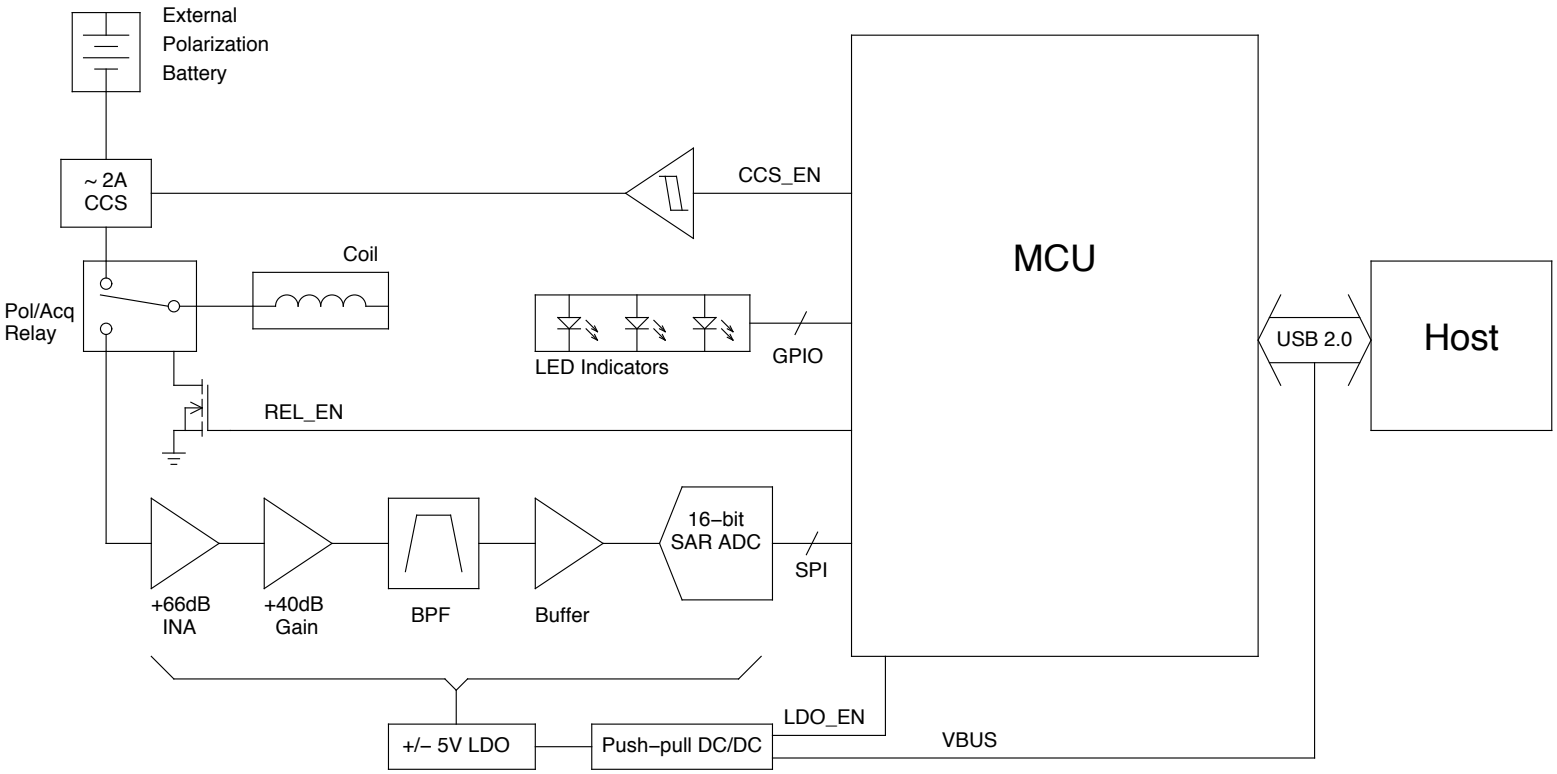
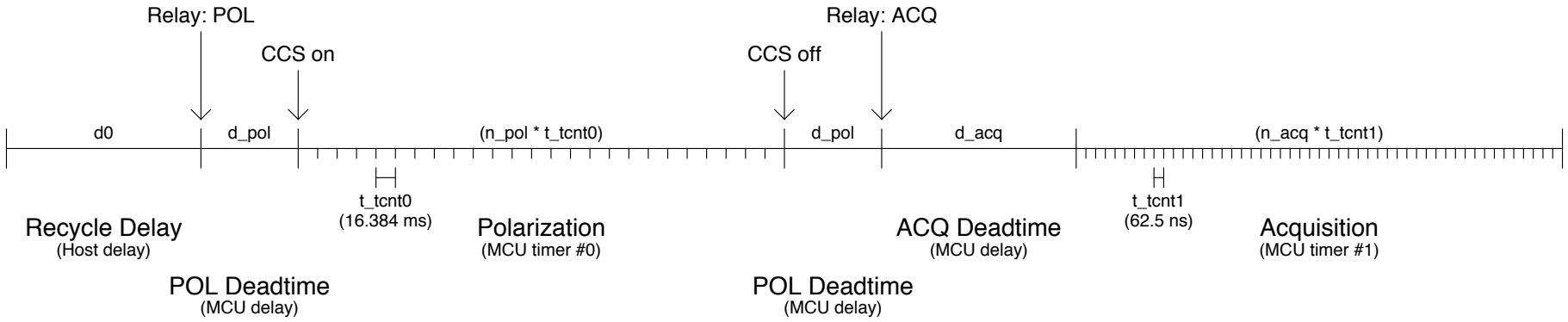


1/13/18 bk - Fixes for missing ground, substitute transformer, higher Fsw LT3439, comment non-standard 12V pinout, substitute MOSFETs and TVS.

