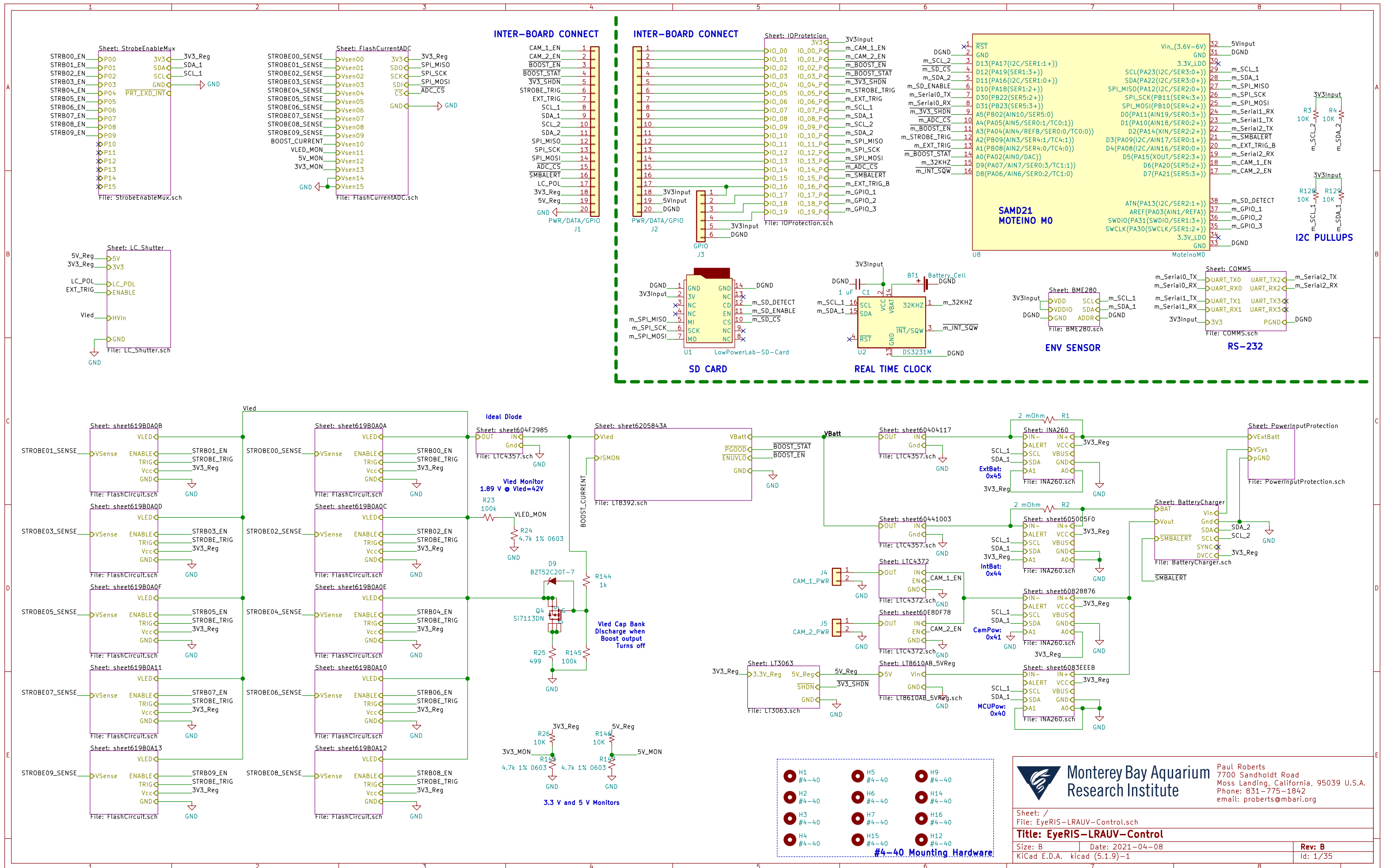
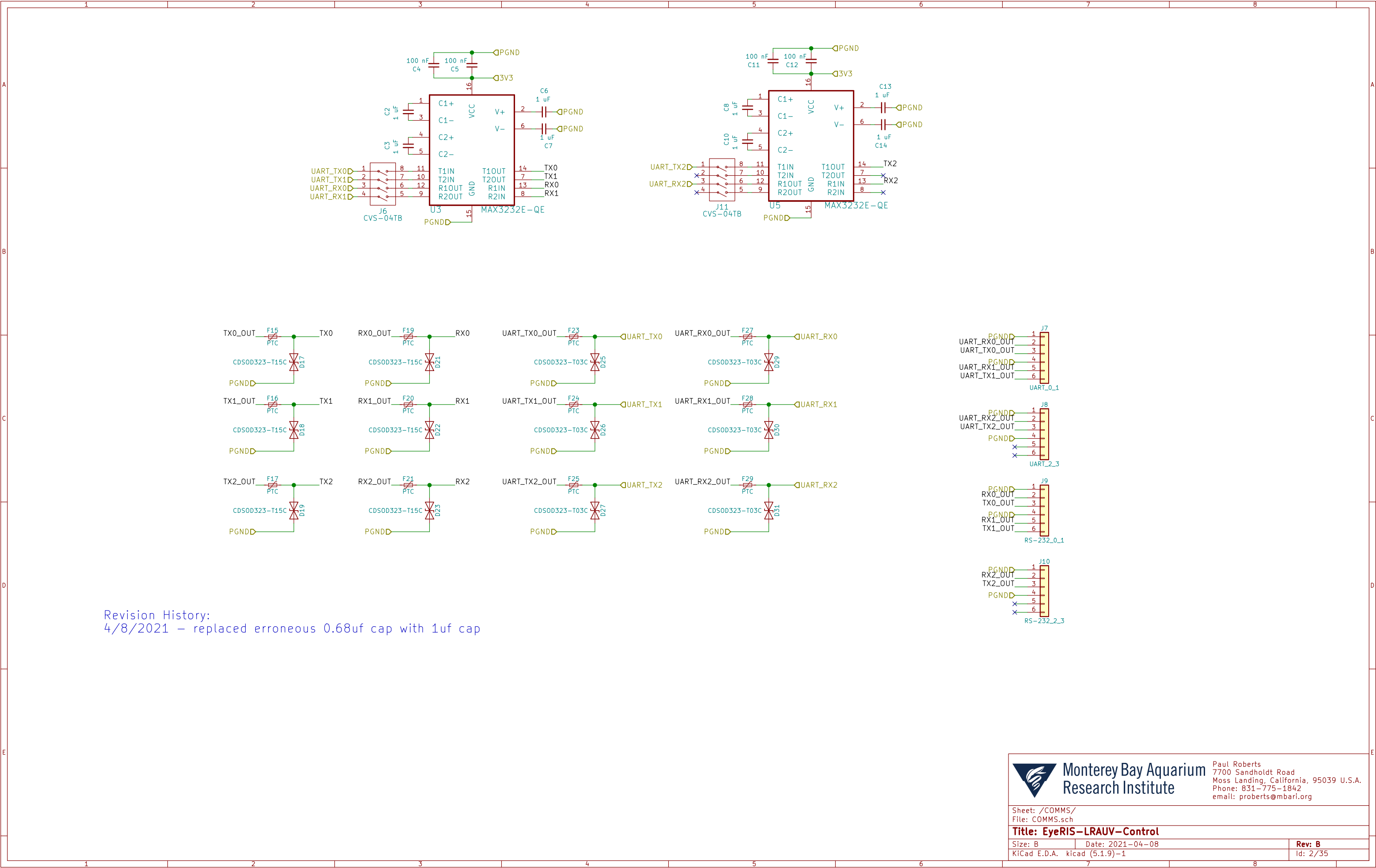






Revision History:
4/8/2021 – replaced erroneous 0.68uf cap with 1uf cap

7.2 Connection diagram I²C

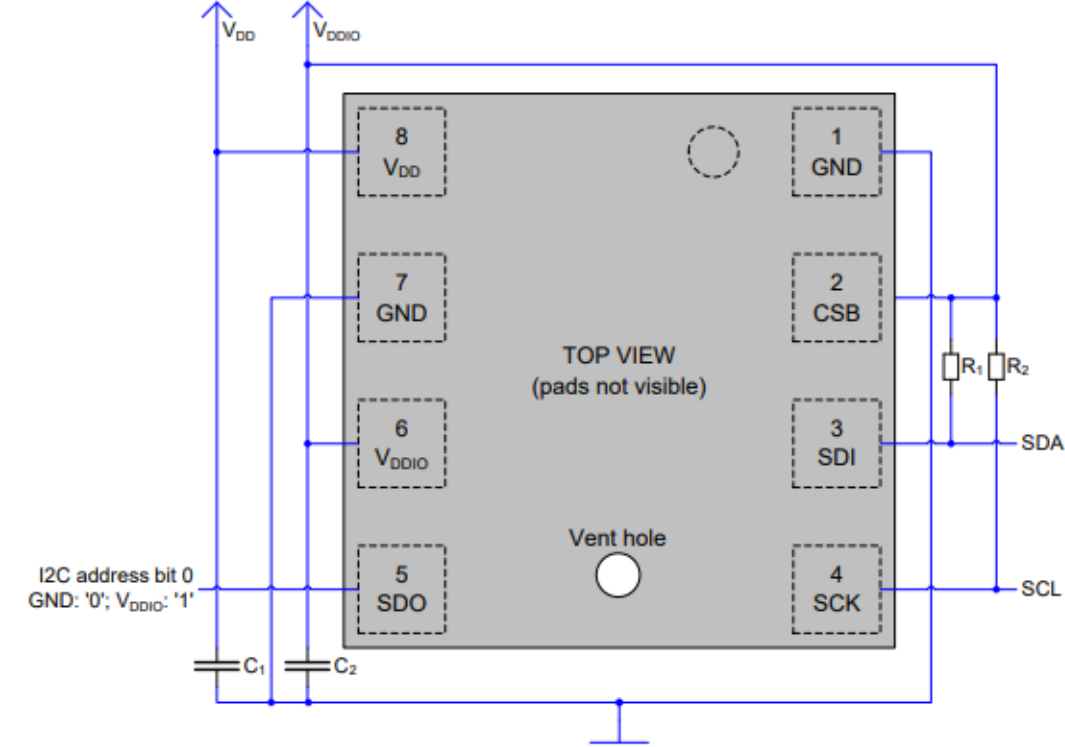
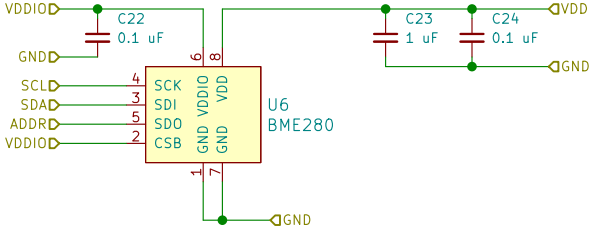


