Analog Lab (EE2401)
Experiment 6 : PCB Design

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1 Aim

our aim here is to design PCB boards for the voltage controlled oscillator using Kicad.

2 Problem statement

1. Design a PCB for the voltage-controlled oscillator implemented in Experiment 5.

. • Two layer PCB.

. • 2-pin connectors for supply, input and output.

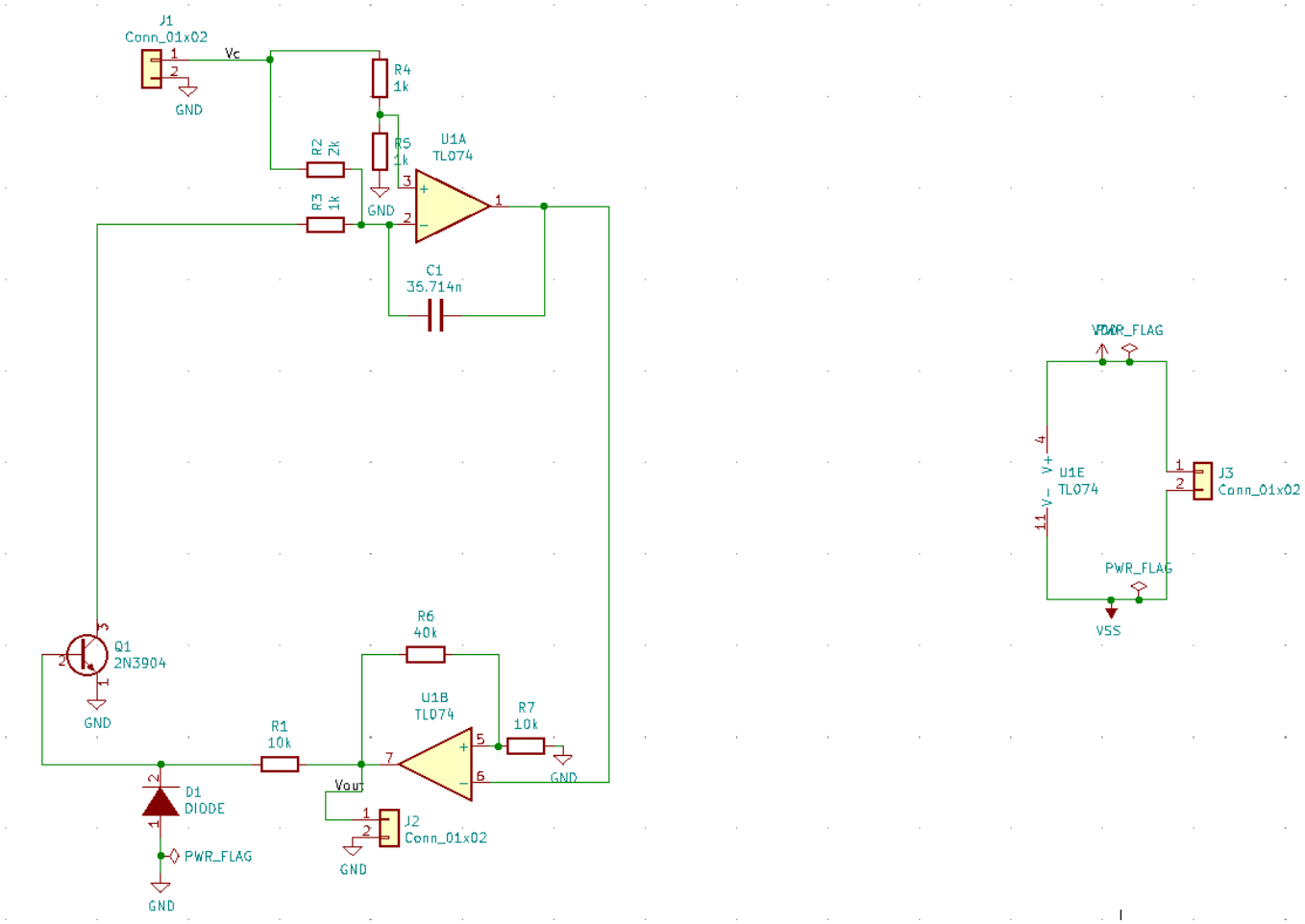
. • Use only one TL074 (same symbol and footprint as LF347) IC with four opamps.