TITLE PPM I Overview	
FILE: 01–overview.sch	REVISION: 1.9
PAGE 1 OF 14	DRAWN BY: Bradley Worley



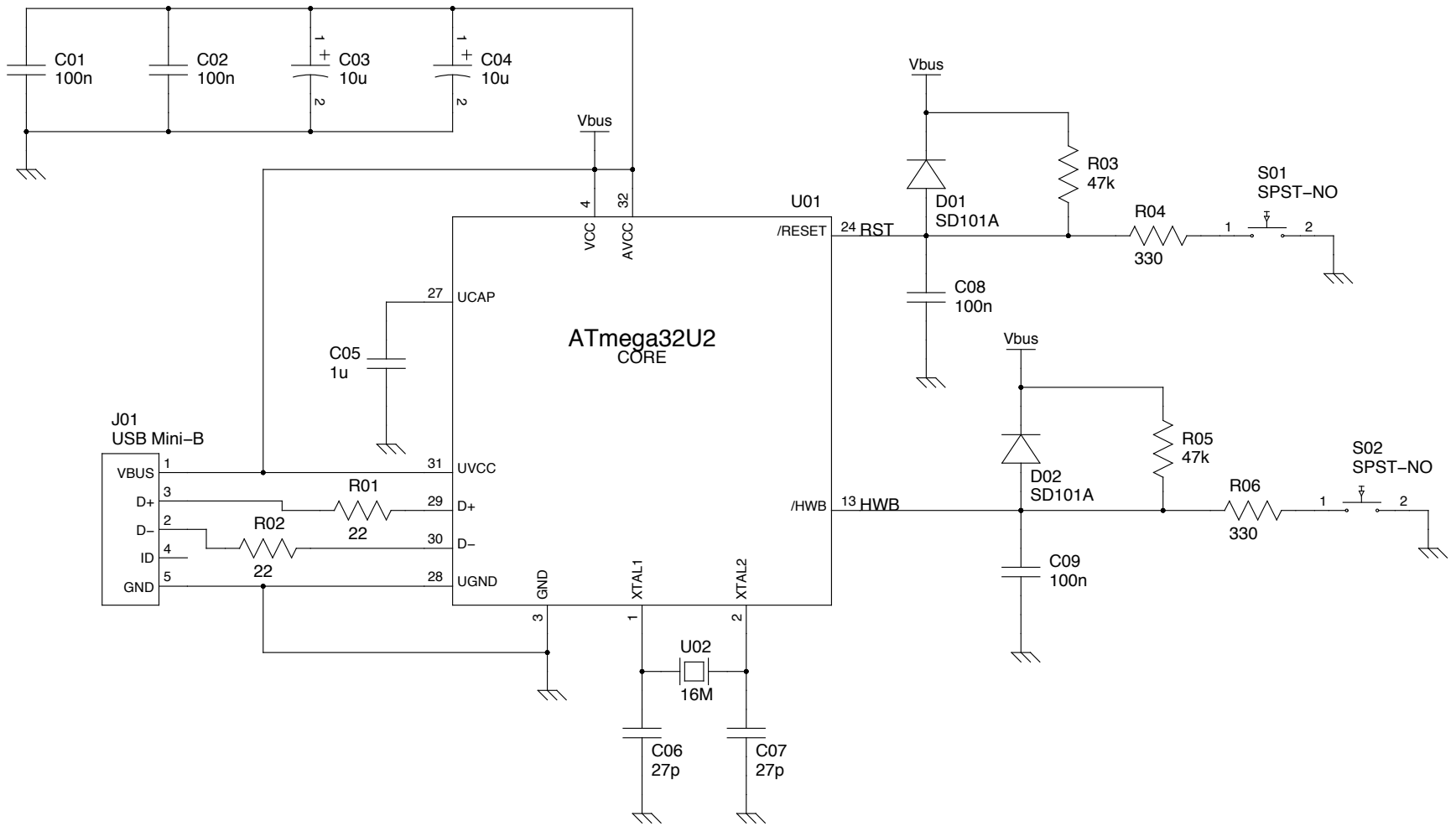
TITLE PPM I Experiment

FILE: 02–pulprog.sch

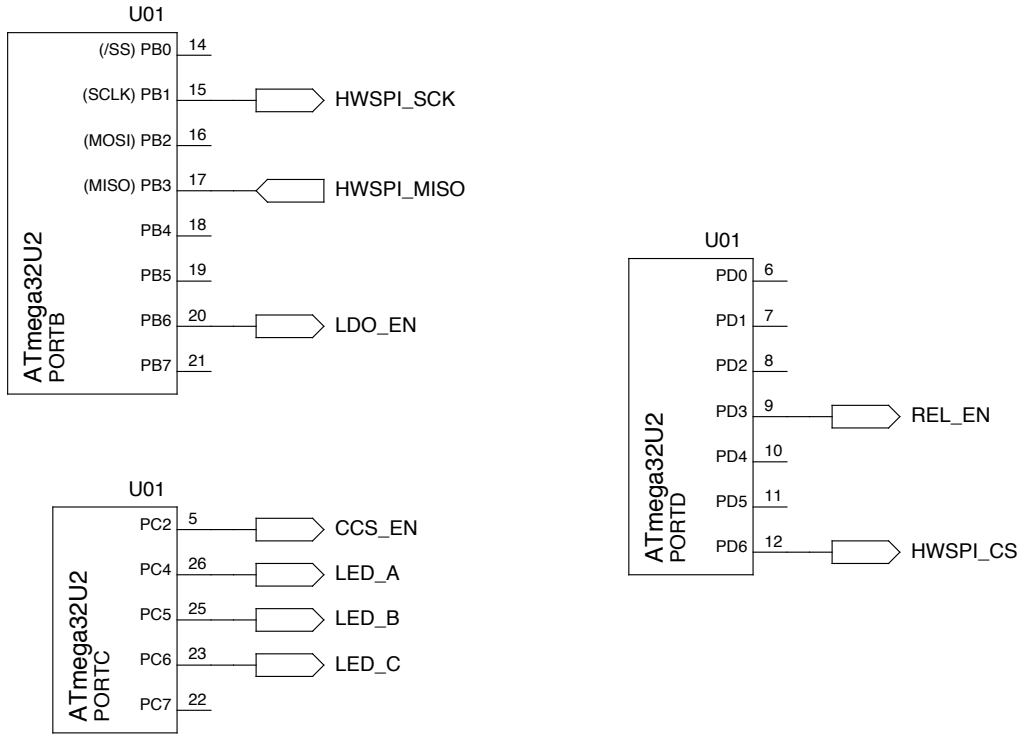
PAGE 2 OF 14

