

Einsy Rambo 0.4a  
UltiMachine  
6/14/2017

0.3a Revision Summary (for detailed infomation goto: <https://github.com/ultimachine/Einsy-Rambo/tree/0.3a>)

- Added TVS and over-voltage protection to select nets
- Added and corrected testpoints
- Added "XTRA0" net between 32U2 and 2560
- Removed via tenting underneath QFNs and other flat solder lug/heatsink primitives
- Added teardrops to vias
- Standardized via sizes to 10/22 and 15/30 (mils)
- New footprint for 5V SMPS inductor (fits two inductors now)
- Added I2C pullup footprints (resistors are "DNI")
- Fan connectors now have a 3rd pin for reading the TACH signal
- Added 100R to the gate of each FET
- Adjusted the stackup to better reflect a standard 4-layer stack

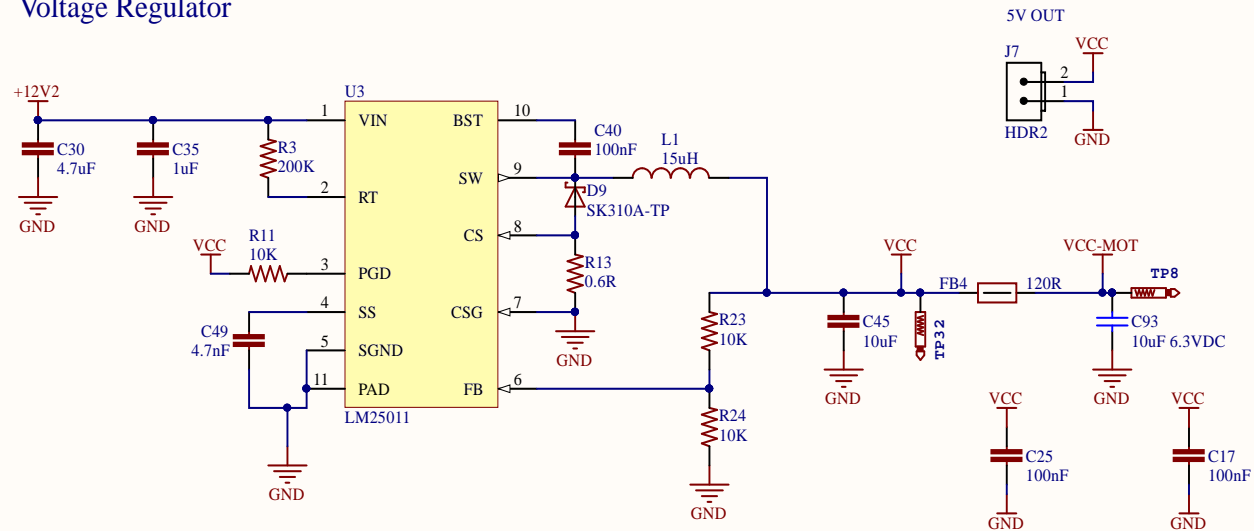
0.4a Revision Summary

- Touchup diode polarity markings in silkscreen
- New footprint for P3
- Moved thermistor TPs to connector pin
- Increased GND stitching
- Increased copper pour coverage
- Updated paste mask apertures on QFNs
- Added nAC\_FAULT to pin\_6 of Atmega2560
- Added J7, power failure relay input.
- Added R73
- Removed RN4
- Stole RX1 and TX1 from P1, moved to J19
- Combined 2560 ICSP (X18) with pins\_9-14 of J19
- Removed J16-J18, X\_MAX, Y\_MAX, Z\_MAX

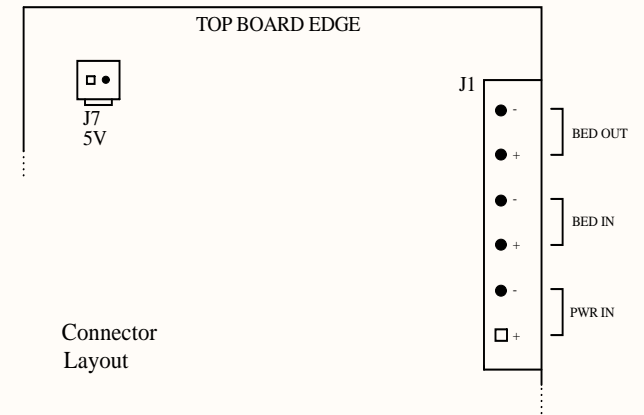
Notes:  
DNI = Do Not Include = No Populate