Figure 17: I²C connection diagram

Notes:

- The recommended value for C₁, C₂ is 100 nF
- The value for the pull-up resistors R₁, R₂ should be based on the interface timing and the bus load; a normal value is 4.7 kΩ
- A direct connection between CSB and VDDIO is required



ADDR = GND -> 0x76
ADDR = VDDIO -> 0x77



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Sheet: /BME280/
File: BME280.sch

Title: EyeRIS-LRAUV-Control

Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 3/35

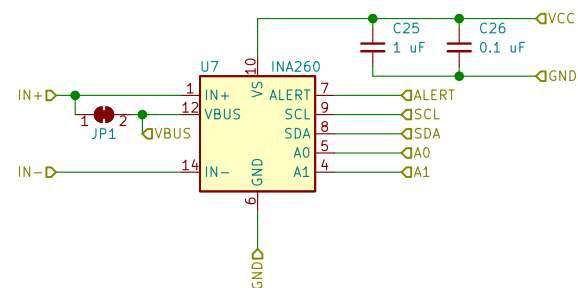


Table 2. Address Pins and Slave Addresses

A1	A0	SLAVE ADDRESS
GND	GND	1000000
GND	VS	1000001
GND	SDA	1000010
GND	SCL	1000011
VS	GND	1000100
VS	VS	1000101
VS	SDA	1000110
VS	SCL	1000111
SDA	GND	1001000
SDA	VS	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	VS	1001101
SCL	SDA	1001110
SCL	SCL	1001111



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Sheet: /INA260/
File: INA260.sch

Title: EyeRIS-LRAUV-Control

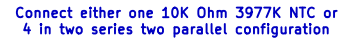
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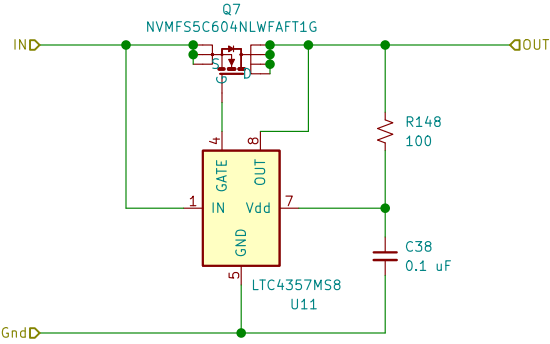
Date: 2021-04-08

Rev: B

Size: D	Date: 2021
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Sheet: /BatteryCharger/LTC4357/
File: LTC4357.sch

Title: LTC4357

Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 6/35

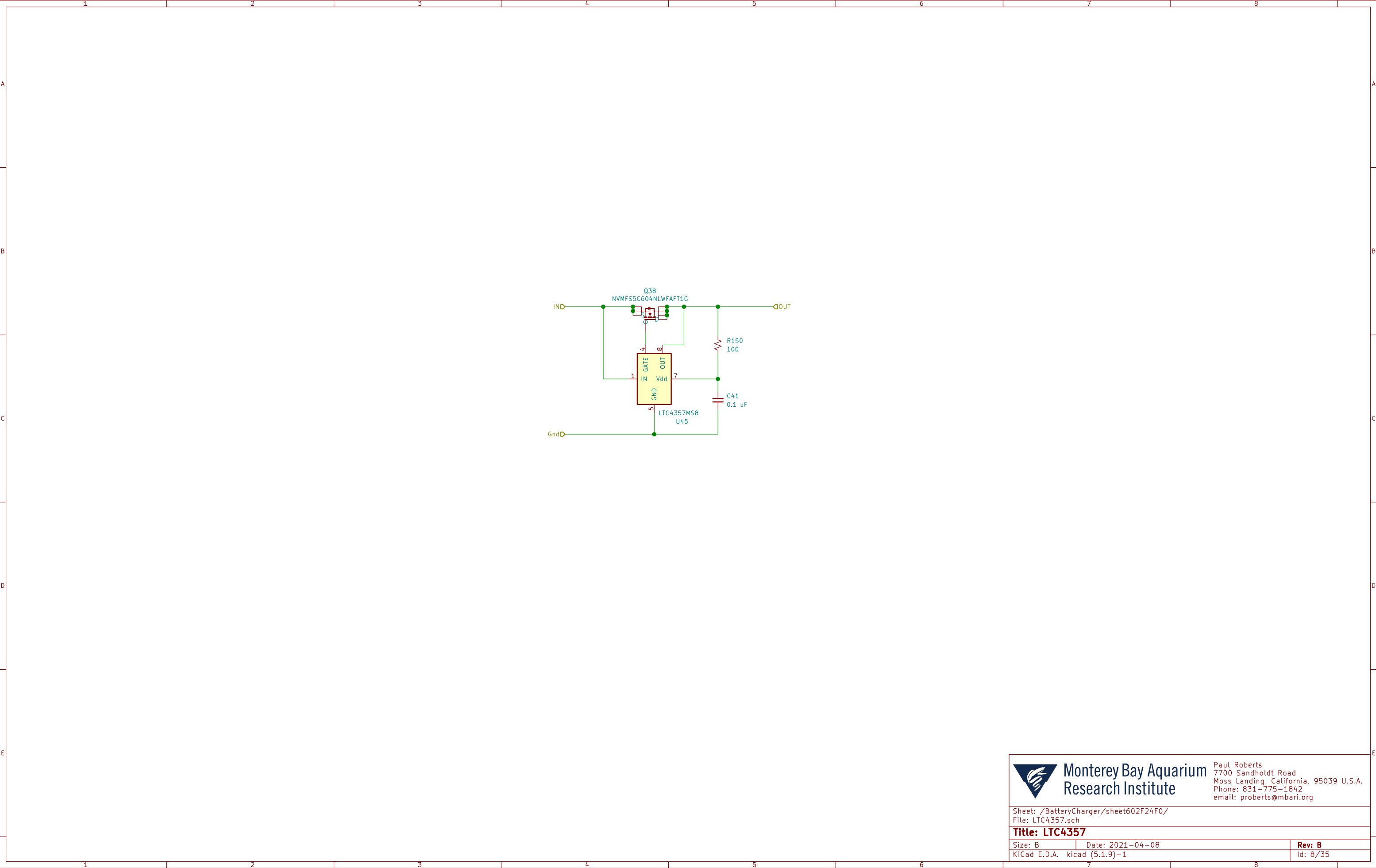


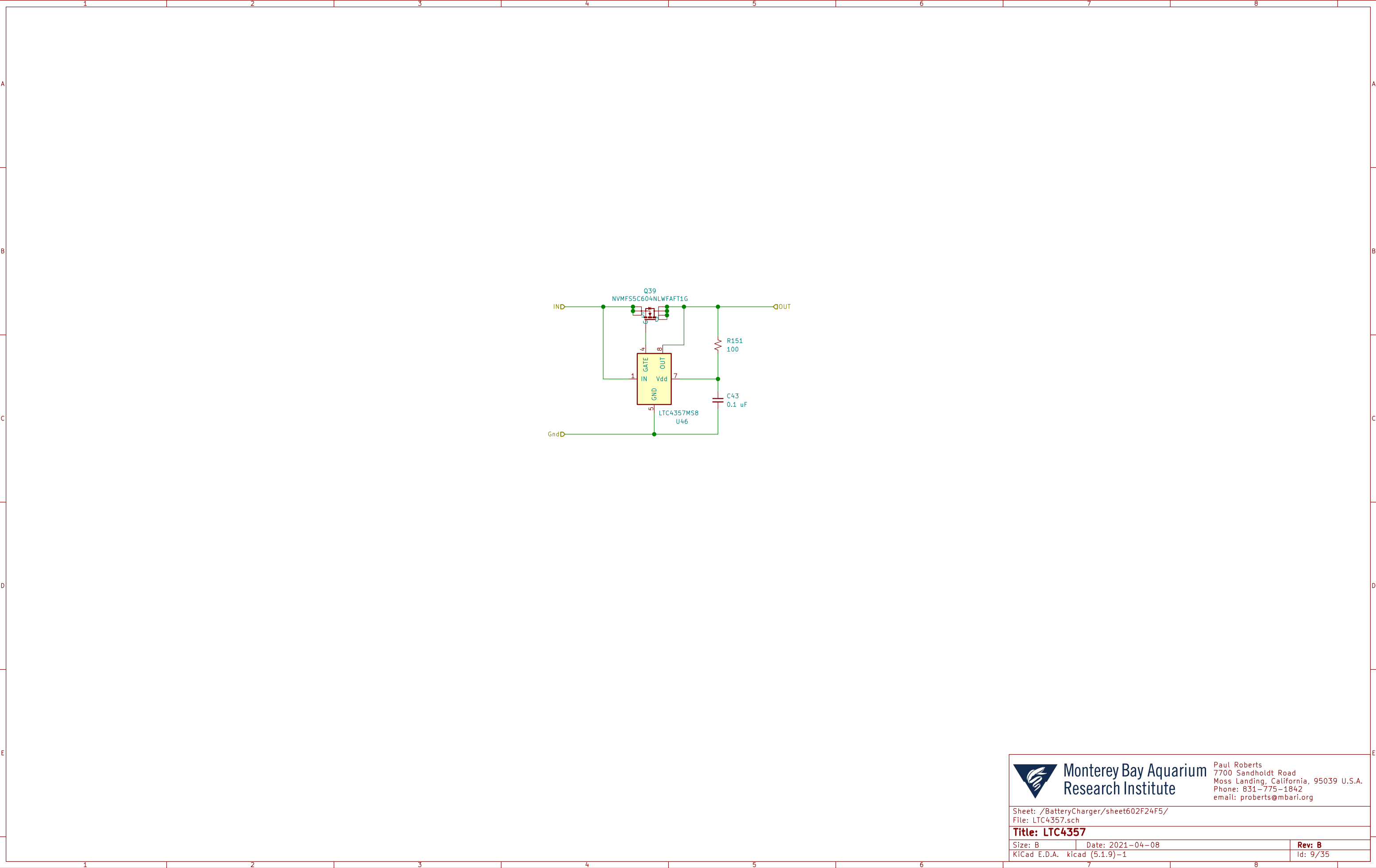
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email: proberts@mbari.org