REVISION: 1.2

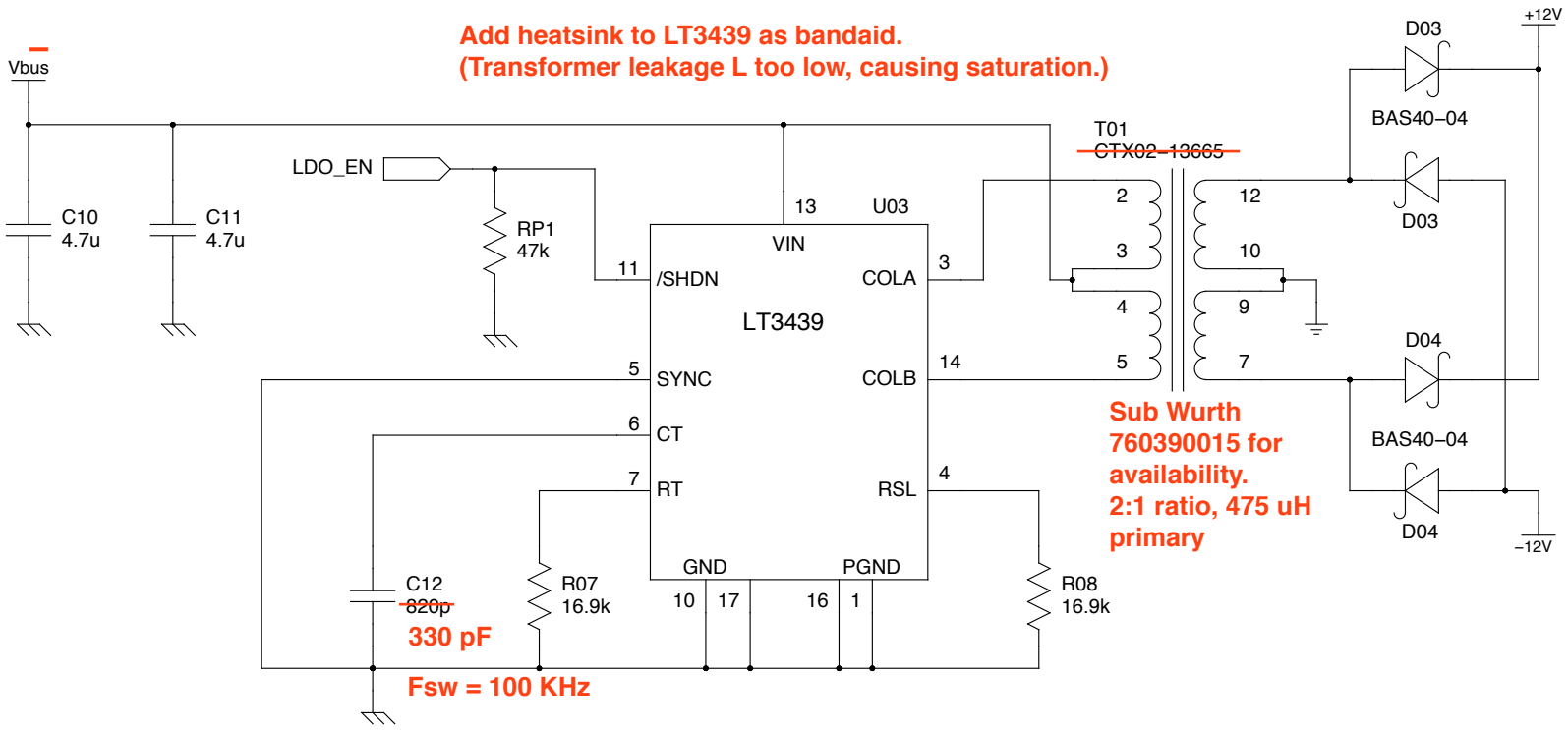
DRAWN BY: Bradley Worley



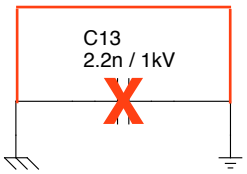
TITLE	PPM I Microcontroller Core		
FILE:	03−mcu−core.sch	REVISION:	1.3
PAGE	3 OF 14	DRAWN BY:	Bradley Worley