Title Einsy Rambo Title Page			
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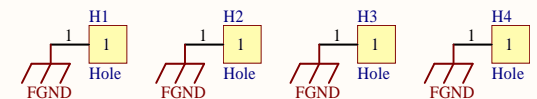
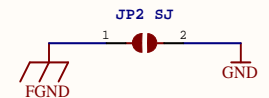
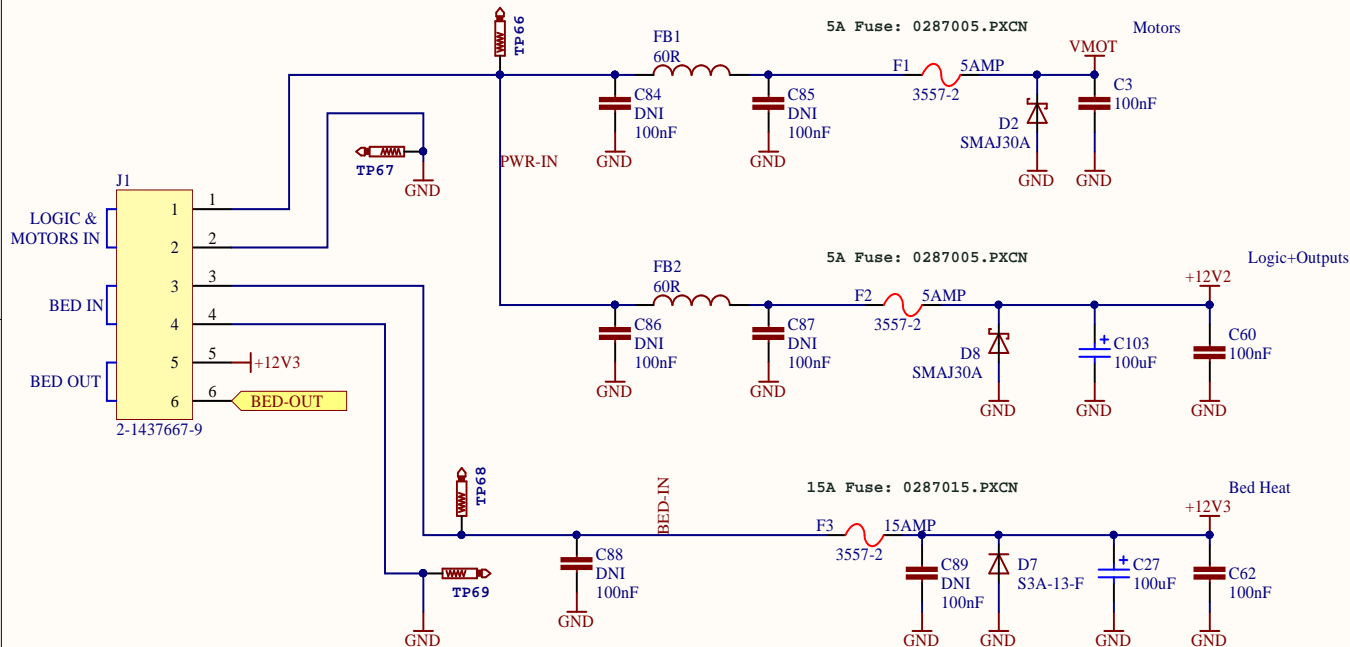
## Voltage Regulator



## TOP BOARD EDGE

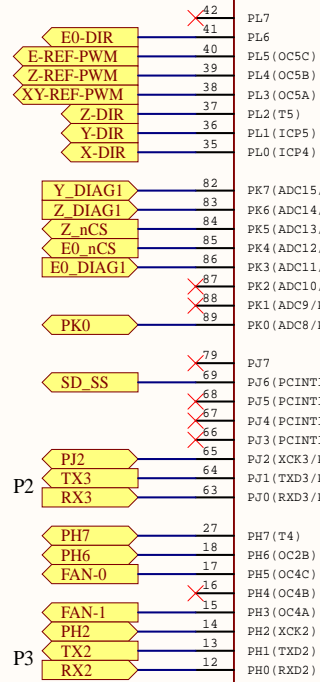
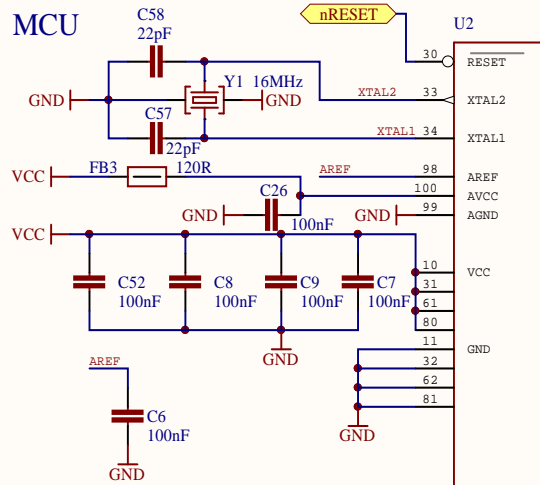