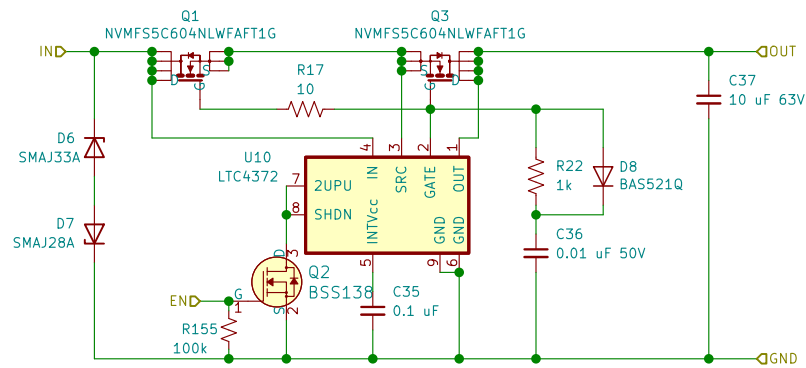
Title: LTC4357

Rev: B

d: 7/35







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Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 10/35

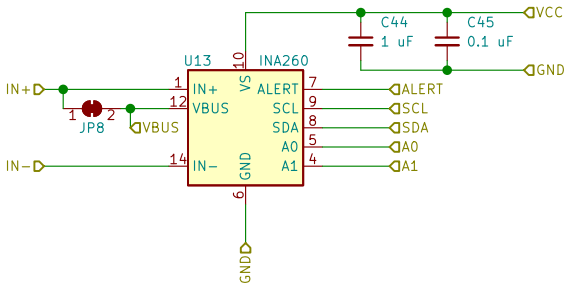


Table 2. Address Pins and Slave Addresses

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GND	VS	1000001
GND	SDA	1000010
GND	SCL	1000011
VS	GND	1000100
VS	VS	1000101
VS	SDA	1000110
VS	SCL	1000111
SDA	GND	1001000
SDA	VS	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	VS	1001101
SCL	SDA	1001110
SCL	SCL	1001111



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Sheet: /sheet605005F0/
File: INA260.sch

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Date: 2021-04-08

Rev: B
Id: 11/35

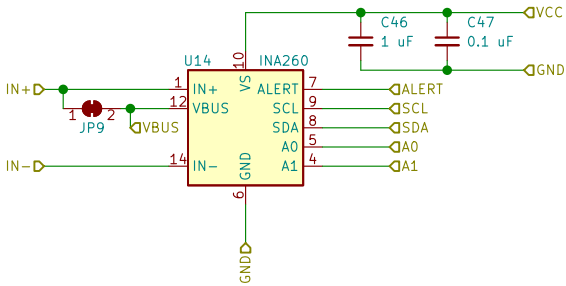


Table 2. Address Pins and Slave Addresses

A1	A0	SLAVE ADDRESS
GND	GND	1000000
GND	VS	1000001
GND	SDA	1000010
GND	SCL	1000011
VS	GND	1000100
VS	VS	1000101
VS	SDA	1000110
VS	SCL	1000111
SDA	GND	1001000
SDA	VS	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	VS	1001101
SCL	SDA	1001110
SCL	SCL	1001111



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Sheet: /sheet60828876/
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Title: EyeRIS-LRAUV-Control

Size: B
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Date: 2021-04-08

Rev: B
Id: 12/35

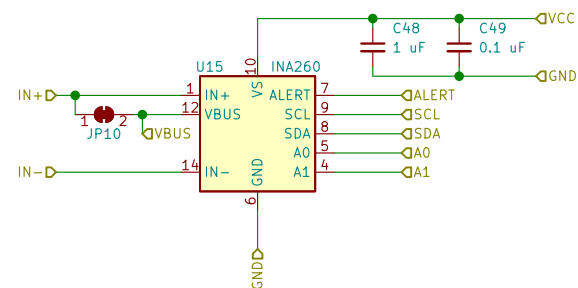


Table 2. Address Pins and Slave Addresses

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GND	GND	1000000
GND	VS	1000001
GND	SDA	1000010
GND	SCL	1000011
VS	GND	1000100
VS	VS	1000101
VS	SDA	1000110
VS	SCL	1000111
SDA	GND	1001000
SDA	VS	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	VS	1001101
SCL	SDA	1001110
SCL	SCL	1001111



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Sheet: /sheet6083EEEB/
File: INA260.sch

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Size: B

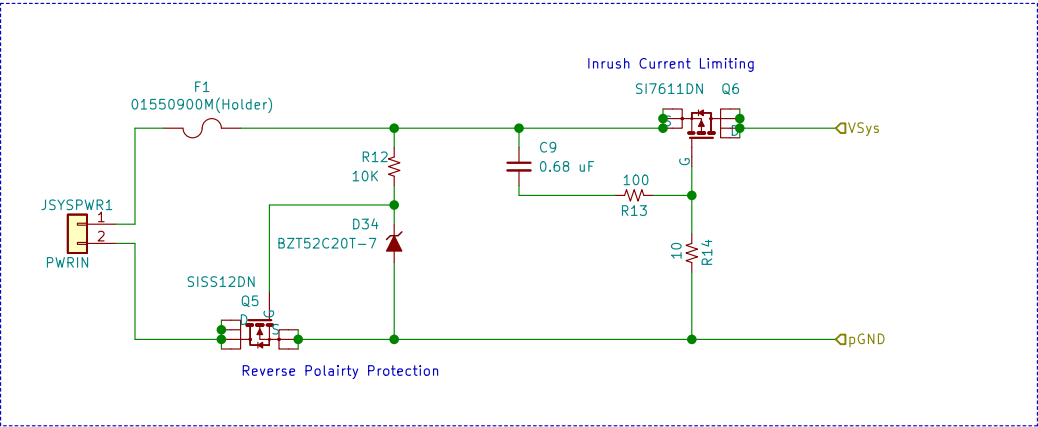
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Rev: B

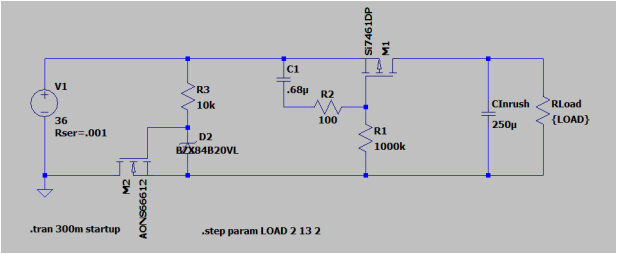
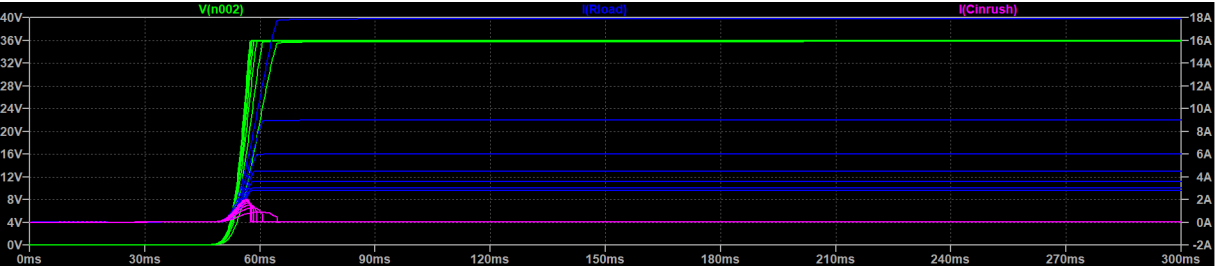
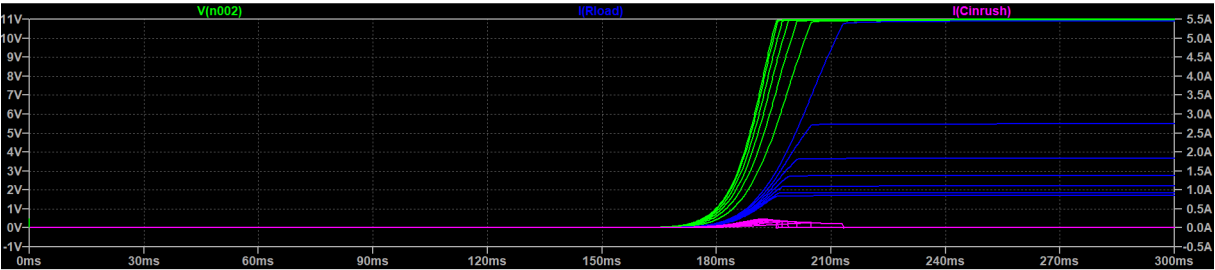
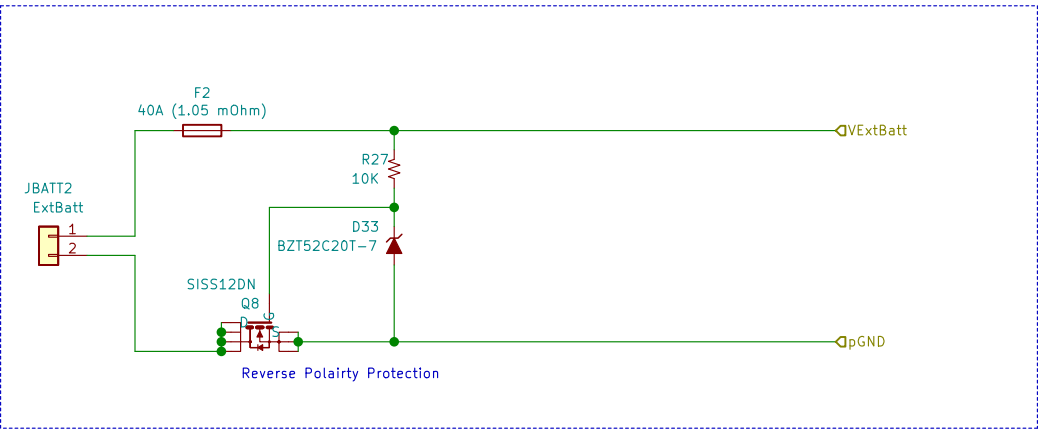
Size: D	Date: 2021-
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Id: 13/35