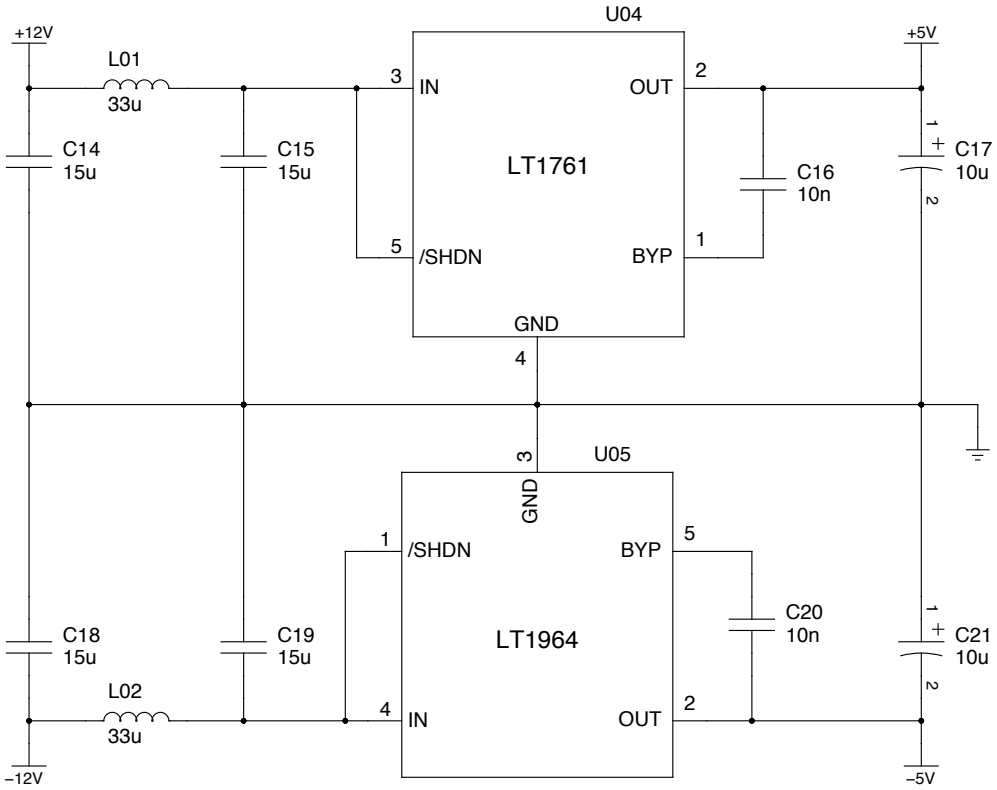
TITLE	PPM I Microcontroller I/O Ports
FILE: 04–mcu–ports.sch	REVISION: 1.3
PAGE 4 OF 14	DRAWN BY: Bradley Worley



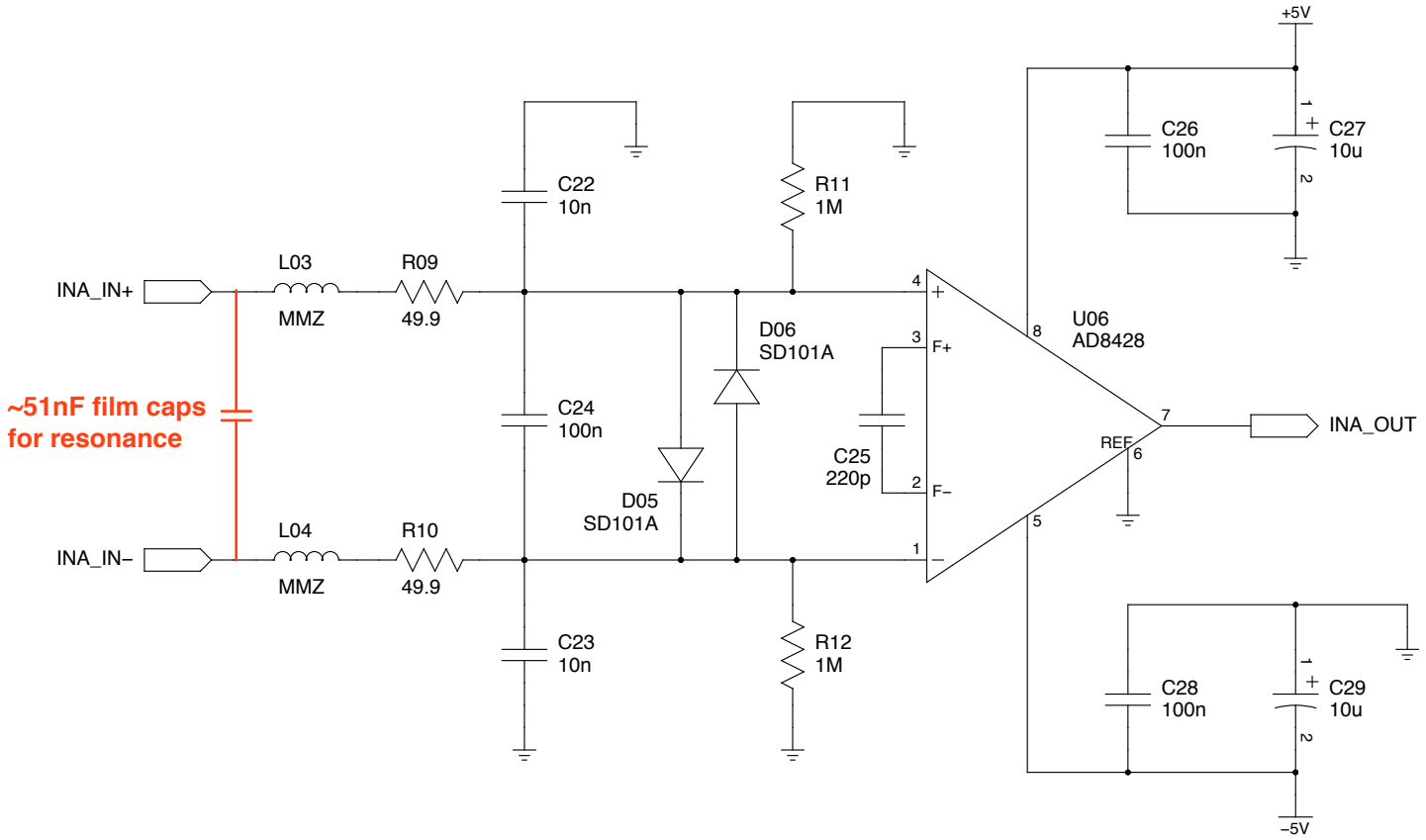
Short GNDs together.
ADC digital side is not isolated.



