

# FUSION 360 PCB Design

**WK4 Assignment:** From the worksheet FUSION 360 Schematics Part1.

- Create an ECAD Schematic Drawing of a LED Blinker Circuit
- Email the .pdf image, and two variations of the Parts List.

**WK5 Assignment: LED Blinker PCB with Gerber Files Worksheet**

- Using the schematic of the LED Blinker, create a PCB design using the components shown in the previous slide

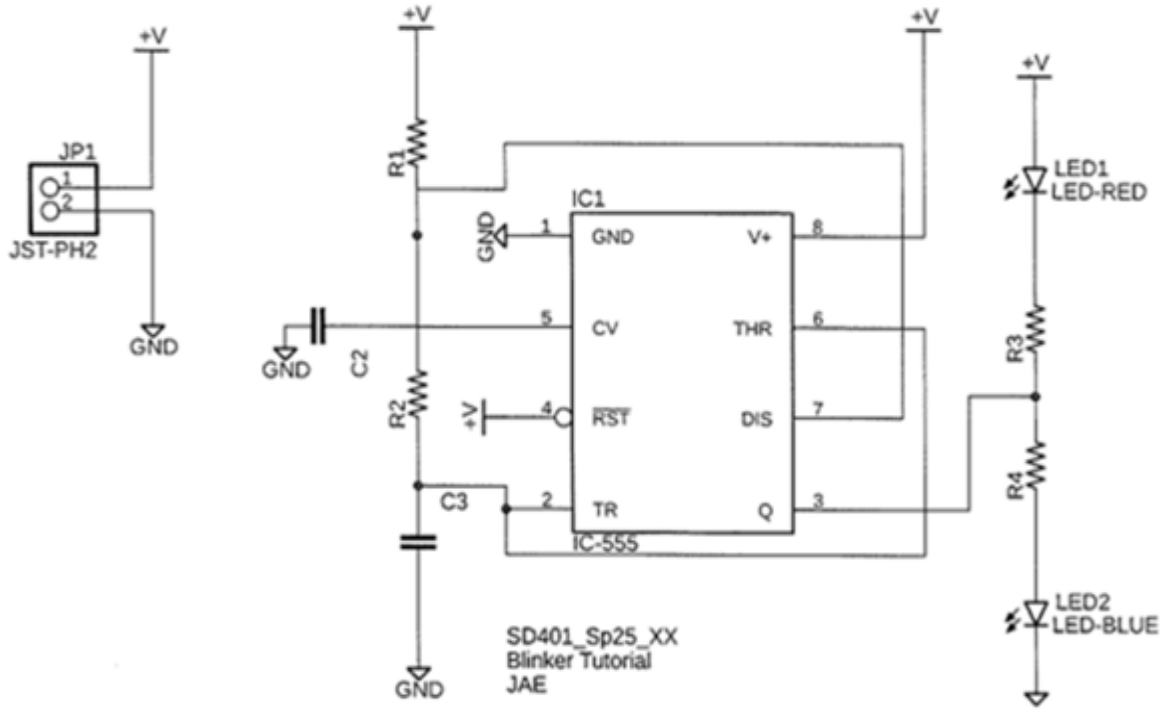
**Requirements: SMD's are to be exclusively used for component selection**

- Use only SMD Components
- Component Size: 0805 or 1202/1206
- IC package: SOIC
- Power input is 7.4VDC (two 3.7V Lipo batteries in series)
- DC input have two options:
  - 1<sup>st</sup> option: use a JST 1x2 connector with 100mil/2.5mm pitch-JST Jack may either be a SMD or Thru Hole device
  - 2<sup>nd</sup> option use the following DC jack as it is used in many SD Projects:  
Suggest using this connector from this Library: OPL-Connector Library, Variant-'DC-005' , description is Jack DC-005 (used in many SD Projects) This is the only through hole device allowed.
- DC input is 7.4Vdc – need a 5V regulator.  
Voltage regulator & size LM7805 SOT223
- Adding a Voltage regulator, 1 ohm fuse and reverse current diode (these to be found in additional Parts libraries)
- Label the DC input polarity
- 1-ohm Resistor in place of fuse with reverse polarity protection diode is required
- Board Size: 1500mil x 1500mil (Shrink your board)
- Text showing Group Designator, Project name: LED Blinker, Vs.# on front & back of PCB
- Text in an orderly manner
- Mounting holes: 4 corners
- Mounting Hole diameter: 150 mils
- May use any components from any Parts Library- Tutorial Fusion360 is just an option
- Parts may be placed on TOP or Bottom Layer
- Power traces 15 mils
- All other traces 10 mils
- GND plane required

Send the Gerber file which includes to drill files to any Gerber Viewer program, such as OSH PARK.com, <https://www.gerber-viewer.com>, or jlcpcb.com

Email the renamed .zip file folder to [Jeffrey.erickson@ndsu.edu](mailto:Jeffrey.erickson@ndsu.edu)

1



Schematic from Worksheet #4- LED Blinker