## Power Input

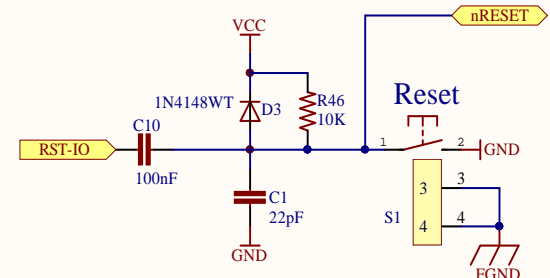
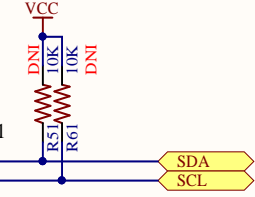
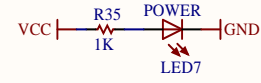
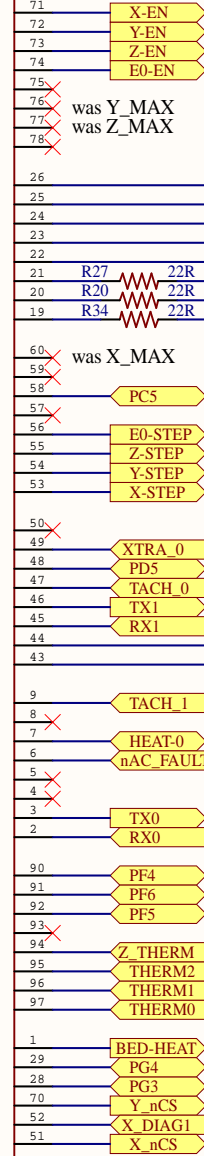
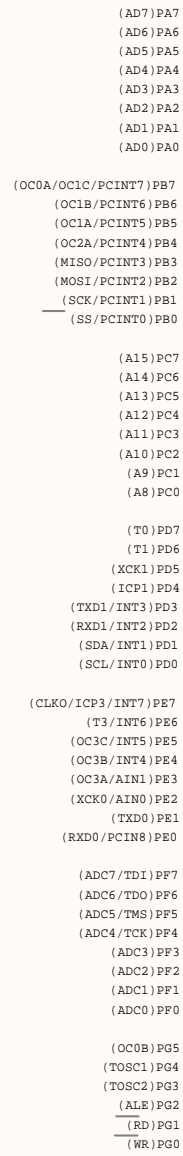