LRAUV Load Controller Power Input with RP protetcion and Inrush limit to 2A @ 36V



External Battery Input with RP protection and no Inrush limit



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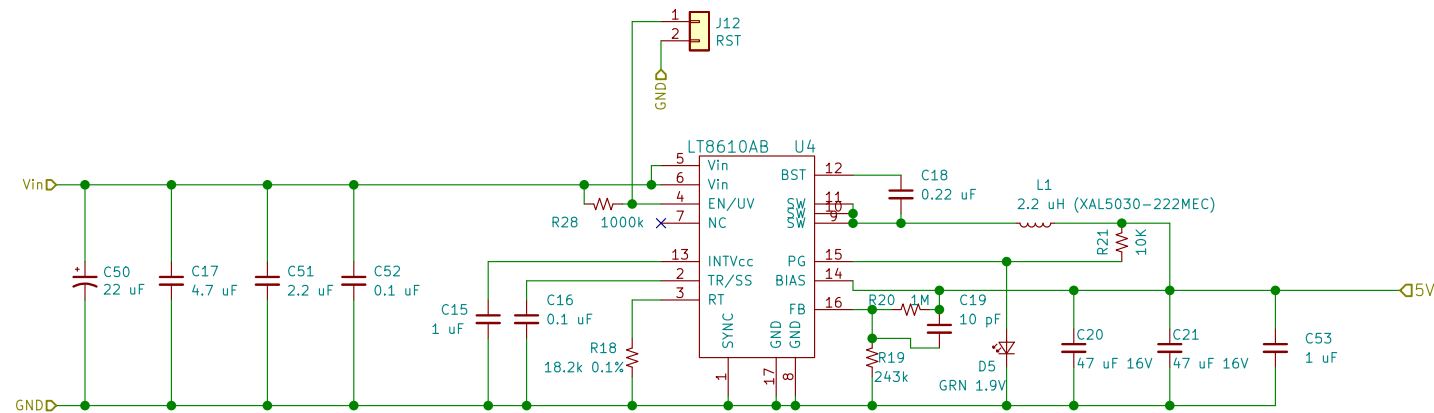
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File: PowerInputProtection.sch

Title: EyeRIS-LRAUV-Control

Size: B Date: 2021-04-08
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Rev: B
Id: 14/35



Notes:
Remove indicator LED (D5) if needed, power draw should be less than 1 mW at 5V out

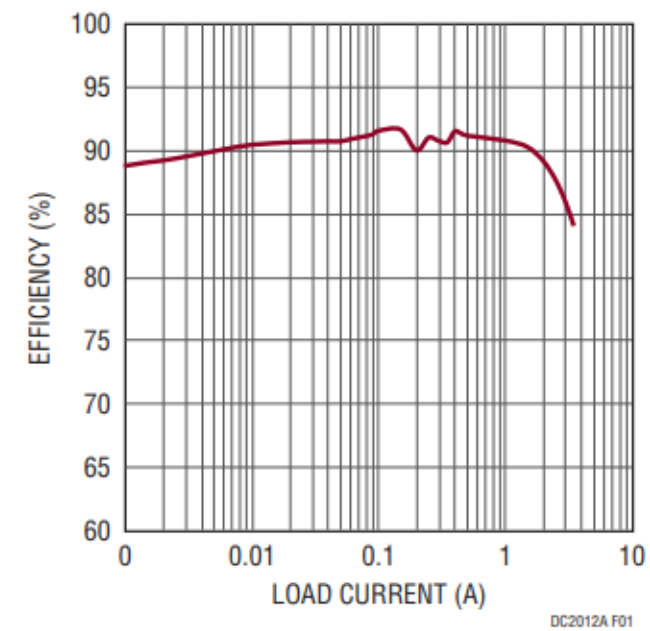


Figure 1. LT8610AB 12V_{IN} to 5V_{OUT} Efficiency at 2MHz Switching Frequency



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Sheet: /LT8610AB_5VReg/
File: LT8610AB_5VReg.sch

Title: EyeRIS-LRAUV-Control

Size: B Date: 2021-04-08
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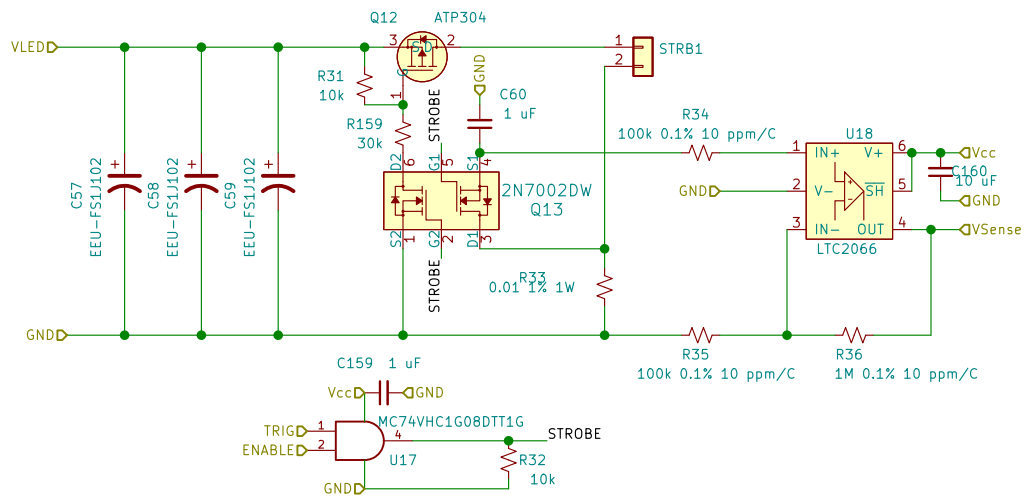
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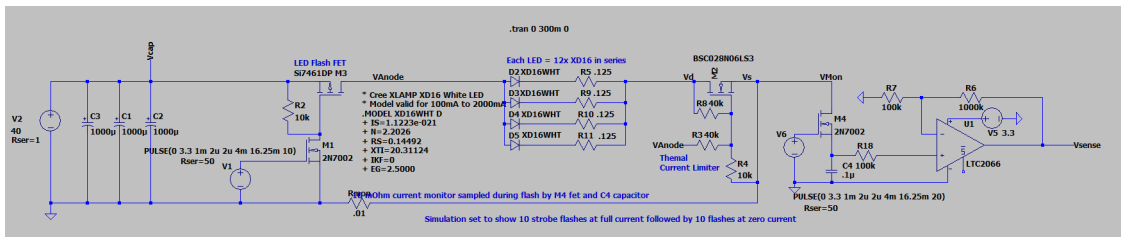
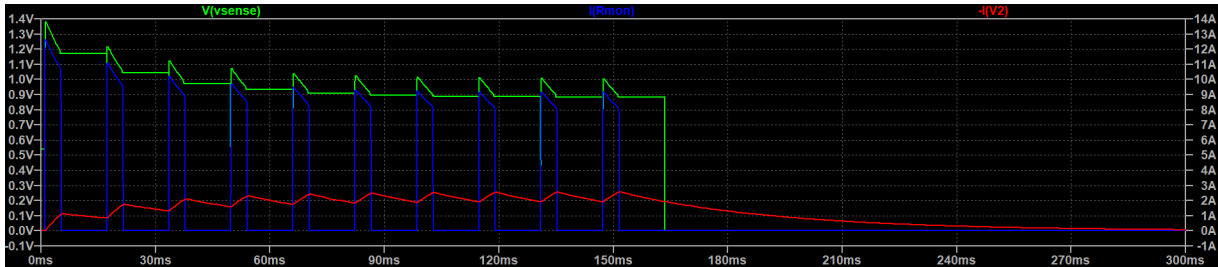
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Rev: B

Id: 16/35



LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings



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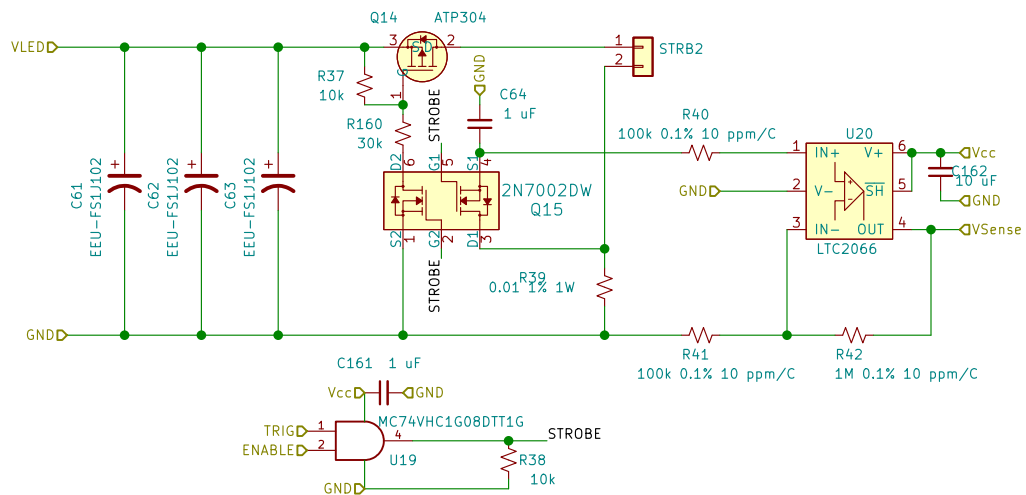
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email: proberts@mbari.org

