

# FUSION 360 PCB Design

SD401 Worksheet Week8

**WK7 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.

**WK8 Assignment: LED Blinker PCB with Gerber Files Worksheet Part 2**

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

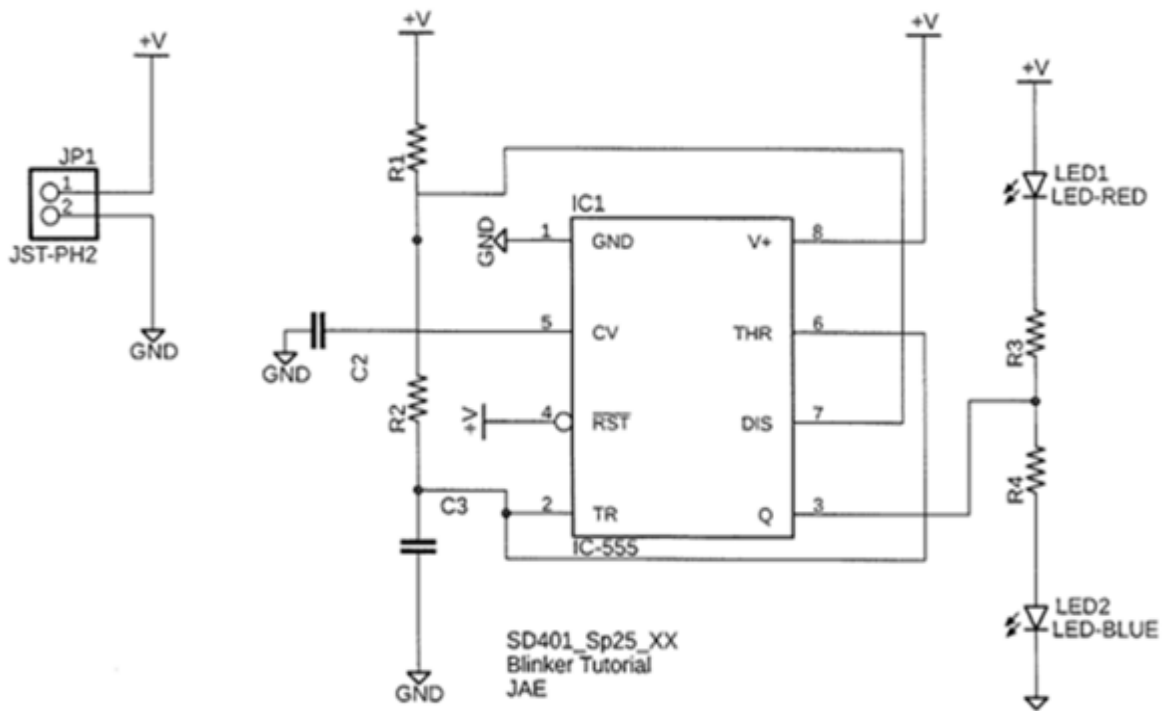
**Requirements: Through Hole Components are to be exclusively used for component selection**

- Use only Through Hole Components
- Resistor Size:
- IC package: DIP, PDIP
- Power input is 9VDC - 9V Battery
- DC input have two options:
  - 1<sup>st</sup> option: use a JST 1x2 connector with 100mil/2.5mm pitch-JST Jack
  - 2<sup>nd</sup> option uses 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)
- DC input is 9Vdc – need a 5V regulator.  
Voltage regulator & size LM7805 TO220 package (Variant)
- 1ohm ¼ watt resistor as a fuse and reverse current diode for circuit protection (use a 1N4001, 1N4002, or a 1N4003 PN junction diode)
- Label the DC input polarity
- Board Size: 2000mil x 2000mil (2"x2")
- 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: 175 mils
- May use any components from any Parts Library- Tutorial Fusion360 is just an option
- Parts may be placed on TOP Layer only
- Power traces 40 mils
- All other traces 20 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 #7- LED Blinker