. • Through-hole package for all the components.

. • DRC rule: Minimum track width and spacing - 10 mils, minimum via hole - 10 mils.

3 Design schematics and layout

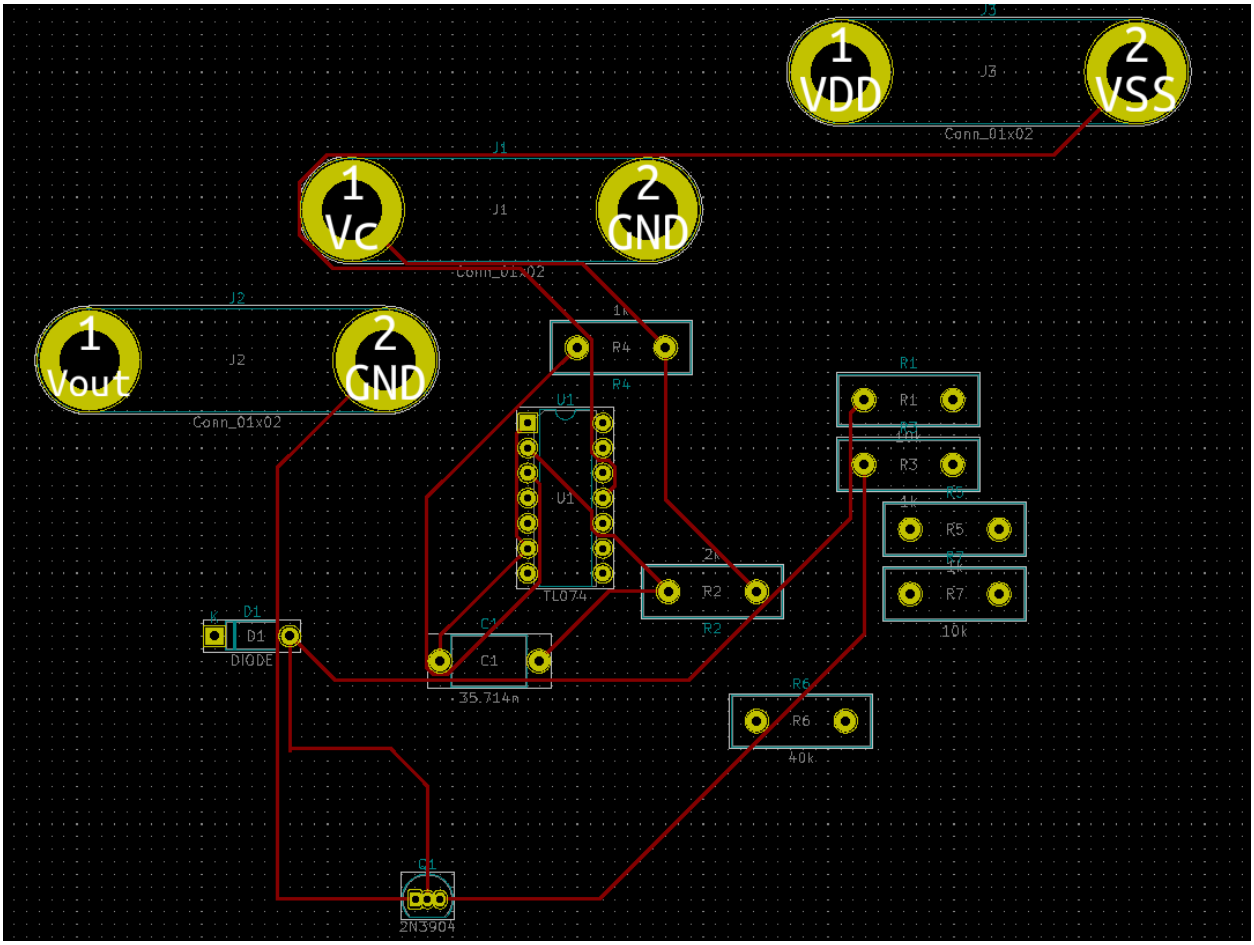
Schematic of the Voltage controlled oscillator



