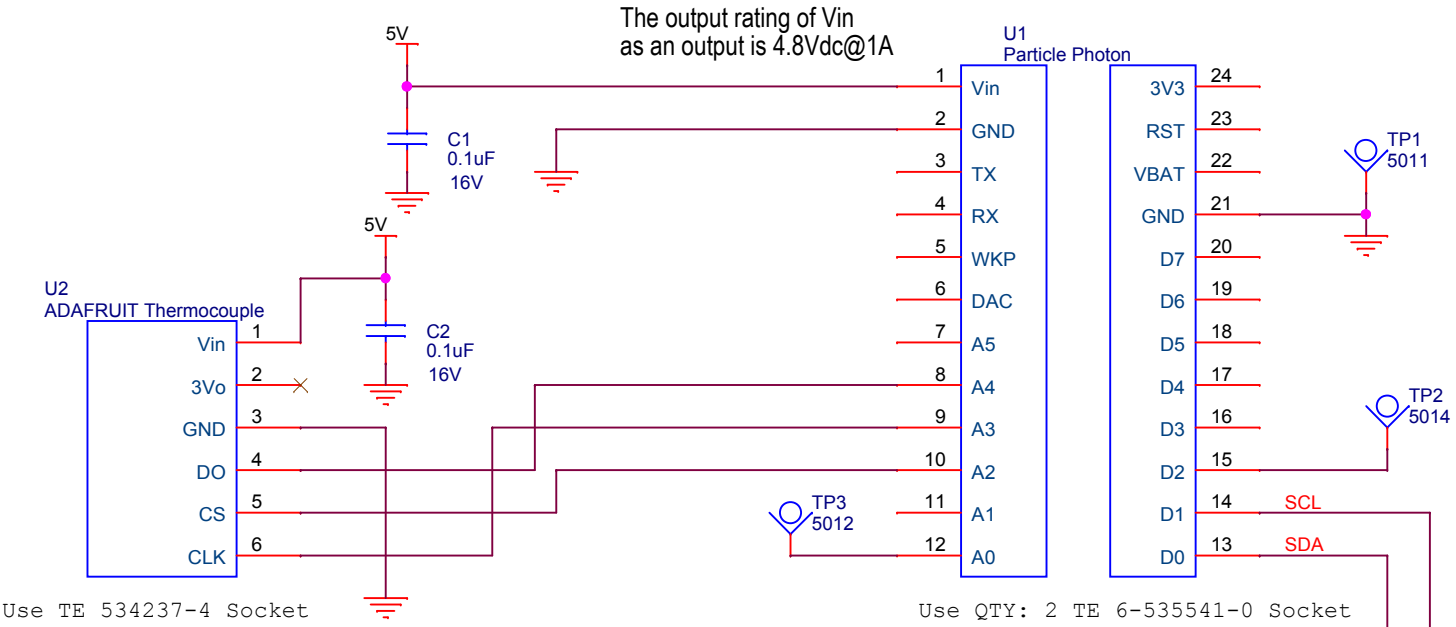


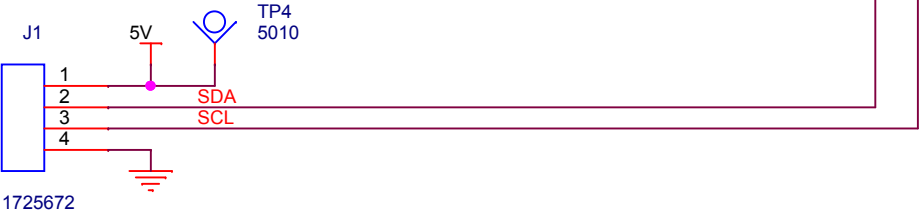
| USB                        | Pin  | Exposed Functions |           |          |          | STM32 Pin | PØ Pin # | PØ Pin Name |                  |
|----------------------------|------|-------------------|-----------|----------|----------|-----------|----------|-------------|------------------|
| P<br>H<br>O<br>T<br>O<br>N | 3V3  | 3V3               |           |          |          |           |          |             |                  |
|                            | RST  | RST               |           |          |          |           | E8       | 26          | MICRO_RST_N      |
|                            | VBAT | VBAT              |           |          |          |           | A9       | 28          | VBAT             |
|                            | GND  | GND               |           |          |          |           |          |             |                  |
|                            | D7   | JTAG_TMS          |           |          |          |           | PA13     | 44          | MICRO_JTAG_TMS   |
|                            | D6   | JTAG_TCK          |           |          |          |           | PA14     | 40          | MICRO_JTAG_TCK   |
|                            | D5   | JTAG_TDI          | SPI3_SS   |          |          | I2S3_WS   | PA15     | 43          | MICRO_JTAG_TDI   |
|                            | D4   | JTAG_TDO          | SPI3_SCK  |          |          | I2S3_SCK  | PB3      | 41          | MICRO_JTAG_TDO   |
|                            | D3   | JTAG_TRST         | SPI3_MISO | TIM3_CH1 |          |           | PB4      | 42          | MICRO_JTAG_TRSTN |
|                            | D2   |                   | SPI3_MOSI | CAN2_RX  | TIM3_CH2 | I2S3_SD   | PB5      | 3           | MICRO_GPIO_5     |
|                            | D1   | SCL               |           | CAN2_TX  | TIM4_CH1 |           | PB6      | 5           | MICRO_GPIO_3     |
|                            | D0   | SDA               |           |          | TIM4_CH2 |           | PB7      | 4           | MICRO_GPIO_4     |

