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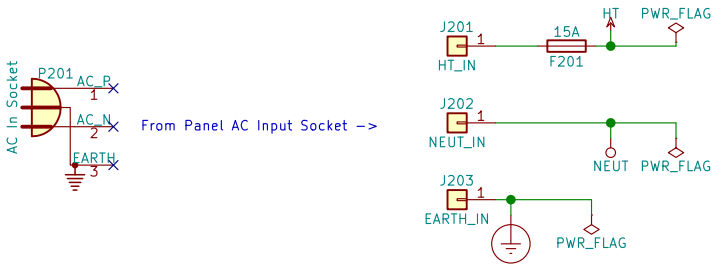
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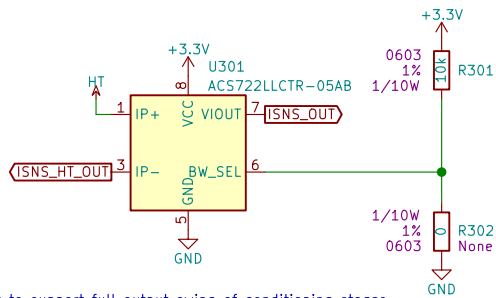
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AC Input Connections

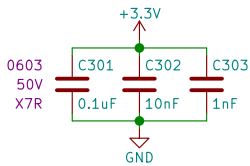


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AC Current Sensor

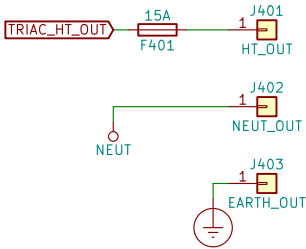


3.787 Peak Amps Max to support full output swing of conditioning stages

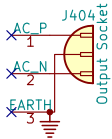


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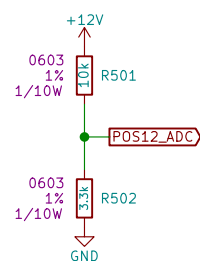
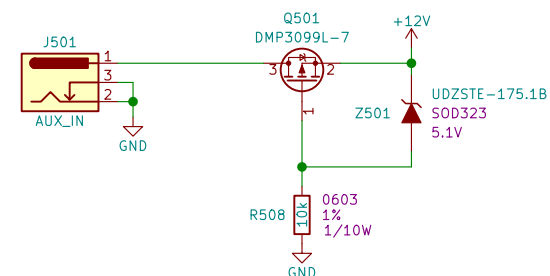
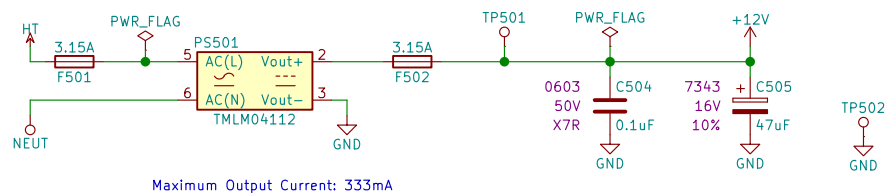