Circuit schematic

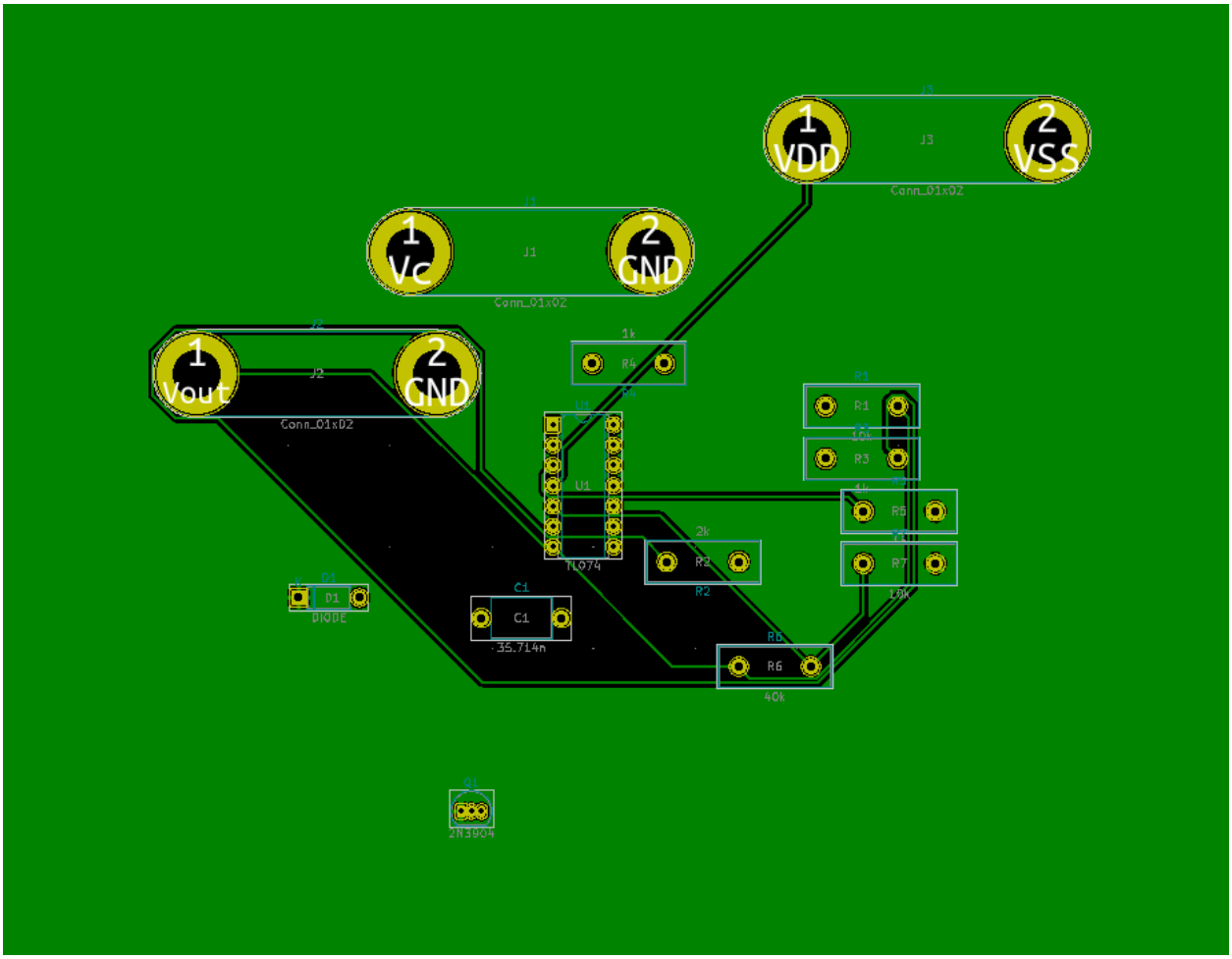
- Using the schematic I have generated a netlist to start PCB after checking for errors.