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MCU



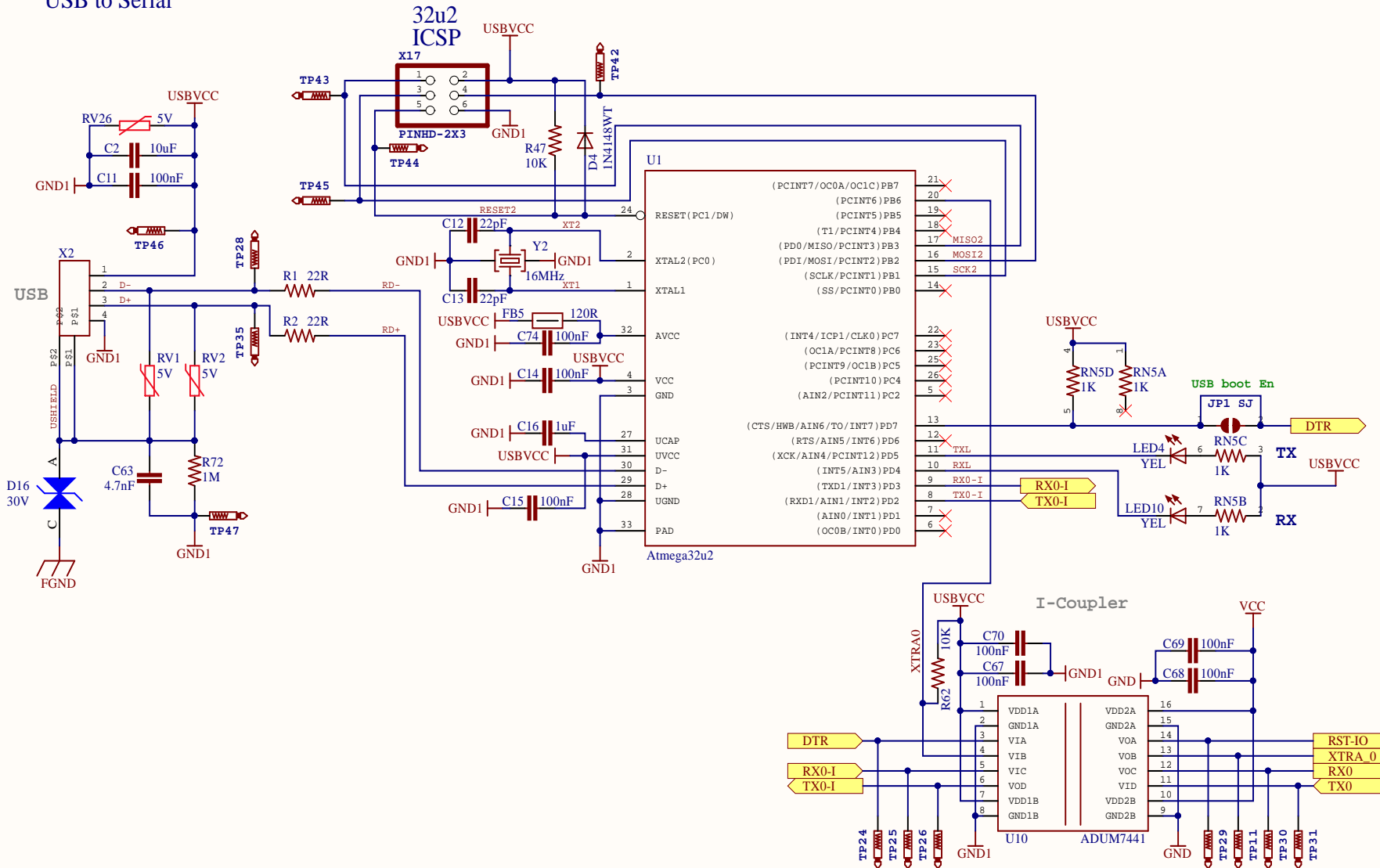
Atmega2560



Title Einsy Rambo MCU		
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# Atmega 32u2 USB

## USB to Serial



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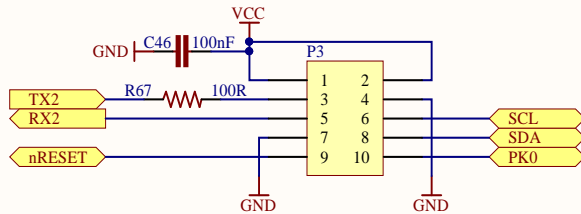
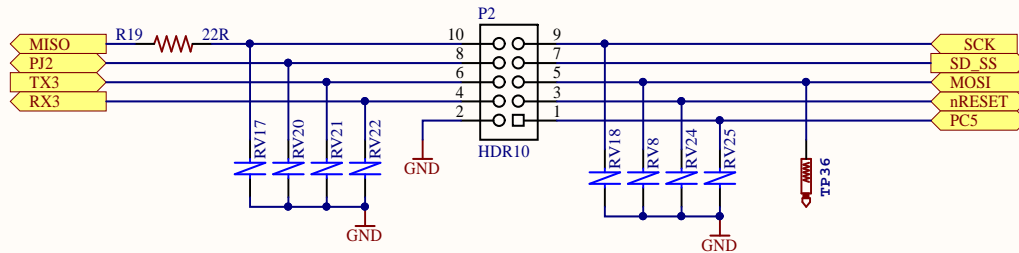
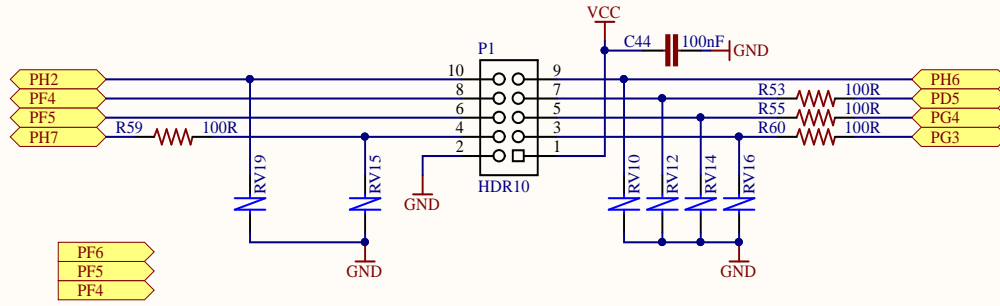
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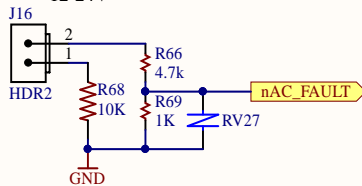
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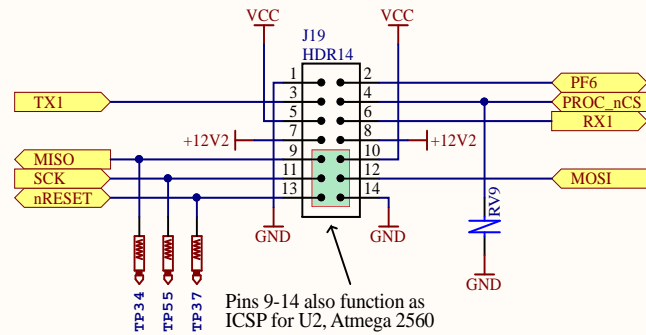
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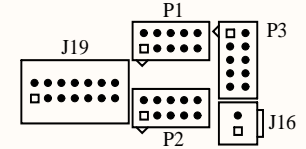
Power Fault Relay  
Connector  
12-24V