-> To Panel AC Output Socket



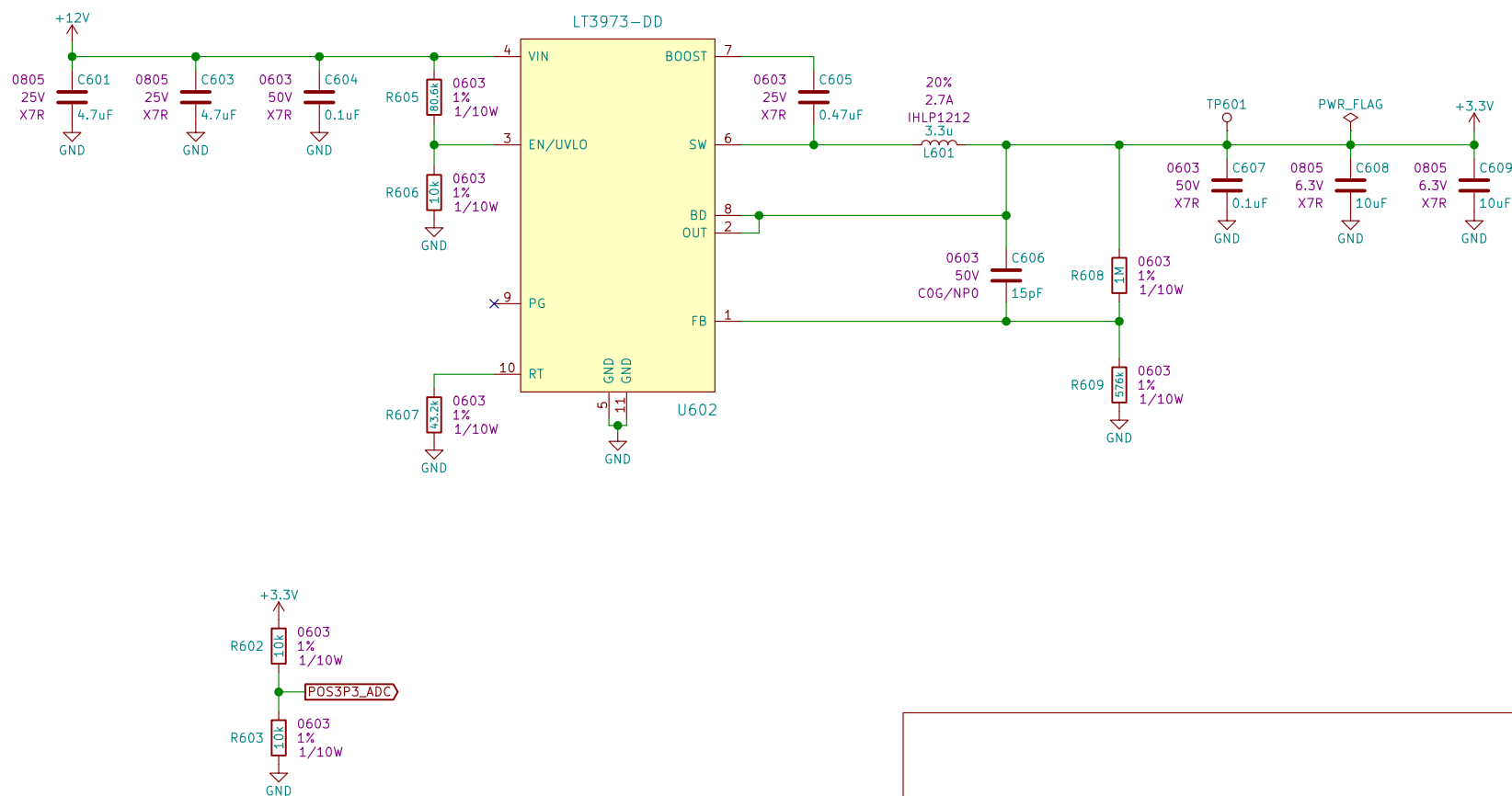
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+12V 4W Isolated AC/DC Converter, +12V PGOOD Window Comparator