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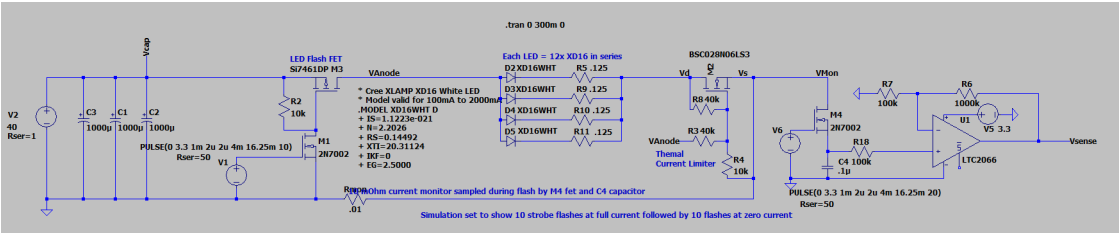
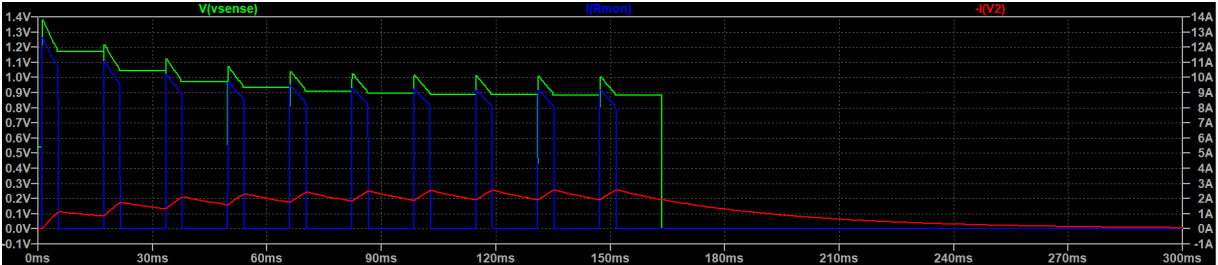
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Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 17/35



LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings



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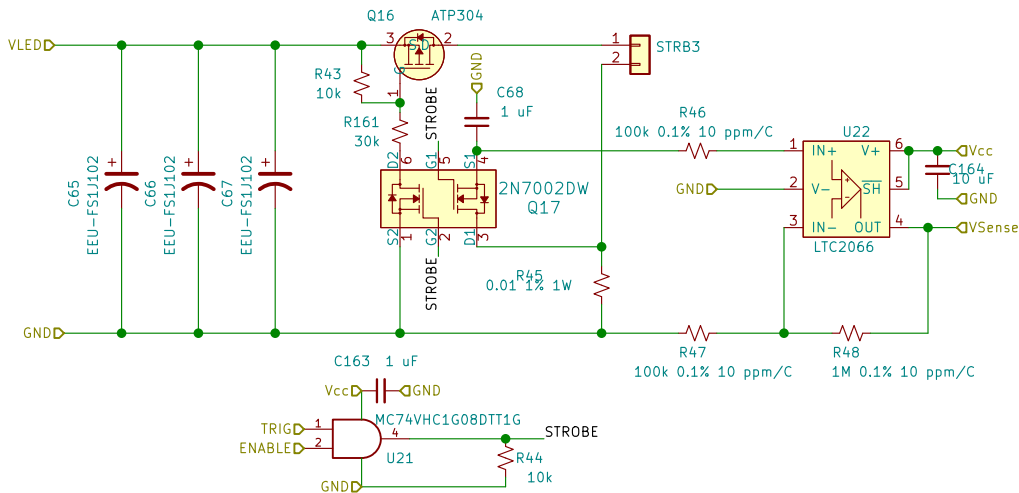
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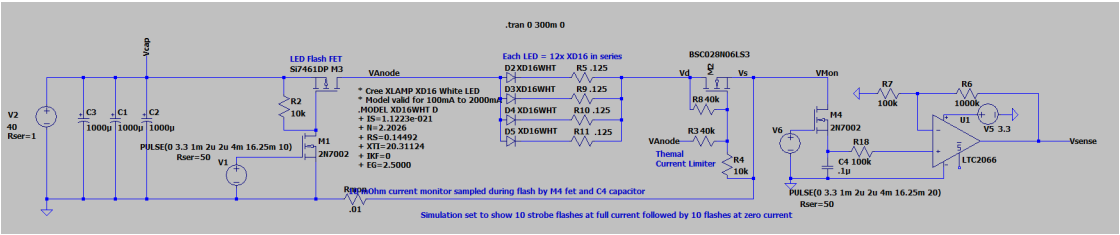
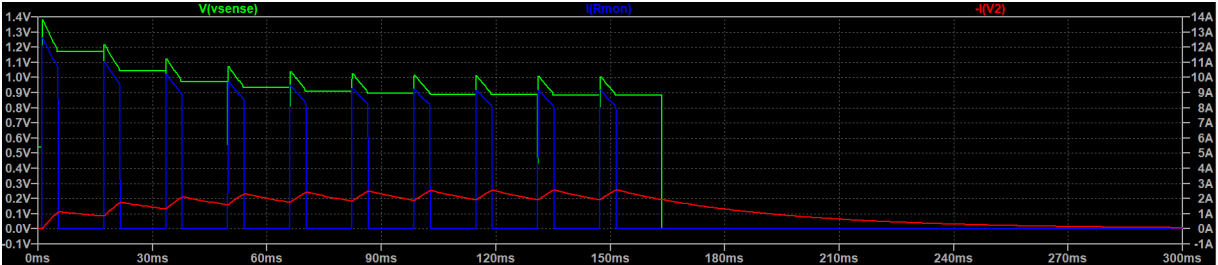
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Rev: B
Id: 18/35



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings

LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



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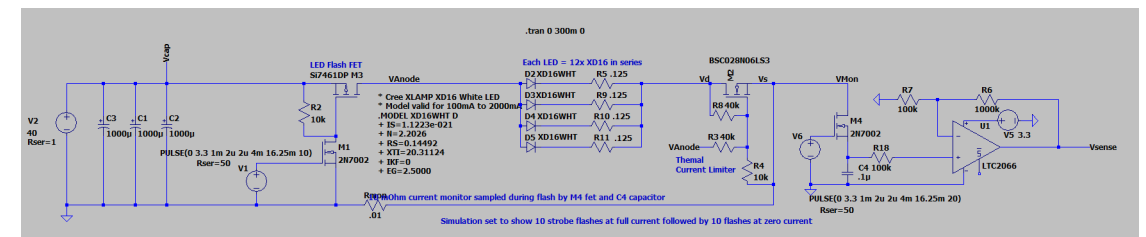
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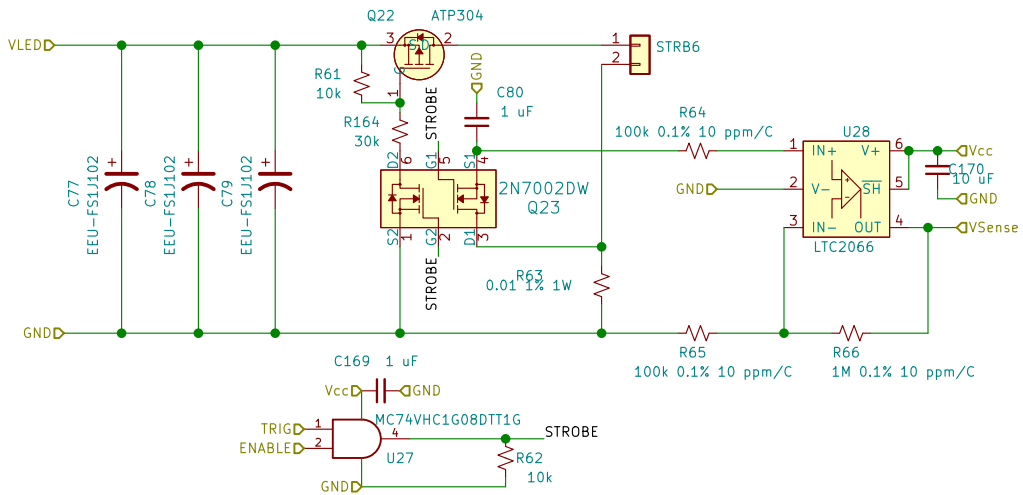
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Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 19/35

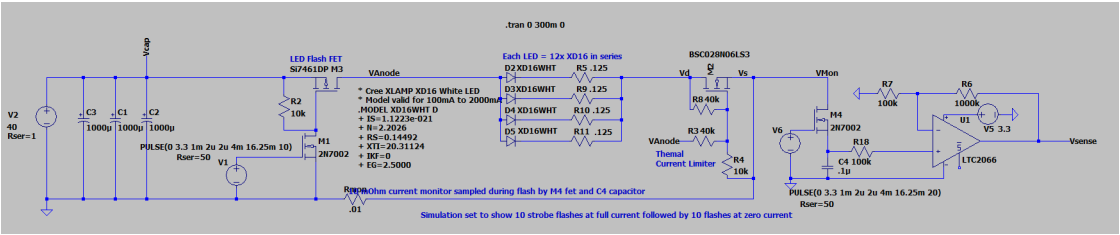
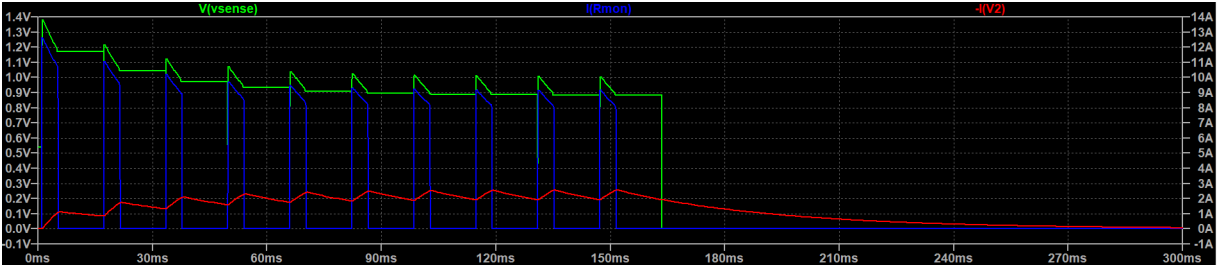