TP 27  
Depreciated SCLK TP

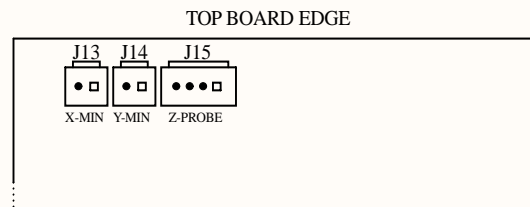


TOP BOARD EDGE



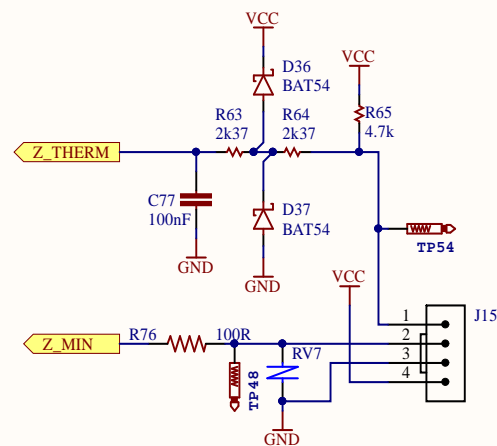
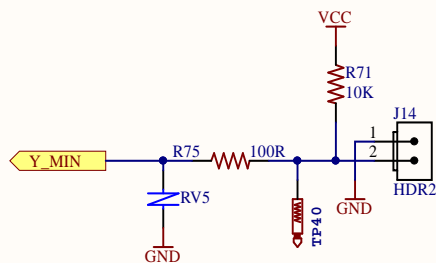
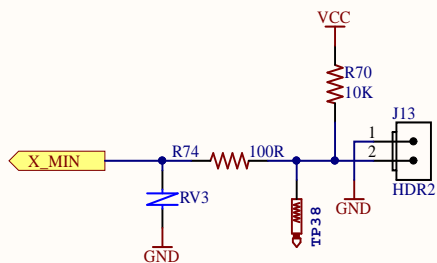
Connector  
Layout

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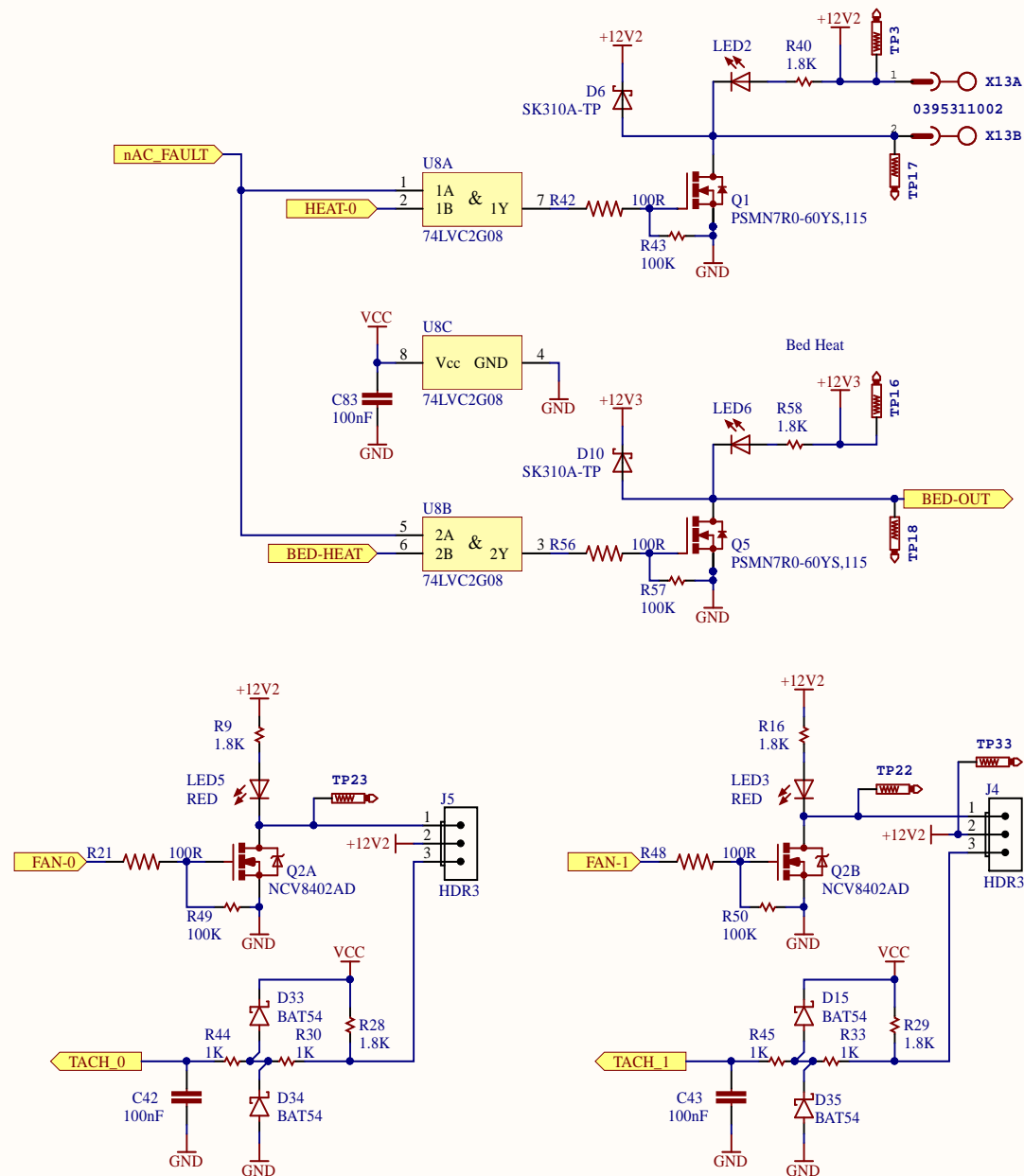
Connector  
Layout