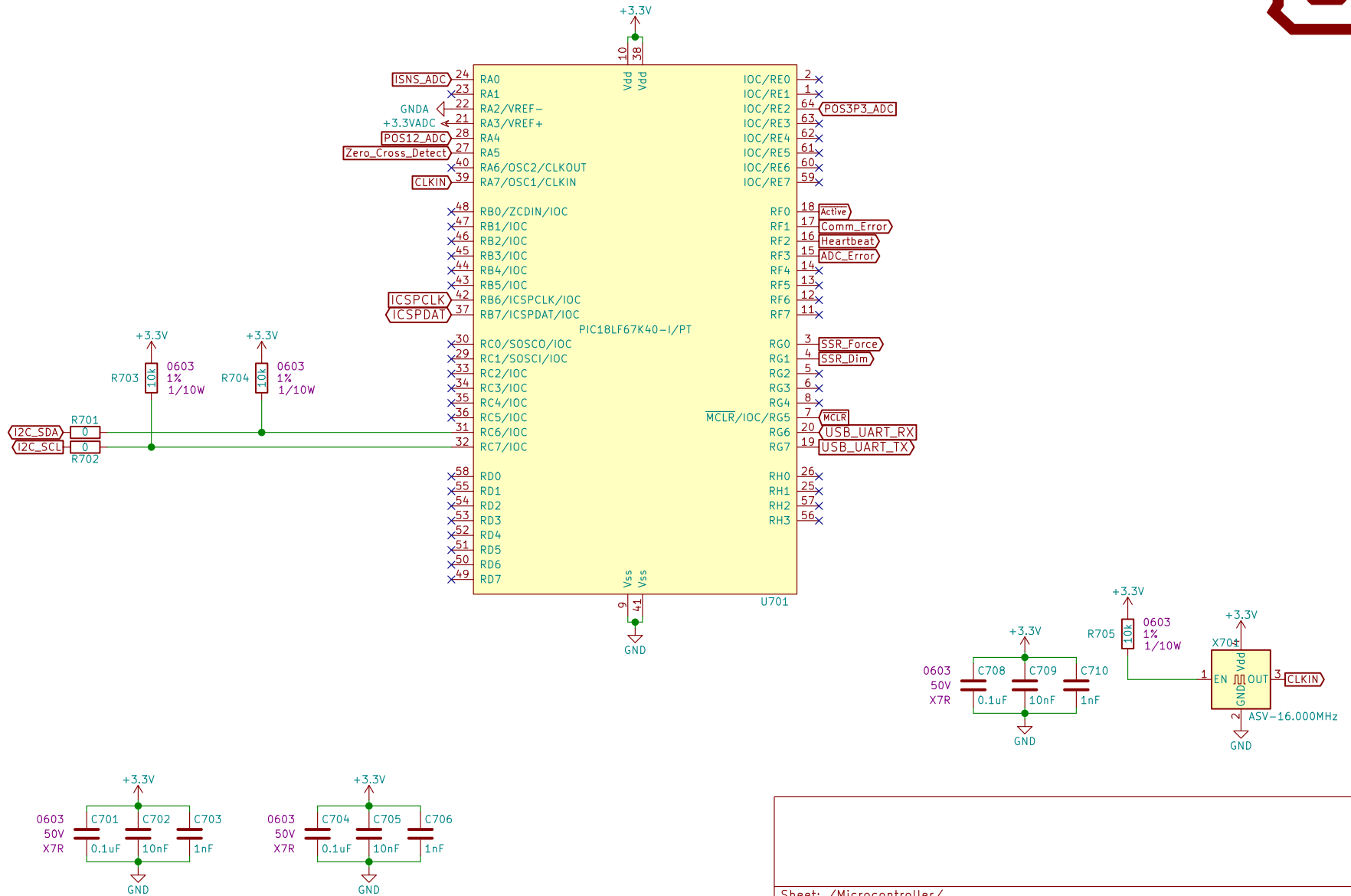
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+3.3V, 750mA, 2MHz Buck Converter



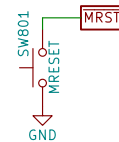
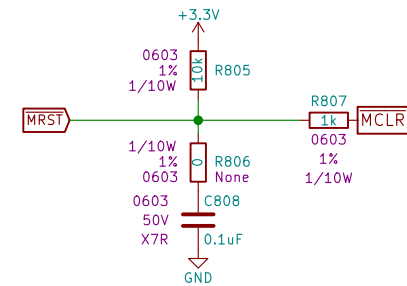
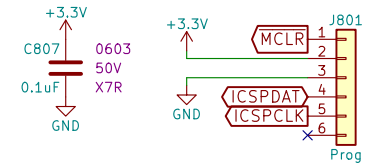
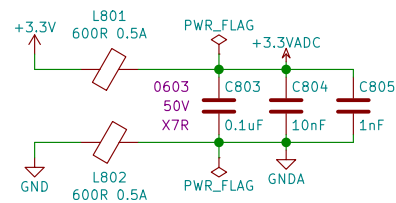
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8 bit High Performance Enhanced Flash PIC Microcontroller



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Programming Header, MCLR Reset Filter, ICSP Detection