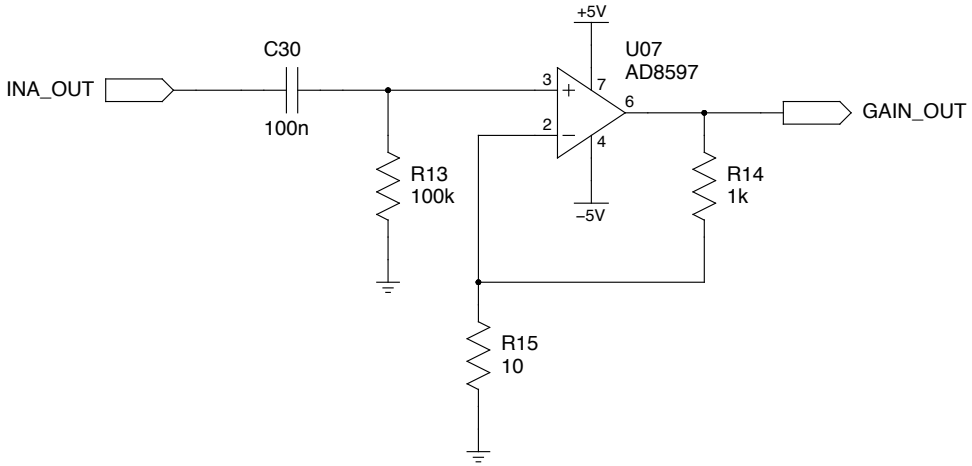
TITLE	PPM I DC/DC Transformer Driver
FILE: 05-dcdc.sch	REVISION: 1.0
PAGE 5 OF 14	DRAWN BY: Bradley Worley

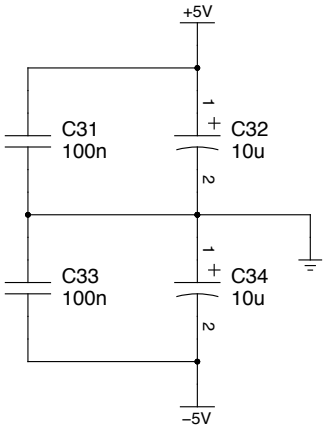


TITLE	PPM I Low–Dropout Regulators		
FILE:	06–ldo.sch	REVISION:	1.0
PAGE	6 OF 14	DRAWN BY:	Bradley Worley



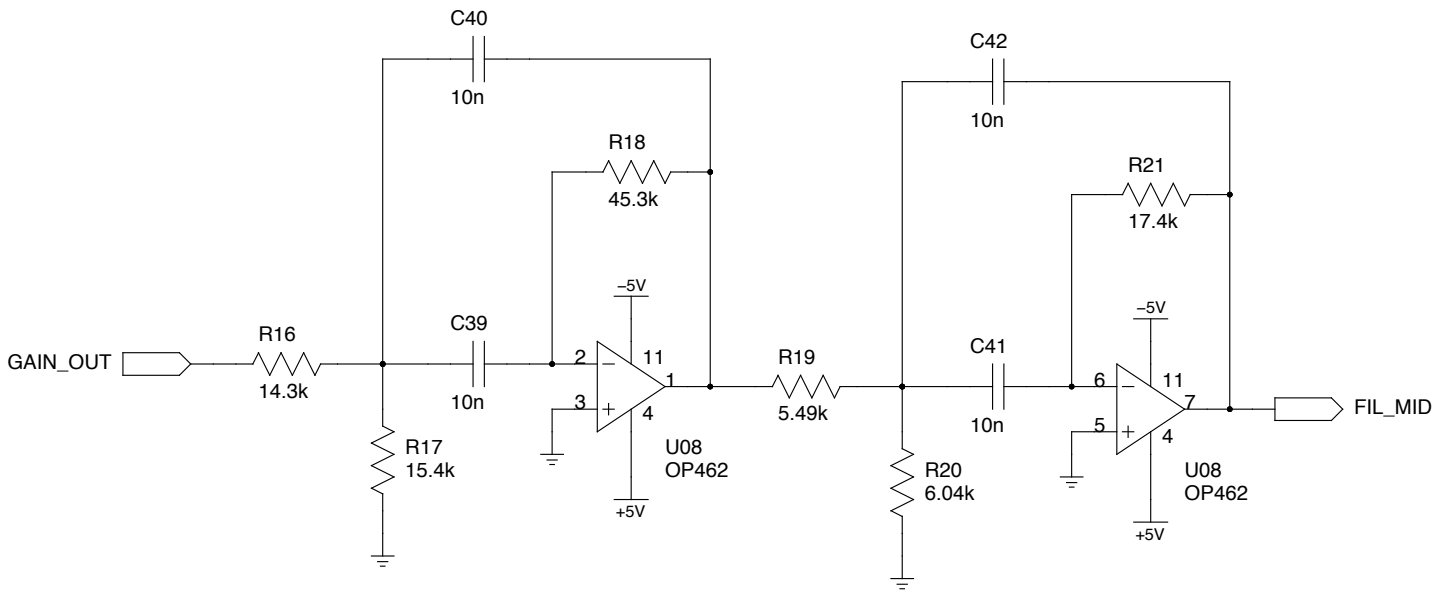
TITLE	PPM I Instrumentation Amplifier		
FILE:	07−asc−ina.sch	REVISION:	1.1
PAGE	7 OF 14	DRAWN BY:	Bradley Worley