### End Stops



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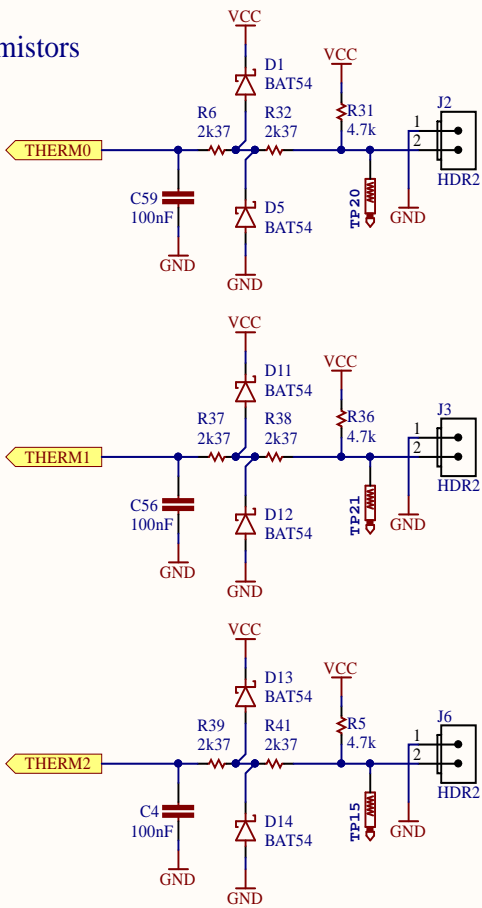
Heater Outputs