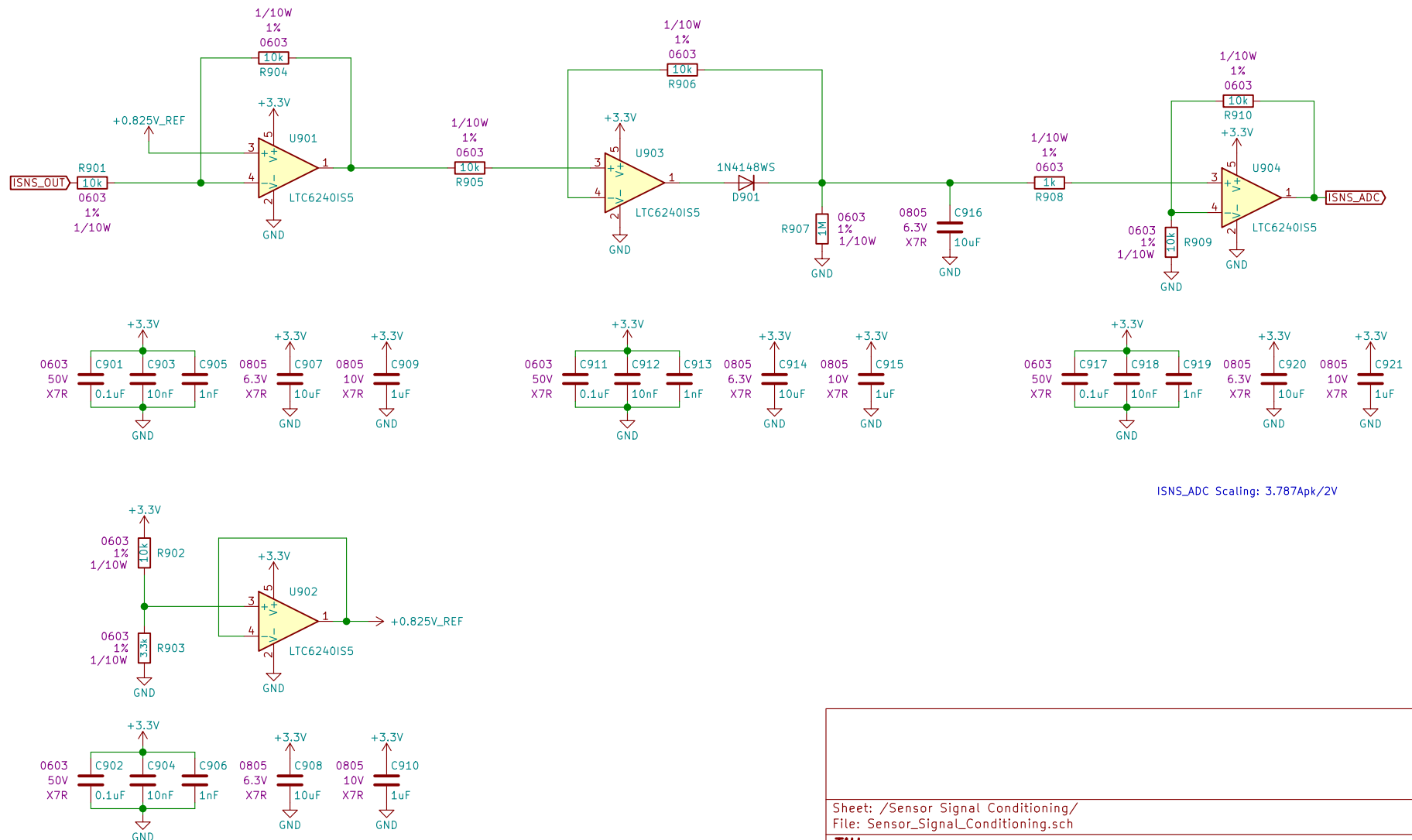
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Offset Removal, Active Peak Detector, 2V/V Gain Stage