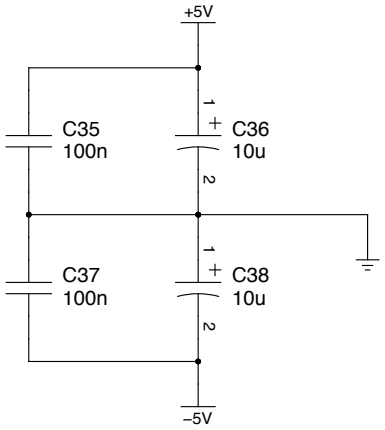




TITLE PPM I Inverting Gain Stage

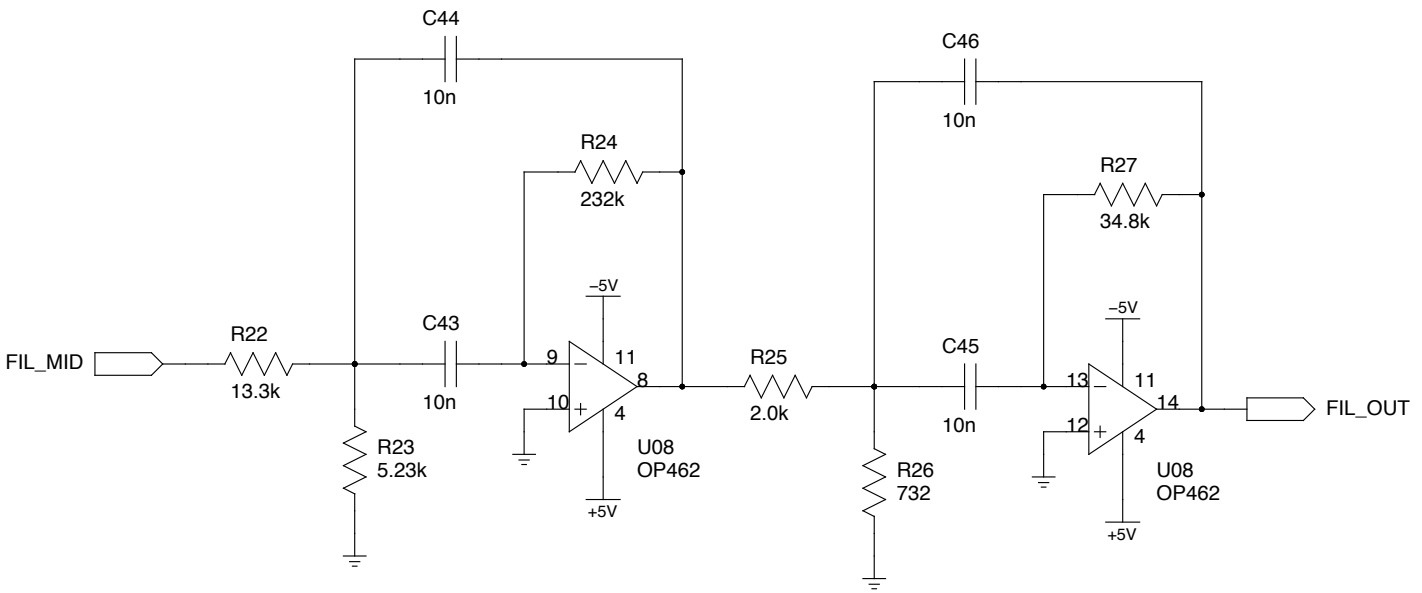
FILE: 08−asc−gain.sch	REVISION: 1.0
PAGE 8 OF 14	DRAWN BY: Bradley Worley