| Pin | USB                        | Exposed Functions |           |          | STM32 Pin | PØ Pin # | PØ Pin Name |                |
|-----|----------------------------|-------------------|-----------|----------|-----------|----------|-------------|----------------|
| VIN | P<br>H<br>O<br>T<br>O<br>N | VIN               |           |          |           |          |             |                |
| GND |                            | GND               |           |          |           |          |             |                |
| TX  |                            |                   | USART1_TX | TIM1_CH2 |           | PA9      | 39          | MICRO_UART_TX  |
| RX  |                            |                   | USART1_RX | TIM1_CH3 |           | PA10     | 38          | MICRO_UART_RX  |
| WKP |                            | ADC0              |           | TIM5_CH1 |           | PA0      | 27          | MICRO_WKUP     |
| DAC |                            | ADC4              |           |          | DAC1      | PA4      | 22          | MICRO_SPI_SSN  |
| A5  |                            | ADC7              | SPI1_MOSI | TIM3_CH2 |           | PA7      | 23          | MICRO_SPI_MOSI |
| A4  |                            | ADC6              | SPI1_MISO | TIM3_CH1 |           | PA6      | 25          | MICRO_SPI_MISO |
| A3  |                            | ADC5              | SPI1_SCK  |          | DAC2      | PA5      | 24          | MICRO_SPI_SCK  |
| A2  |                            | ADC12             | SPI1_SS   |          |           | PC2      | 2           | MICRO_GPIO_6   |
| A1  |                            | ADC13             |           |          |           | PC3      | 1           | MICRO_GPIO_7   |
| A0  |                            | ADC15             |           |          |           | PC5      | 54          | MICRO_GPIO_8   |

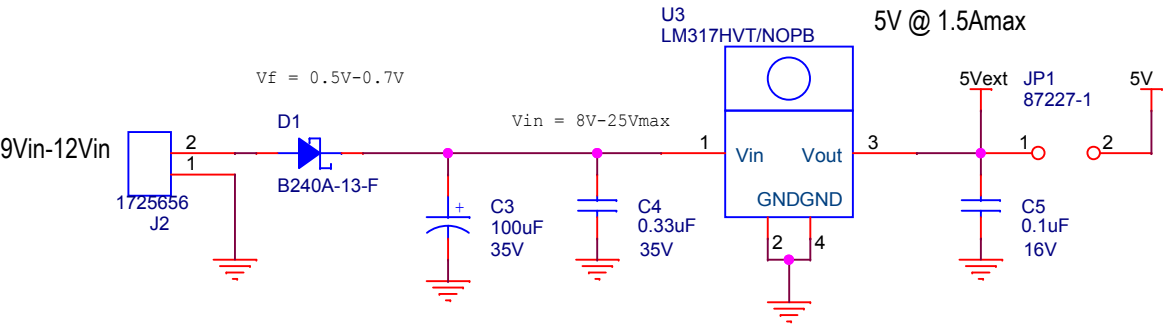
| User I/O                   |                 | Photon Pin # |     | Exposed Functions |          | STM32 Pin | PØ Pin # | PØ Pin Name     |
|----------------------------|-----------------|--------------|-----|-------------------|----------|-----------|----------|-----------------|
| P<br>H<br>O<br>T<br>O<br>N | RGB LED - RED   | 27           |     | TIM2_CH2          |          | PA1       | 8        | MICRO_GPIO_0    |
|                            | RGB LED - GREEN | 28           |     | TIM2_CH3          |          | PA2       | 7        | MICRO_GPIO_1    |
|                            | RGB LED - BLUE  | 29           |     | TIM2_CH4          |          | PA3       | 6        | MICRO_GPIO_2    |
|                            | Setup Button    | 26           |     | TIM3_CH2          | I2S3_MCK | PC7       | 53       | MICRO_GPIO_9    |
|                            | Reset Button    | 23           |     |                   |          | E8        | 26       | MICRO_RST_N     |
|                            | USB Data+       | 31           |     |                   |          | PB15      | 51       | MICRO_USB_HS_DP |
|                            | USB Data-       | 30           |     |                   |          | PB14      | 52       | MICRO_USB_HS_DM |
|                            | SMPS Enable     | 25           |     |                   |          |           |          |                 |
|                            | Peripheral Key  | ADC          | SPI | PWM/Servo/Tone    |          |           |          |                 |
| JTAG                       |                 | SPI1         | I2S | DAC               |          |           |          |                 |
| I2C/Wire                   |                 | Serial1      | CAN |                   |          |           |          |                 |



LCD Connector  
Minimum supply voltage  
of LCD is 4.8V



Recommended Power Supply:  
Triad Magnetics: WSU090-0800-R  
9V 7W



|                                                                                       |                                |                          |                                                 |                                |                      |
|---------------------------------------------------------------------------------------|--------------------------------|--------------------------|-------------------------------------------------|--------------------------------|----------------------|
|  |                                |                          | <b>Monterey Bay Aquarium Research Institute</b> |                                |                      |
|                                                                                       |                                |                          | 7700 Sandhold Road, Moss Landing, CA 95039      |                                |                      |
|                                                                                       |                                |                          | Title<br><b>FREEZER MONITOR PCB</b>             |                                | Project<br><Project> |
| Engineer<br><Engineer>                                                                | Size<br>B                      | Document Number<br><Doc> | Part Number<br><Part Number>                    | Project File<br><Project File> | Rev<br><Rev>         |
| Designer<br><Designer>                                                                | Date: Friday, October 23, 2015 |                          |                                                 | Sheet 1 of 3                   |                      |