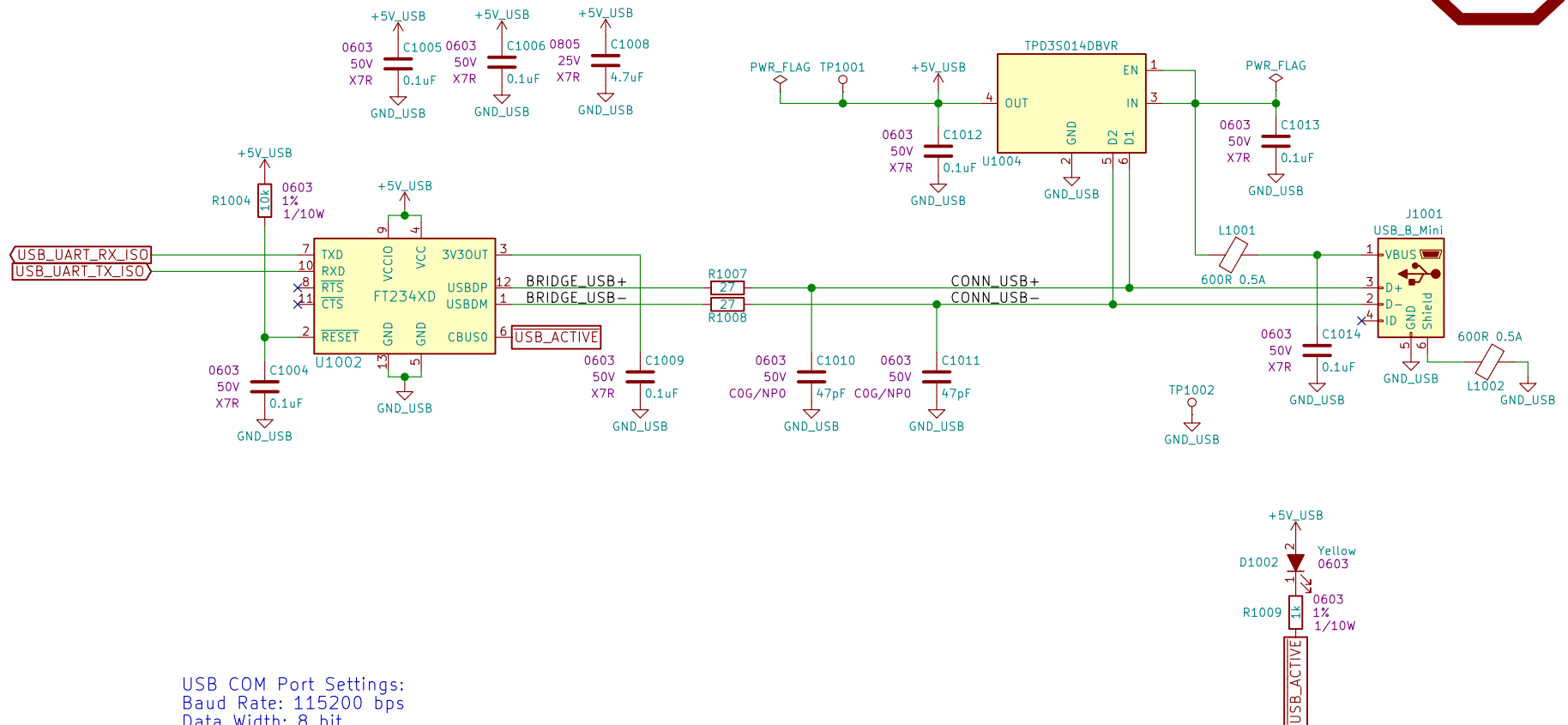
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UART to USB Bridge, +5V USB Window Comparator



USB COM Port Settings:
 Baud Rate: 115200 bps
 Data Width: 8 bit
 Parity: None
 Stop Bits: 1 bit
 Flow Control: None