Layout of PCB Top layer



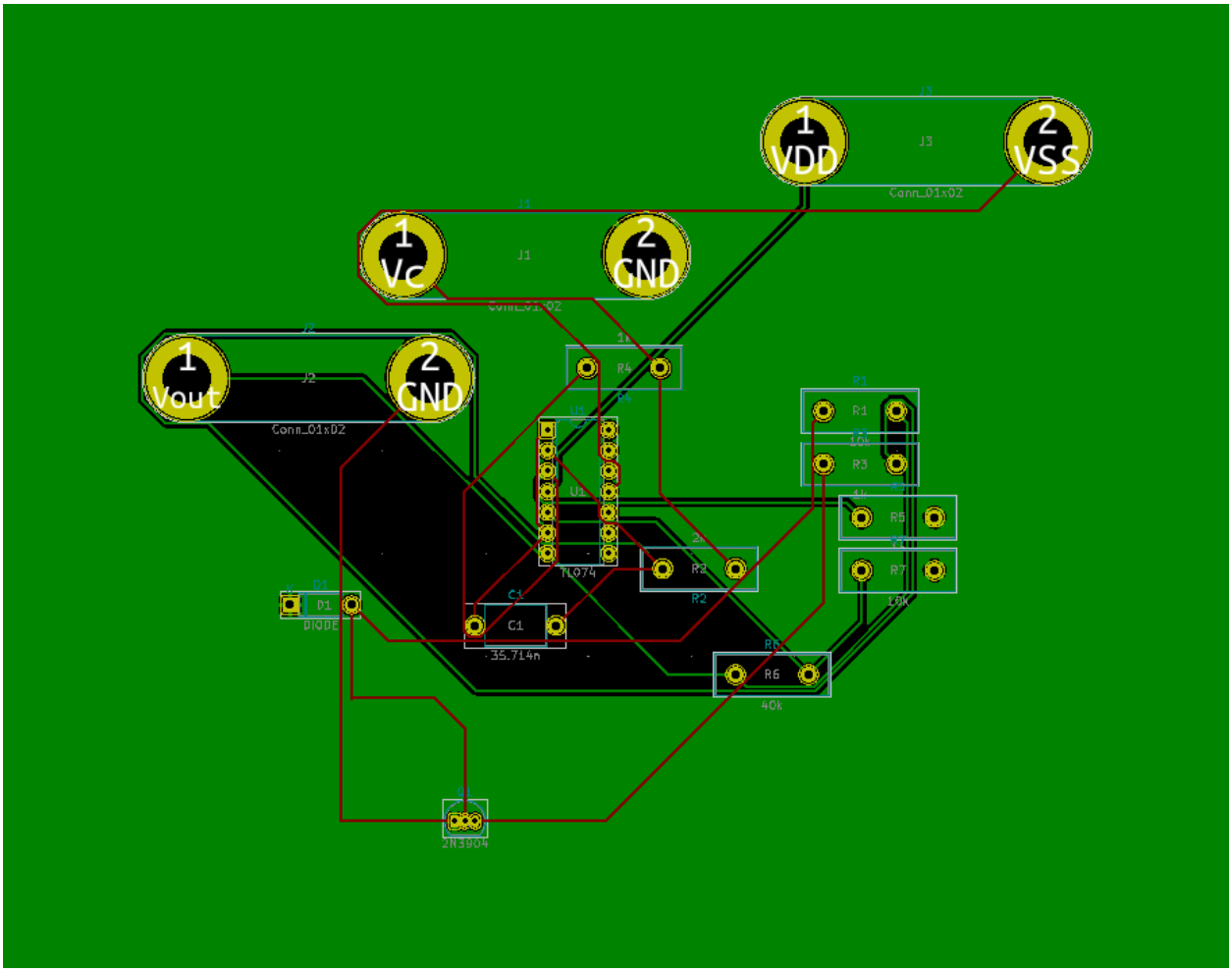
PCB layout Top layer

Layout of PCB Bottom layer