Id: 21/35



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings

LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



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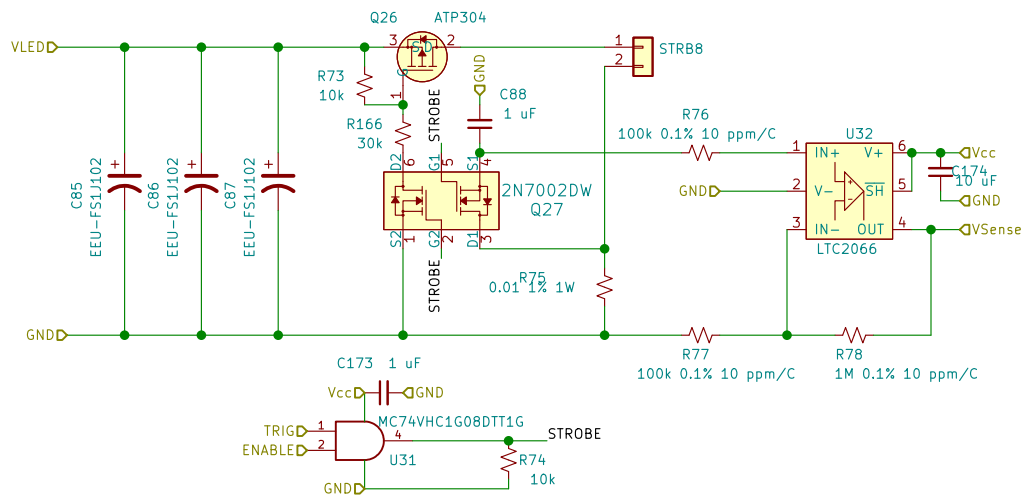
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Title: EyeRIS-LRAUV-Control

Size: B Date: 2021-04-08
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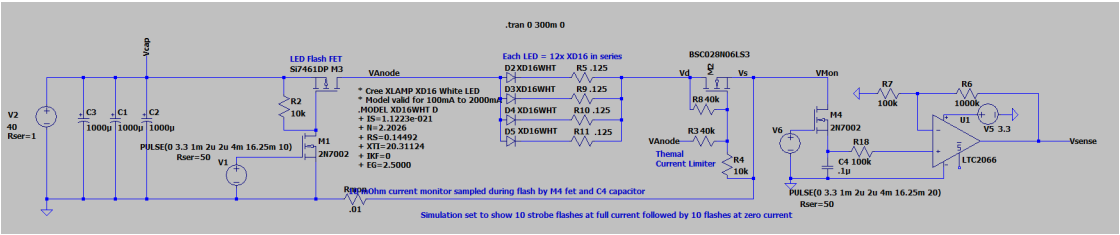
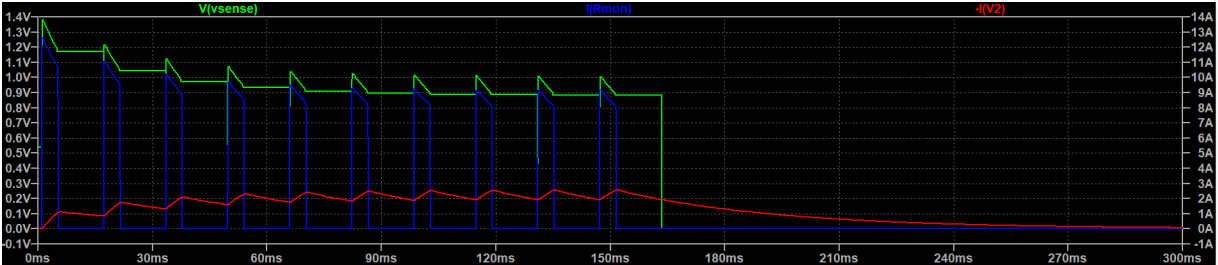
Rev: B
Id: 22/35

Id: 23/35



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings

LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



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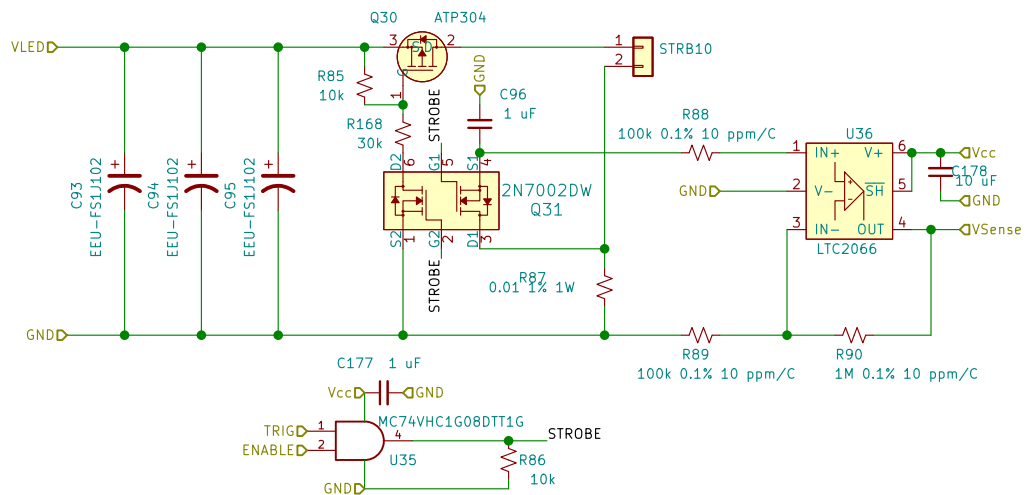
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Size: B Date: 2021-04-08
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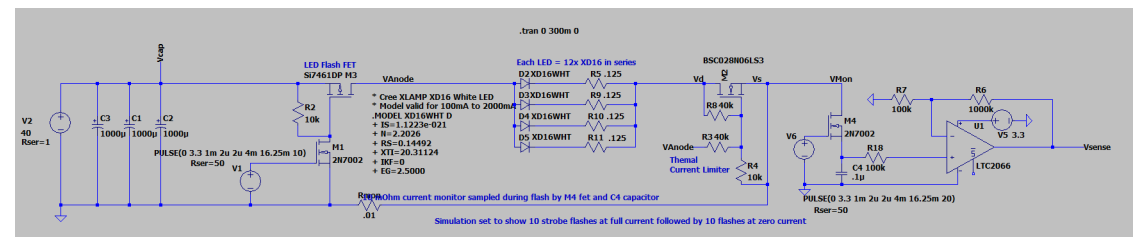
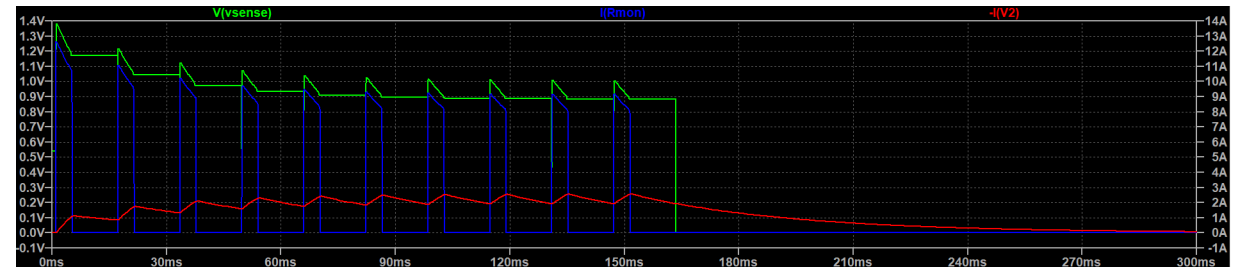
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Id: 24/35

Id: 25/35



Revision History:
4/8/2021 – Added 30k resistor to prevent pfet gate–source voltage from exceeding ratings

LT spice simulation of 60 Hz, 4ms flashes with flash current, monitor voltage and capacitor ripple current



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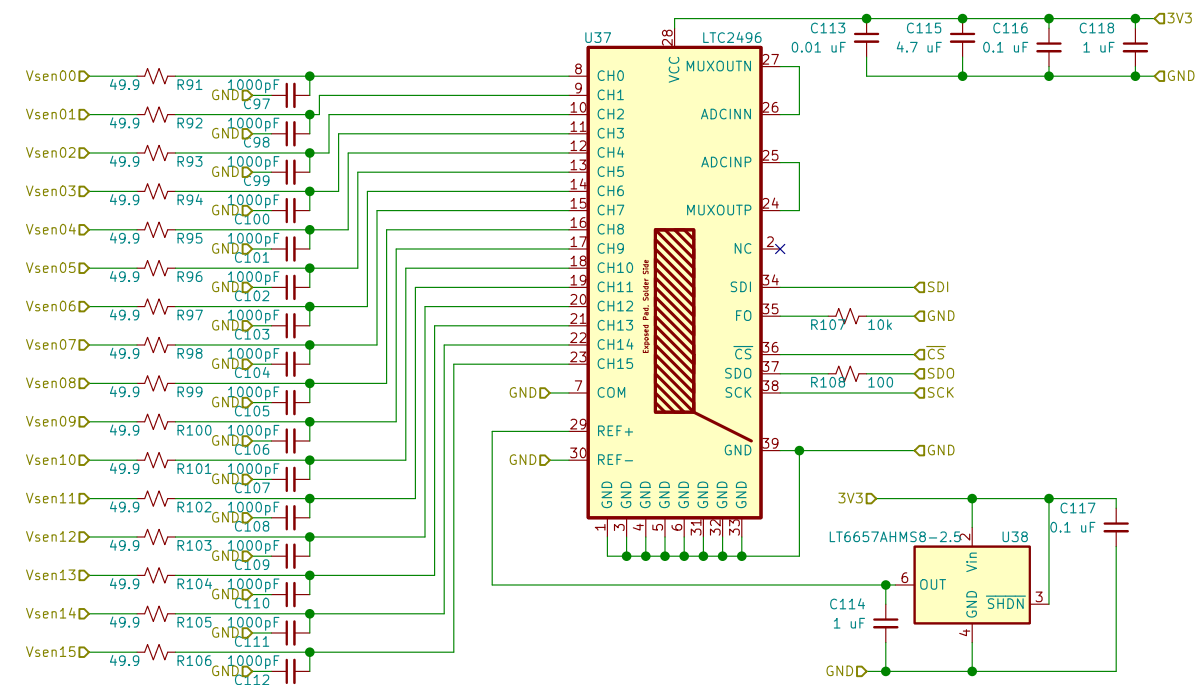
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Title: EyeRIS–LRAUV–Control

Size: B Date: 2021-04-08
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Rev: B
Id: 26/35