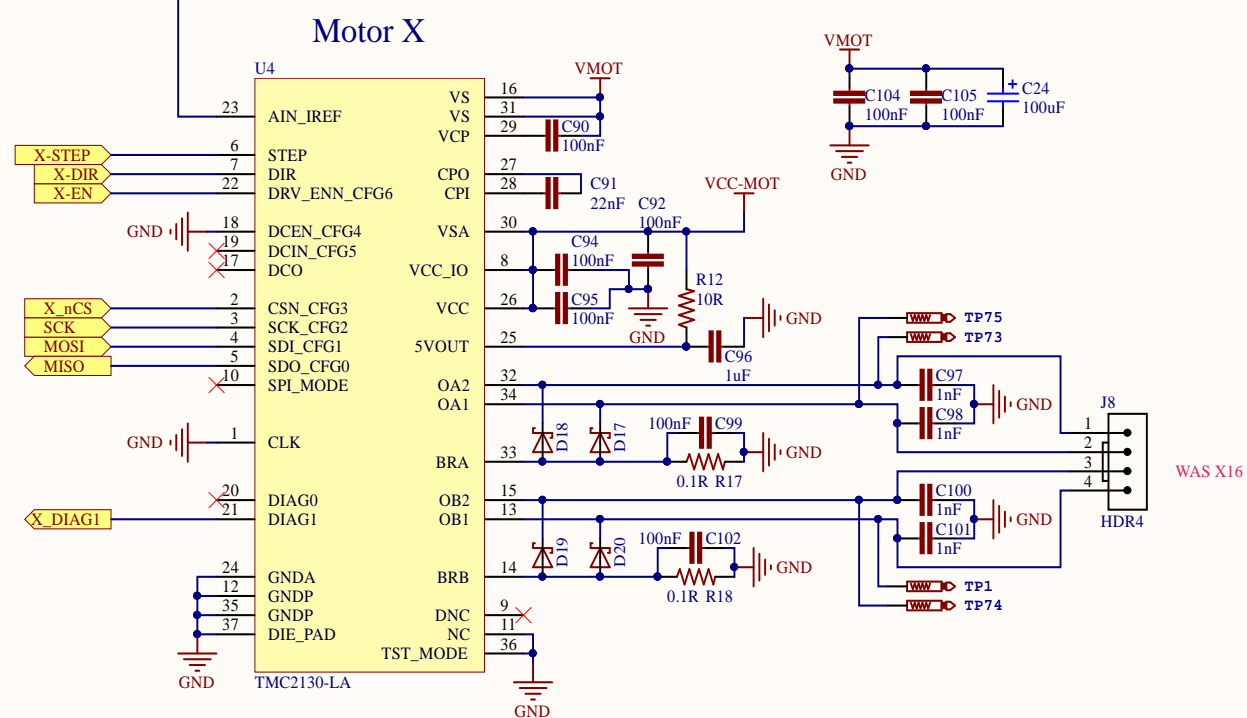
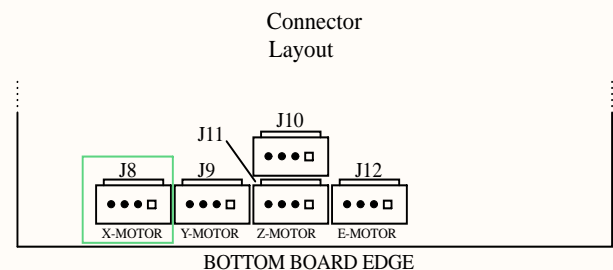
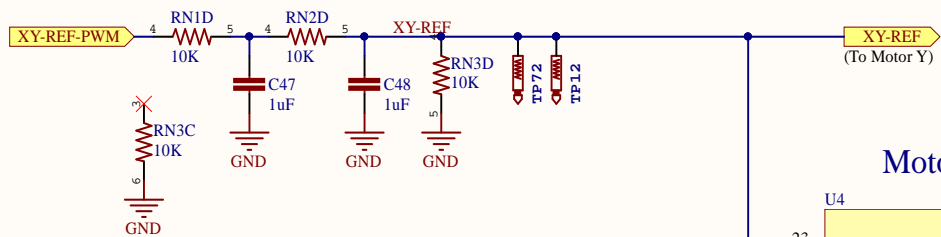
TOP BOARD EDGE

Connector Layout

Thermistors

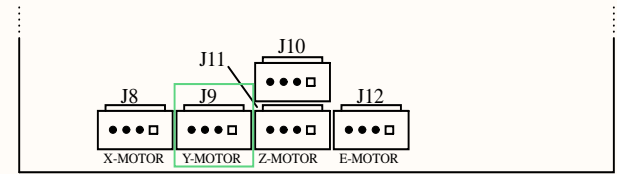


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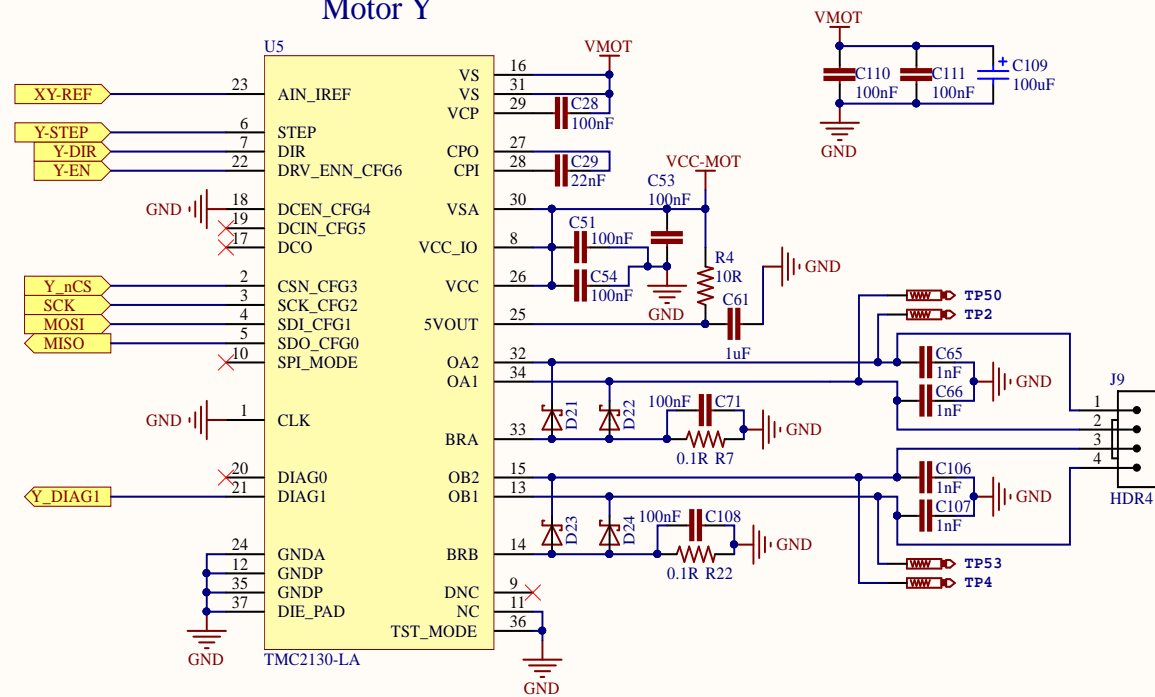
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Connector  
Layout