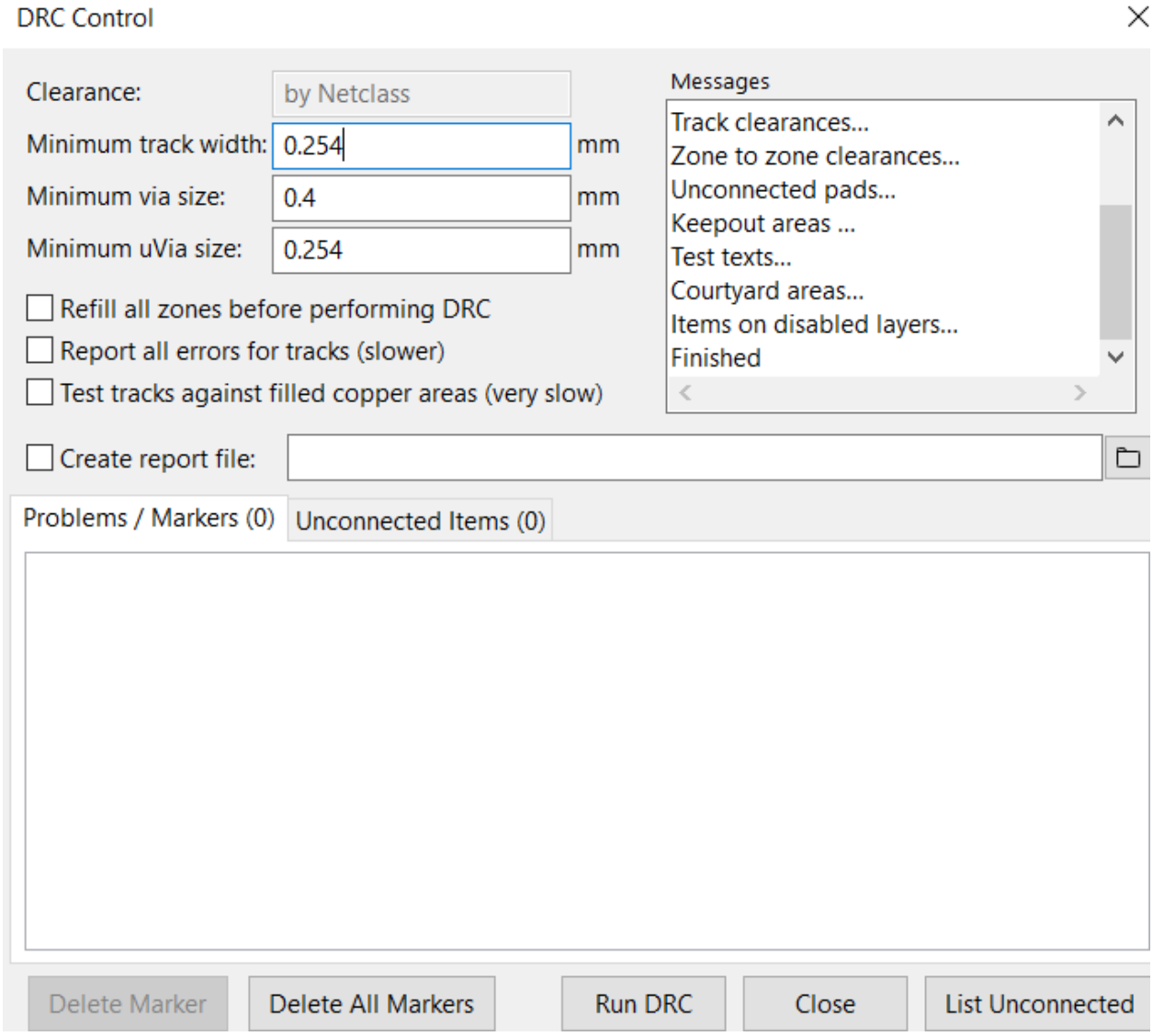
PCB layout Bottom layer

Layout of PCB Both layer