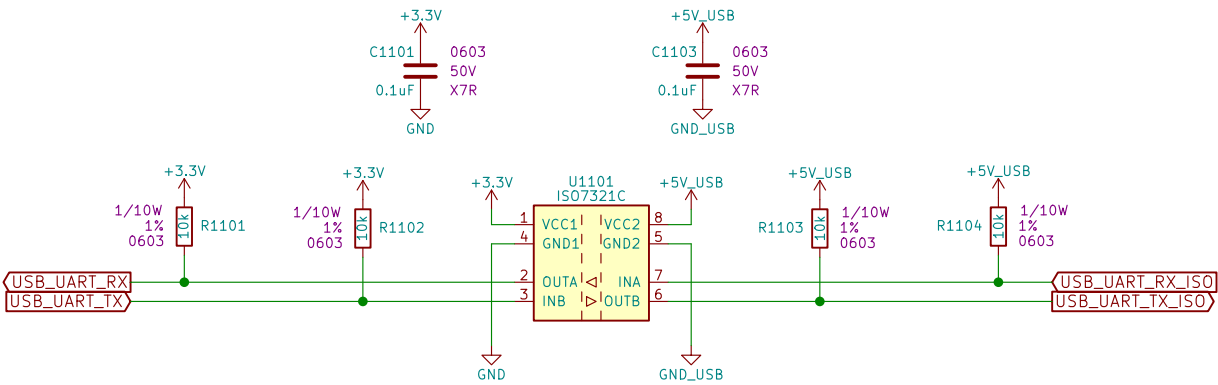
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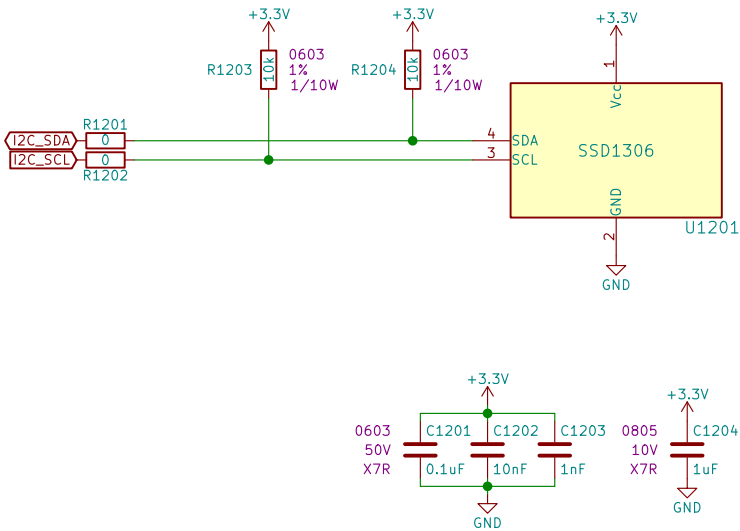
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USB UART Isolation