16-channel, 16-bit, 2.5V reference single-ended ADC



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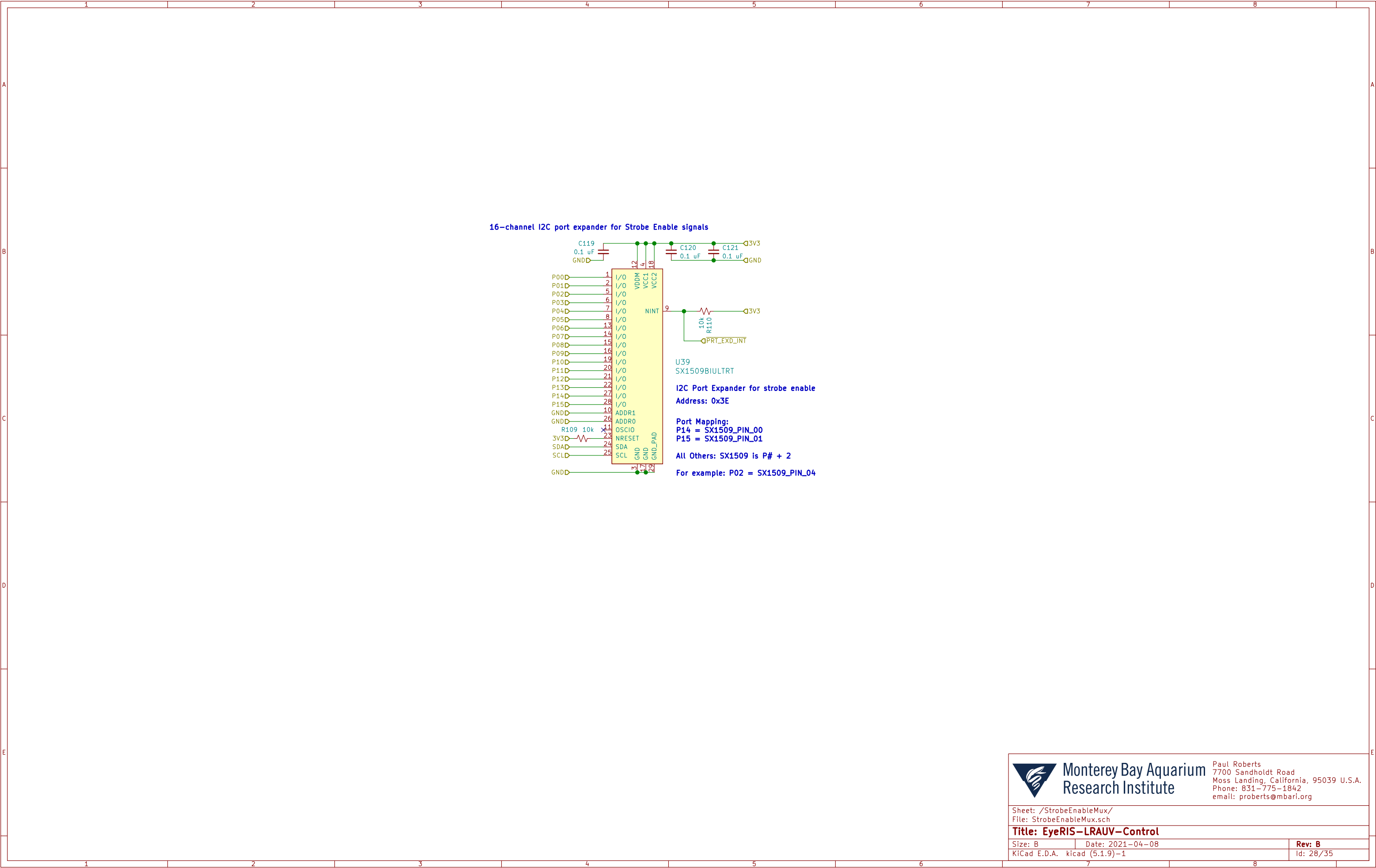
Paul Roberts
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Moss Landing, California, 95039 U.S.A.
Phone: 831-775-1842
email: proberts@mbari.org

Sheet: /FlashCurrentADC/
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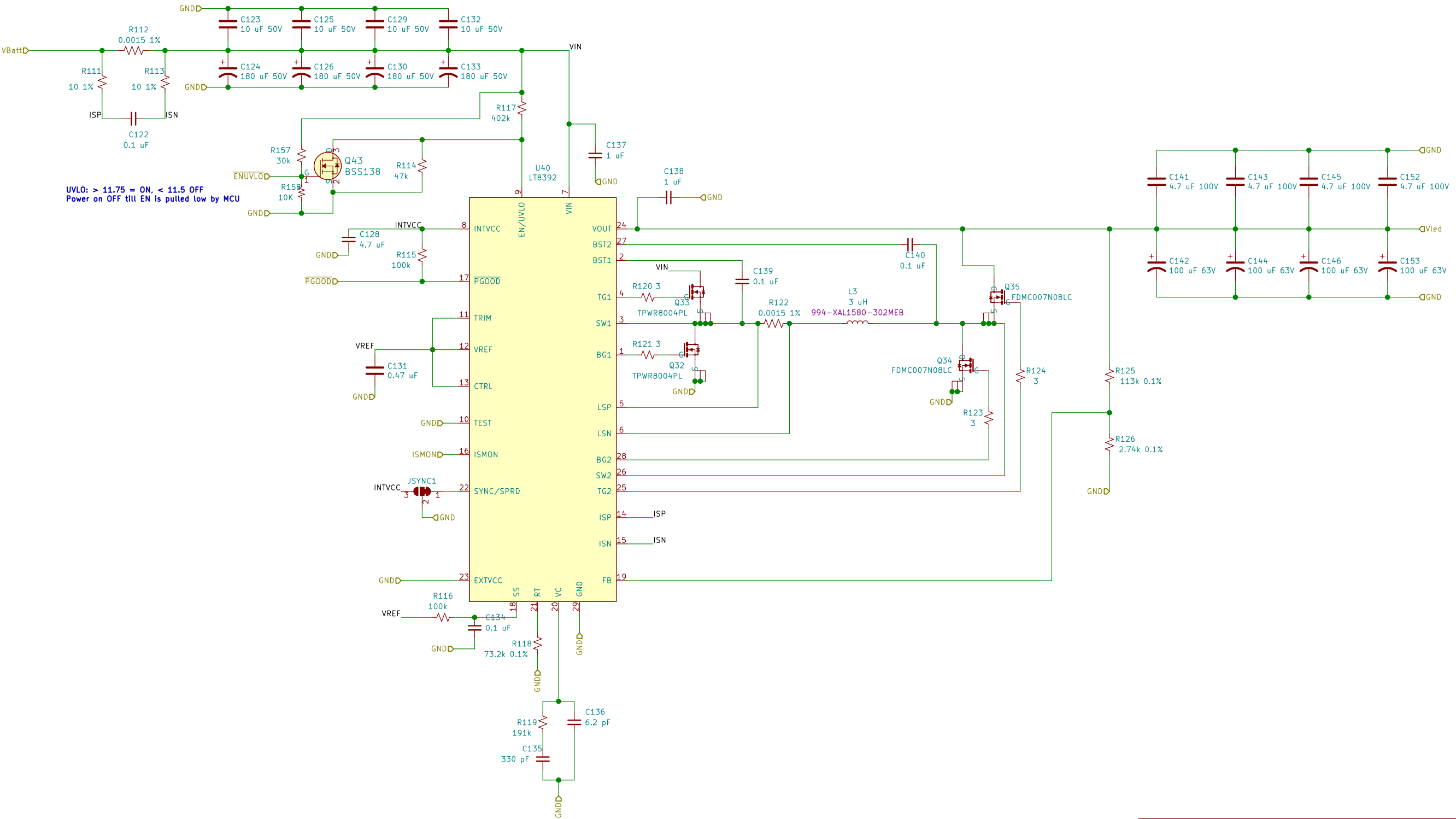
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Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 27/35



Revision History:
4/8/2021 – Replaced 100k pullup on UVLO/EN circuit with 30k pullup to Vin