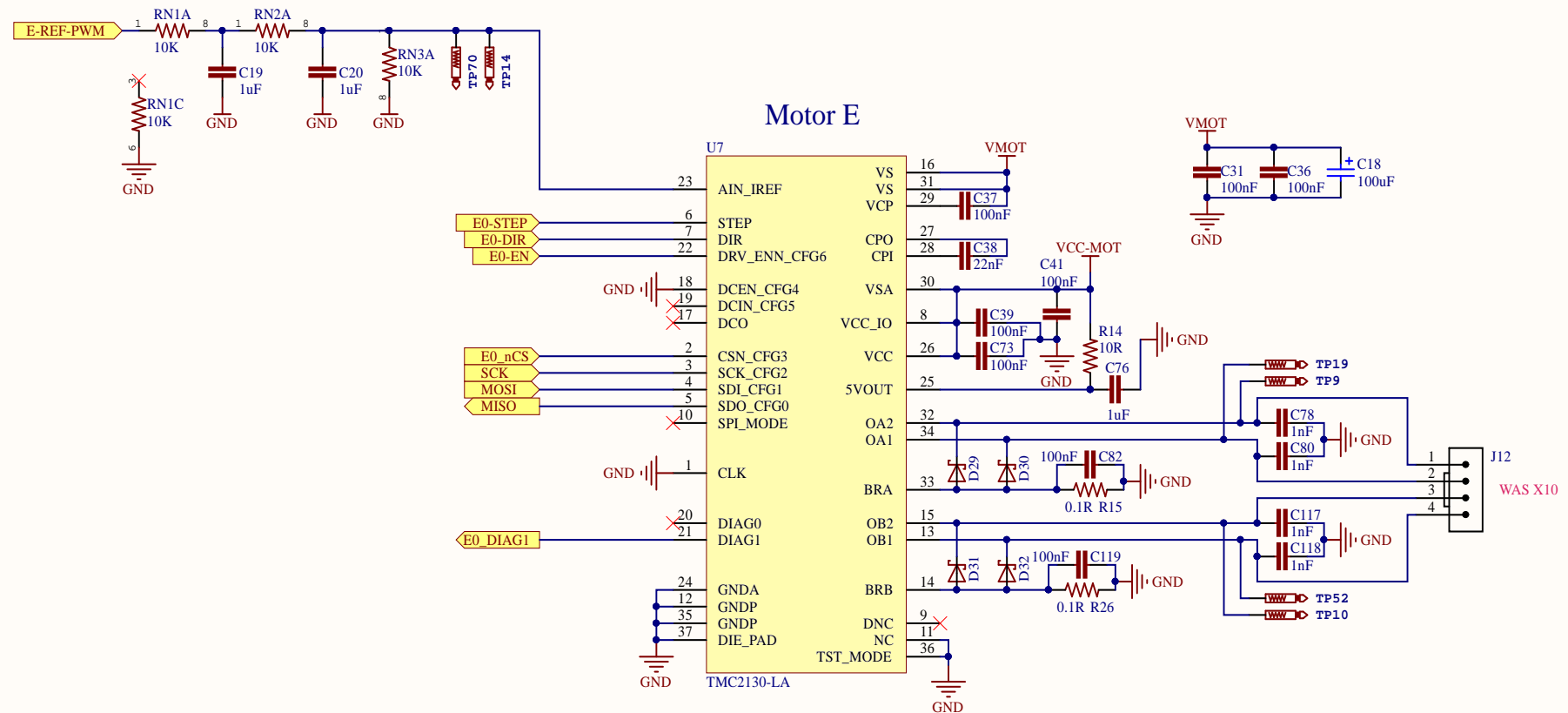
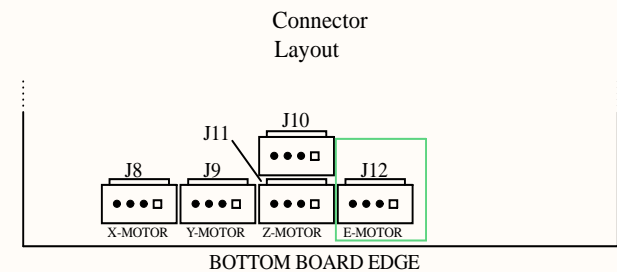
BOTTOM BOARD EDGE

## Motor Y



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Title			
Einsy Rambo Motor-E			
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