v0.01

Id: 9/10

## Sheet Connections

I2C-SDA  SDA

I2C-SCK  SCL

C4-VCC-3V3  VCC

I2C addr 0x40



I2C addr 0x41



## Headers



I2C addr 0x42



I2C addr 0x43



**Next Thing Co**

Sheet: /Fixture Dev Kit – INA/  
File: FixtureDevKit-INA.sch

**Title: INA Circuits**

Size: USLetter	Date: 2017-10-25
KiCad E.D.A. kicad 4.0.7-e2-637658ubuntu17.04.1	

Rev: v0.01  
Id: 10/10