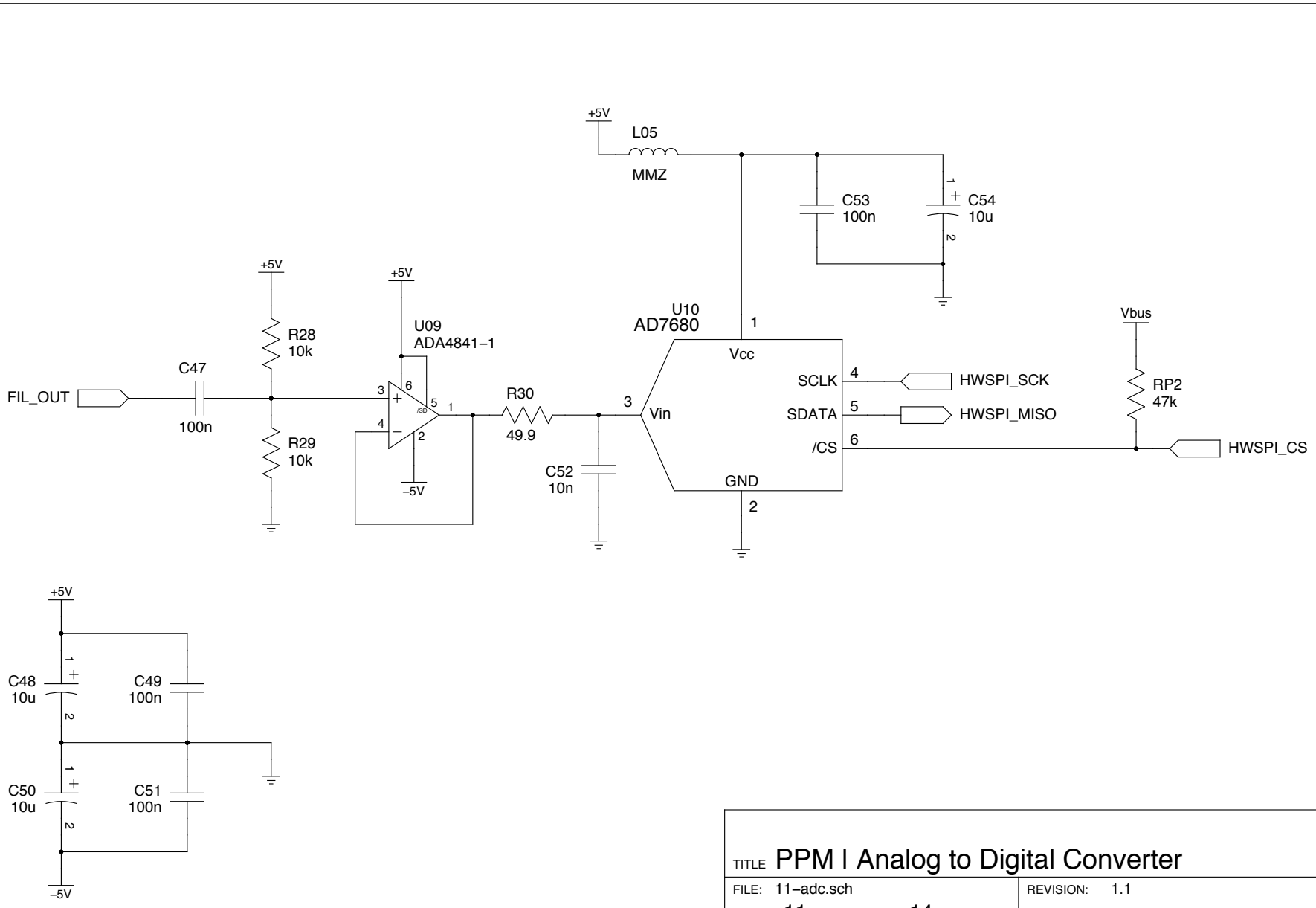
TITLE PPM I Bandpass Filter 1/2

FILE: 09−asc−fil−1of2.sch	REVISION: 1.0
PAGE 9 OF 14	DRAWN BY: Bradley Worley

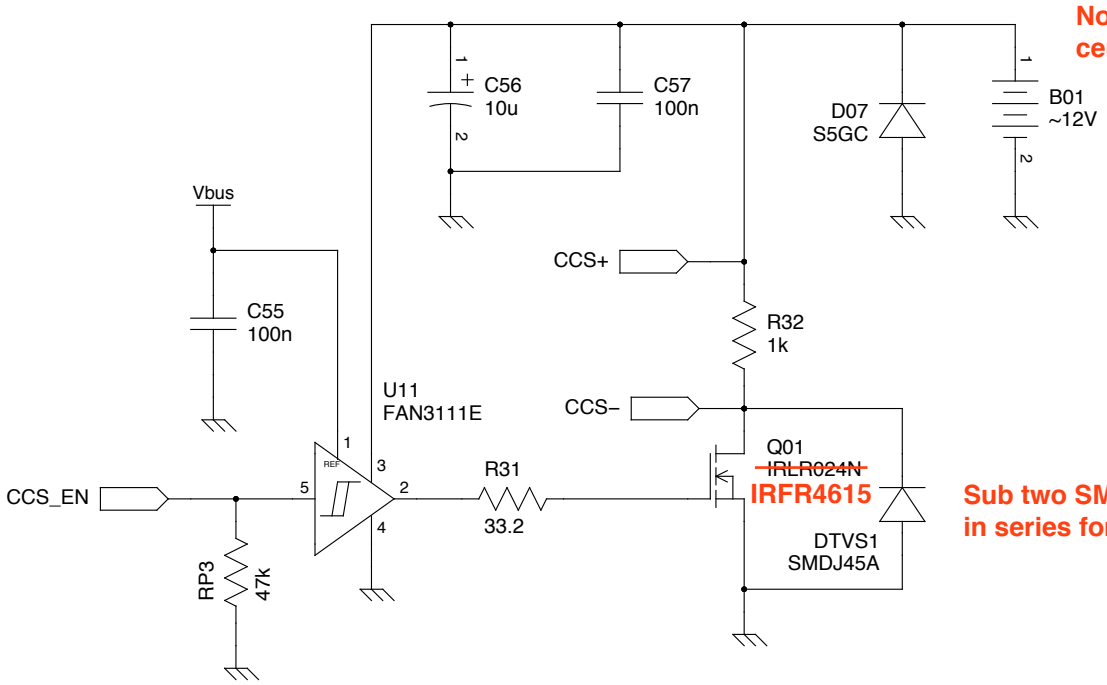


TITLE PPM I Bandpass Filter 2/2

FILE: 10−asc−fil−2of2.sch	REVISION: 1.0
PAGE 10 OF 14	DRAWN BY: Bradley Worley



TITLE	PPM I Analog to Digital Converter
FILE: 11-adc.sch	REVISION: 1.1
PAGE 11 OF 14	DRAWN BY: Bradley Worley



Note connector pinout: center pin GND, barrel 12V!

Sub two SMDJ45A in series for ~105V clamp

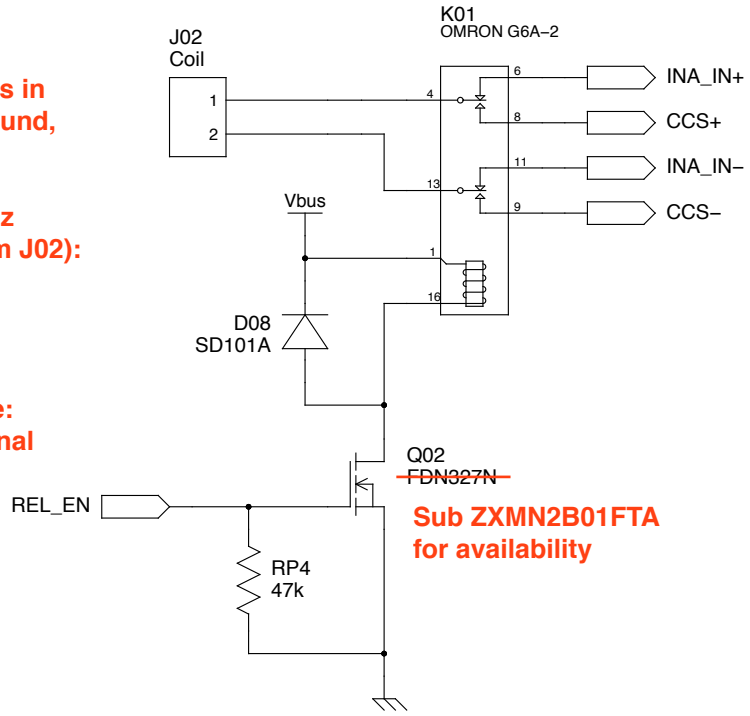