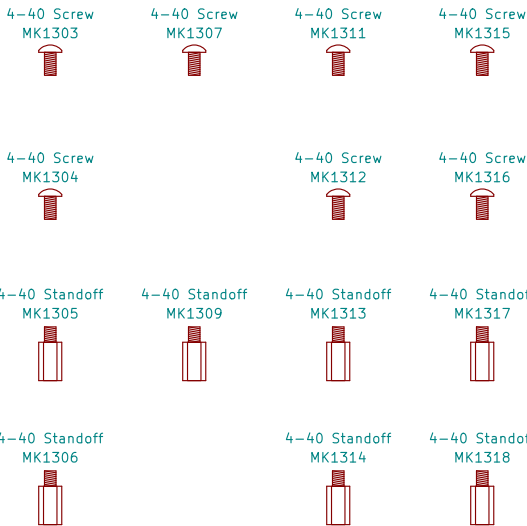


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OLED Display

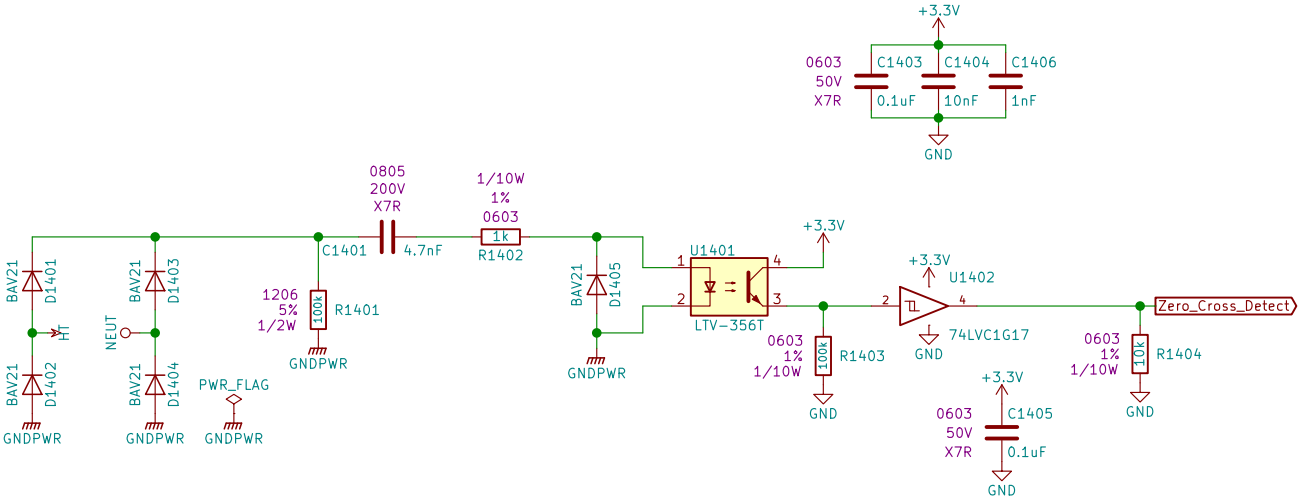


Mounting Holes and Mechanical Components



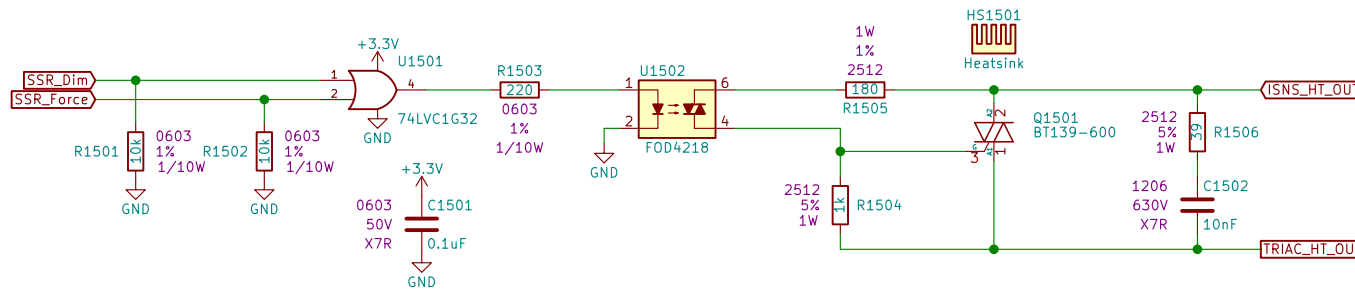
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Input AC Zero-Cross Detection



