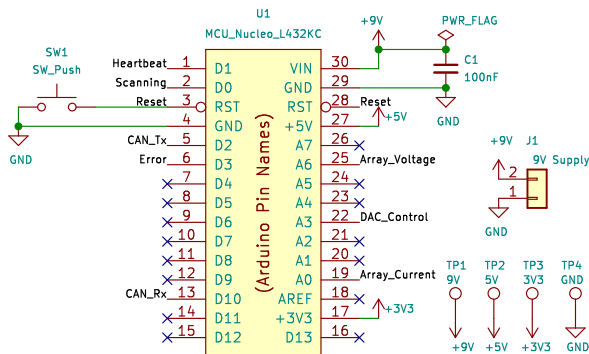


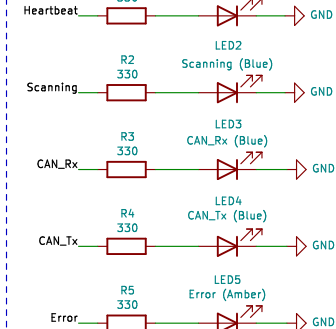
### Nucleo Connections

Powered and controlled by USB through STLink UART.  
Requires A7 (PA2) and A2 (PA3) to be reserved.



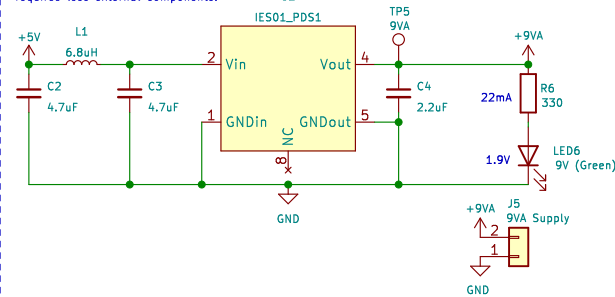
### LEDs

Status LEDs for at-a-glance information.



### DC-DC Converter

5V to 9V power feeding into MOSFET controller.  
IES0105S09, compatible with PDS1-S5-S9-M  
Cout=2.2uF(IES01)/4.7uF(PDS1)  
Imin=12mA  
GND is tied across the isolated DC-DC converter to make it non isolated.  
This is because the sensor input to the STM32 needs to be relative to GND.  
This is probably overkill compared to a normal TI SEPIC converter but requires less external components.



Rev 1.1:

- Schematic:
- Reannotated all component labels and reversed rescued schematic symbols.
  - Rearranged schematic and cleaned up component positioning.
  - Used ArrayLib for array-relevant schematic symbols.
  - Standardized components lists.
  - Added fuse to array input and swapped to a phoenix connector.
  - Updated indicator LEDs and added Reset button.
  - Standardized current sensor to match that of the MPPT's.
  - Merged voltage sensor up amp to the gate amplifier.
  - Added connector for 9V power supply, just in case.

- Layout:
- Shrunk layout by 35%.
  - Added no fill zones to shield analog, digital, and power sections.

Rev 1.2:

- Schematic:
- BOM consolidation to JLCPCB components.
  - Removed RC filters since current draw caused voltage drift into ADC.
  - Changed voltage divider scaling and resistors. See design document.
  - Swapped out LT1215 for MAX40075 and fixed gain to 3x.
  - CAN\_RX corrected to be pin D10, not D9.
  - Removed the RC filter to the input of the voltage sensor.
  - Removed extraneous diodes.

- Layout:
- New layout design. All components are on the same side for easy assembly.
  - Back side is solely for testpoints.

### PV Controller