TITLE PPM I Polarization Current Sink

FILE: 12–pol.sch	REVISION: 2.1
PAGE 12 OF 14	DRAWN BY: Bradley Worley

Coil note: Two coils in series, counter-wound, 33.0 mH total.

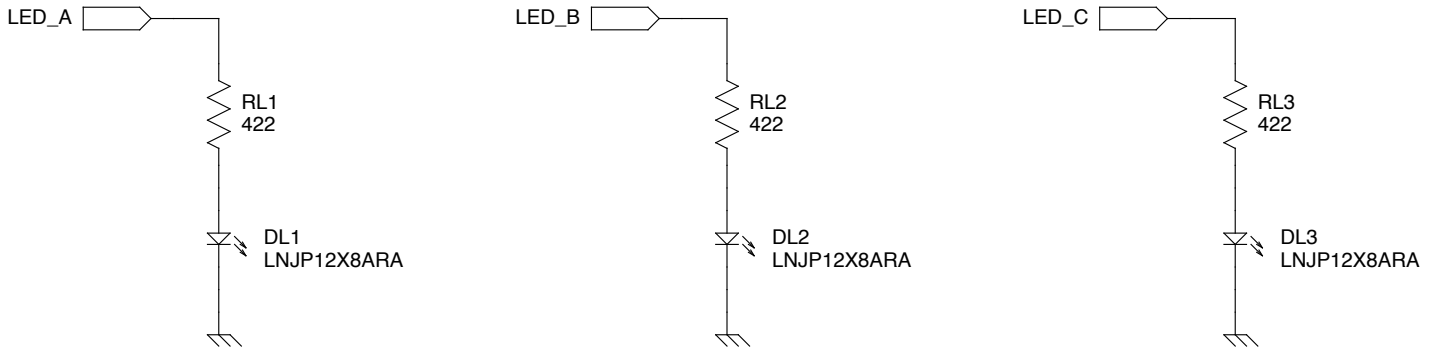
As installed @1KHz (disconnected from J02):
150 ft 18AWG
33.15 mH, Q = 16.3
12.8 ohms

Shield capacitance:
21.3nF to each signal



Sub ZXMN2B01FTA for availability

TITLE PPM I Relay		
FILE: 13–relay.sch		REVISION: 1.3
PAGE 13	OF 14	DRAWN BY: Bradley Worley



TITLE PPM I LED Status Indicators

FILE: 14–leds.sch	REVISION: 1.2
PAGE 14 OF 14	DRAWN BY: Bradley Worley