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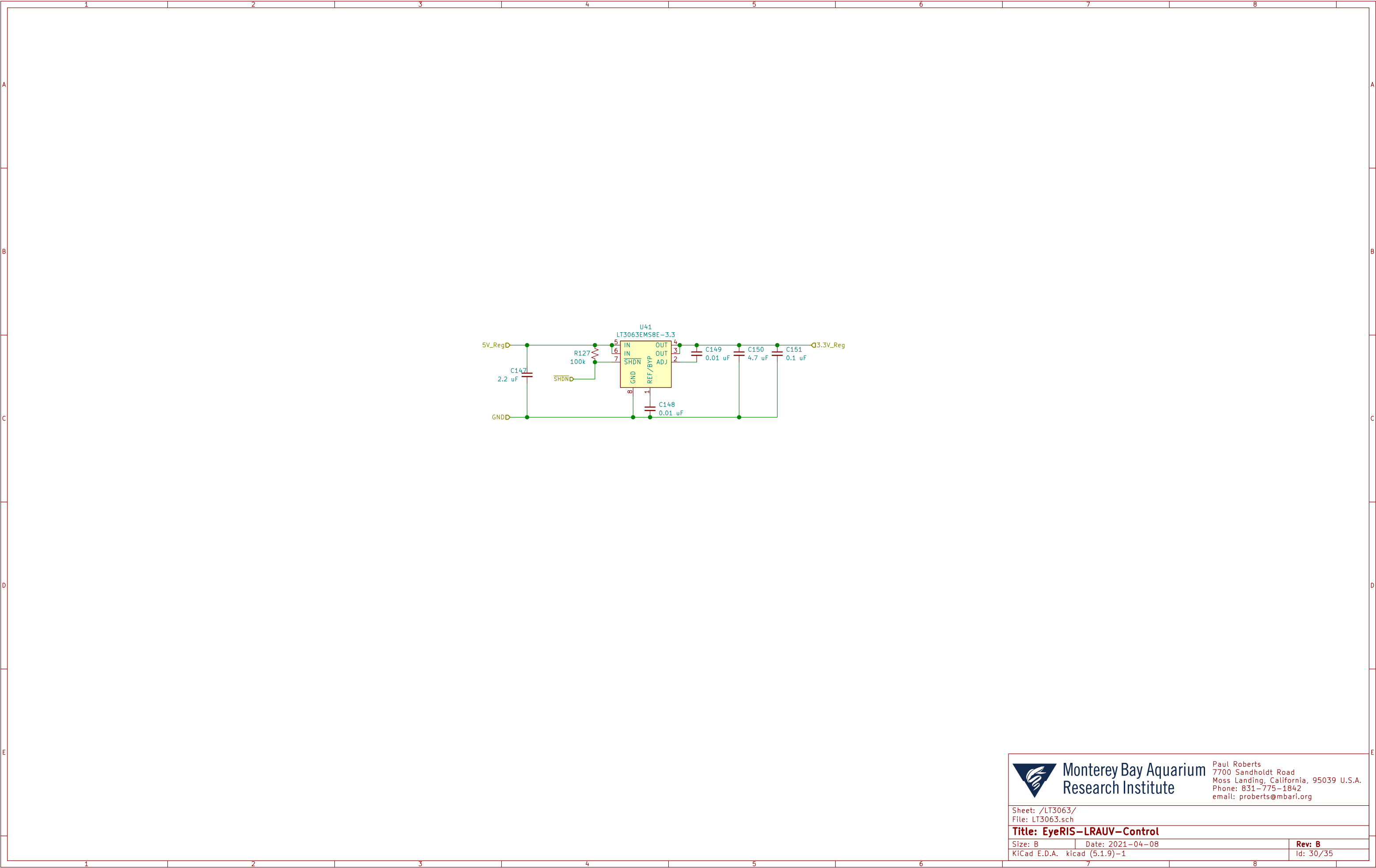
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Size: B Date: 2021-04-08
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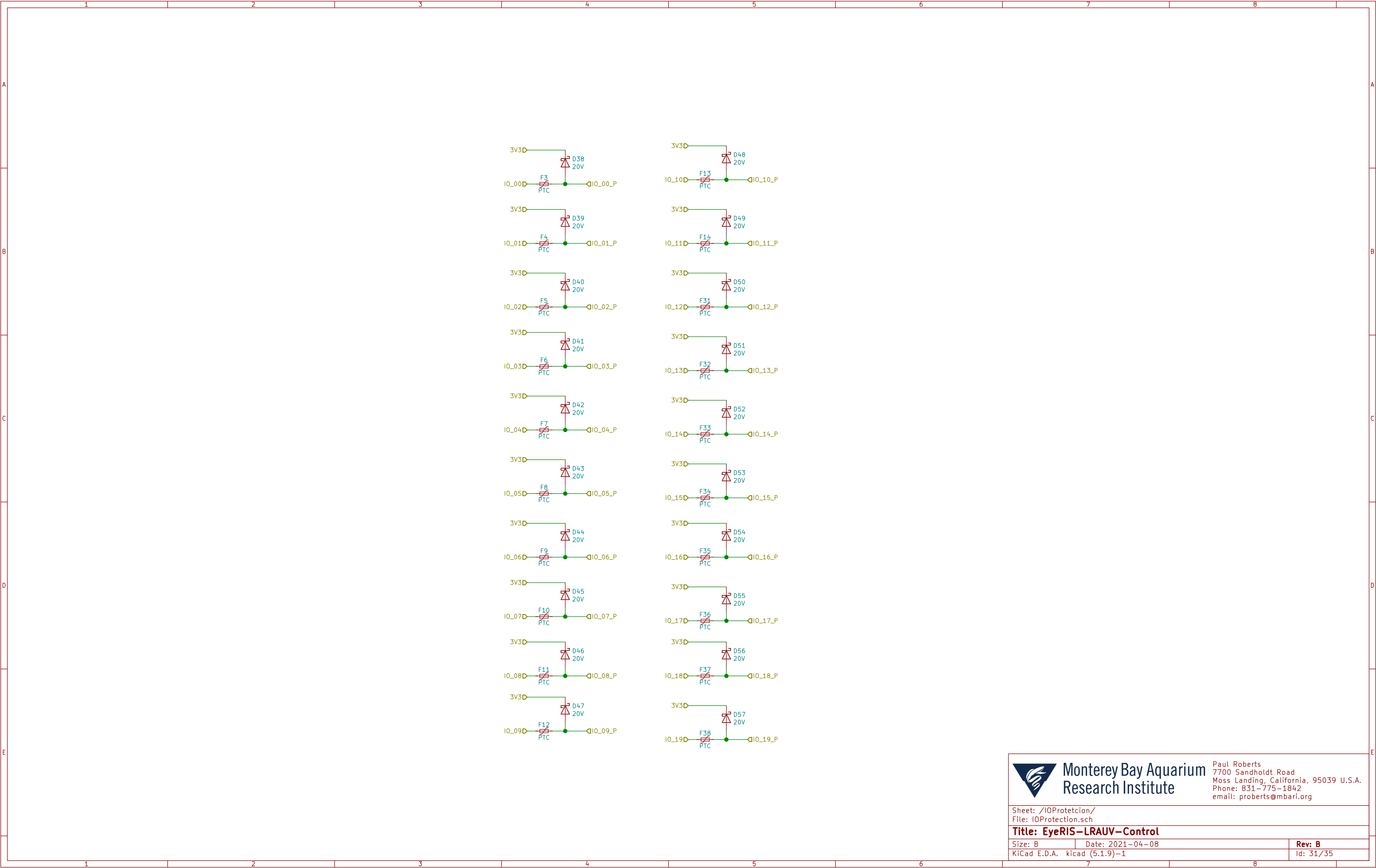
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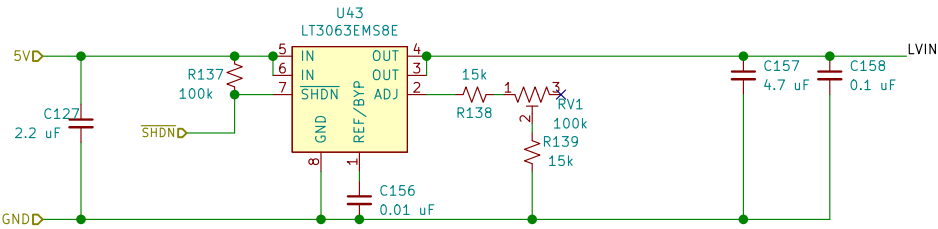
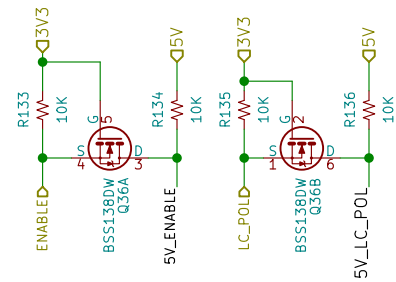
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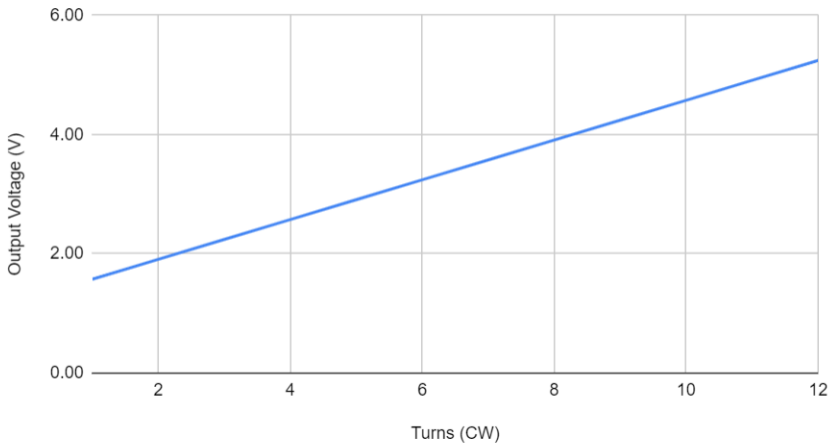
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KiCad E.D.A. kicad (5.1.9)-1		Id: 30/35



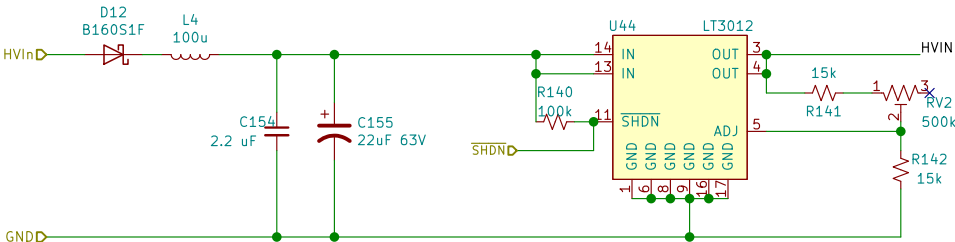
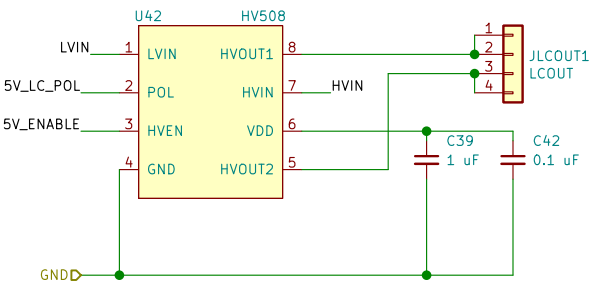
3.3 to 5V Level Shifter



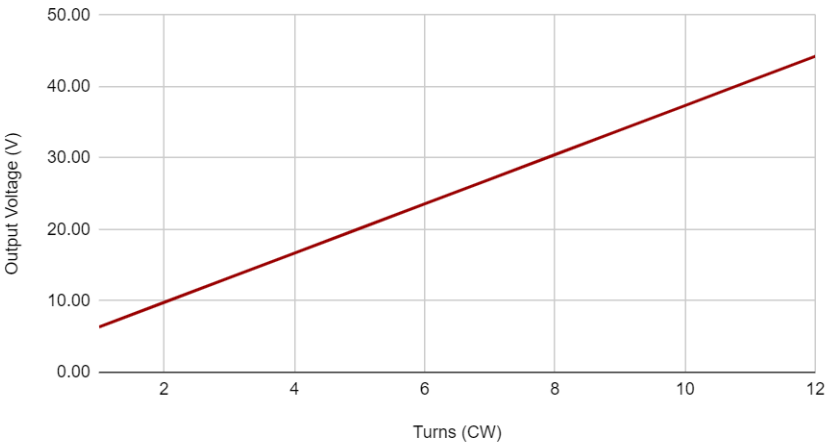
LVIN Voltage vs. Turns (CW)



HV508 LC Shutter Driver (90V Max)



HVIN Voltage vs. Turns (CW)



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Sheet: /LC_Shutter/
File: LC_Shutter.sch

Title: EyeRIS-LRAUV-Control

Size: B Date: 2021-04-08
KiCad E.D.A. kicad (5.1.9)-1

Rev: B
Id: 32/35