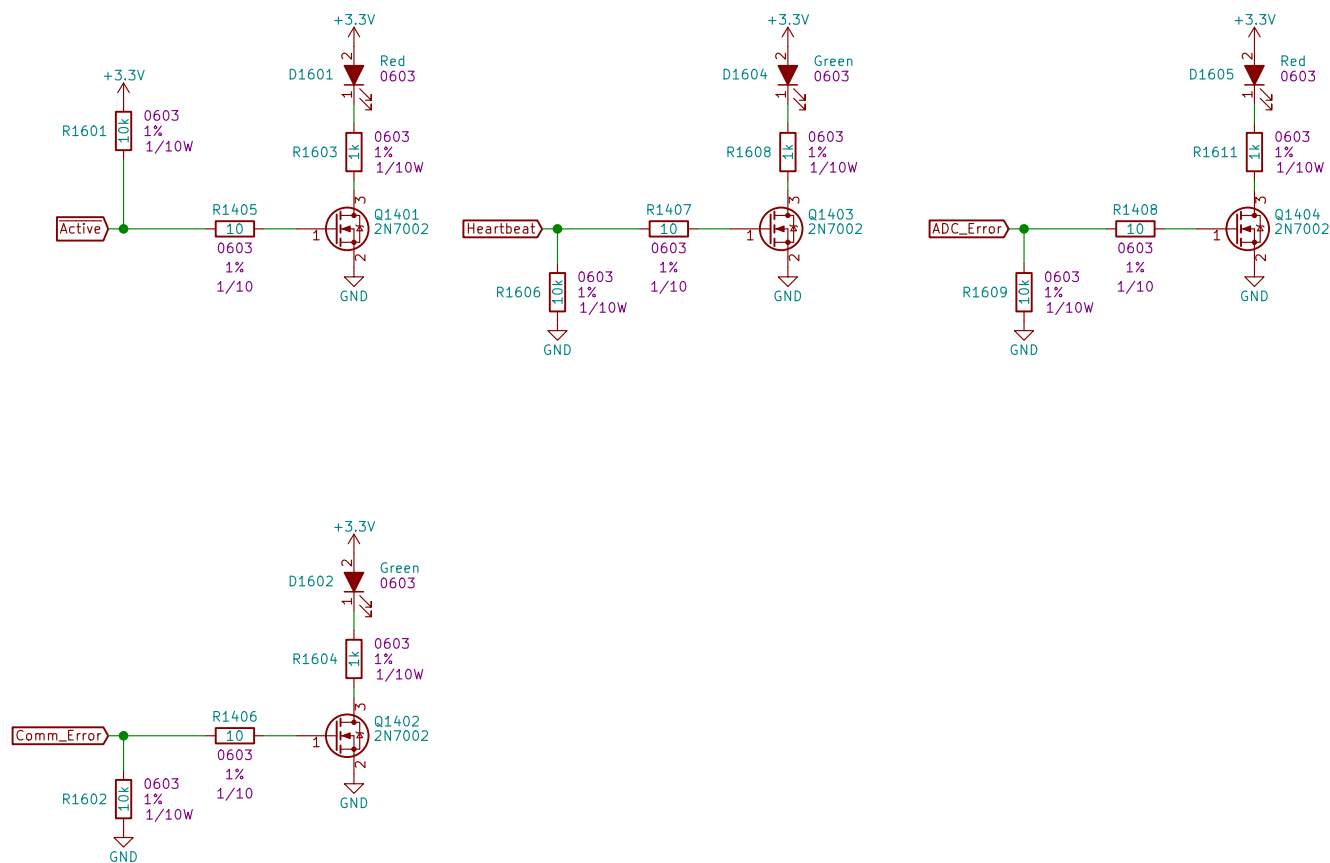
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Output AC Solid State Switch, Random Phase



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Status LEDs



Sheet: /Status LEDs/
File: Status_LEDs.sch

Title:

Size: A Date:
KiCad E.D.A. kicad (5.0.0)

Rev:
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Firmware Notes



- * Configure RA0 as both an ADC input and the inverting input into an internal comparator
- * Comparator will be used with internal DAC to set a current limit
- * Configure ADC clock as FRC, external +/-VREF
- * Configure clocking structure to use ECM clock mode, 16MHz clock input, 4xPLL = 64MHz SYSCLK
- * Configure RA4 as an ADC input
- * Configure RA5 as EXTINT0 for ZCD
- * Configure RB0 as EXTINT1 for output switching
- * Configure RB6:7 as MSSP1 I2C IO
- * Configure RC2 and RC3 as interrupt on change inputs
- * Configure RE2 as an ADC input
- * Configure RF0 as open drain output, force low after booting
- * Configure RF1:3 as push pull outputs, start low
- * Configure RG6 as EUSART2 RX and RG7 as EUSART2 TX
- * Configure the ADC to use digital filtering with lowest crossover frequency
- * Use Timer7 to gather ADC data on all channels and run calculations on it at a fixed time base
- * Use Timer5 as the time base for output dimming
- * Use Timer6 as hearthbeat time base

Sheet: /Firmware Notes/ File: Firmware_Notes.sch		
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