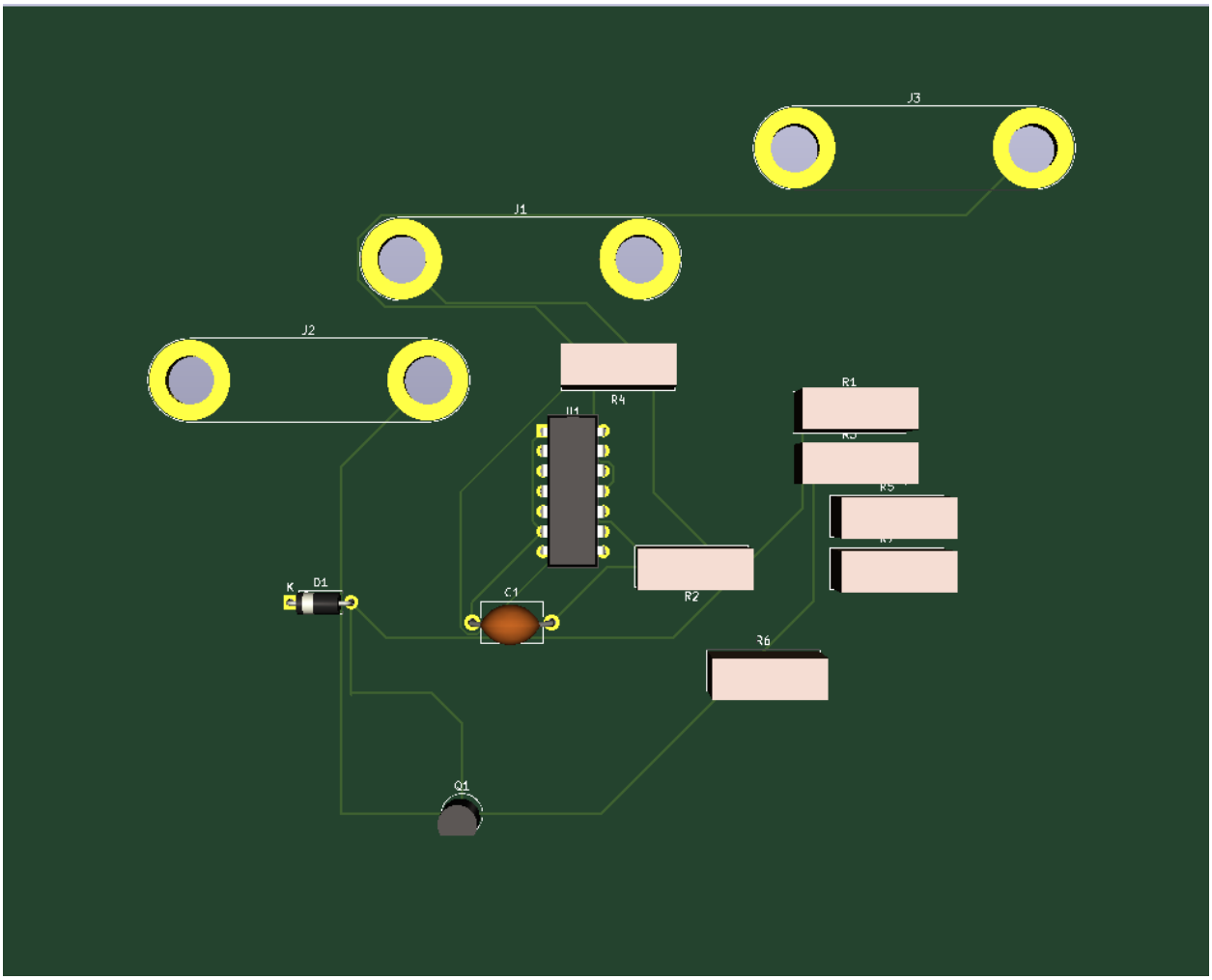
PCB layout Both layer

PCB minimum parameters for error checking



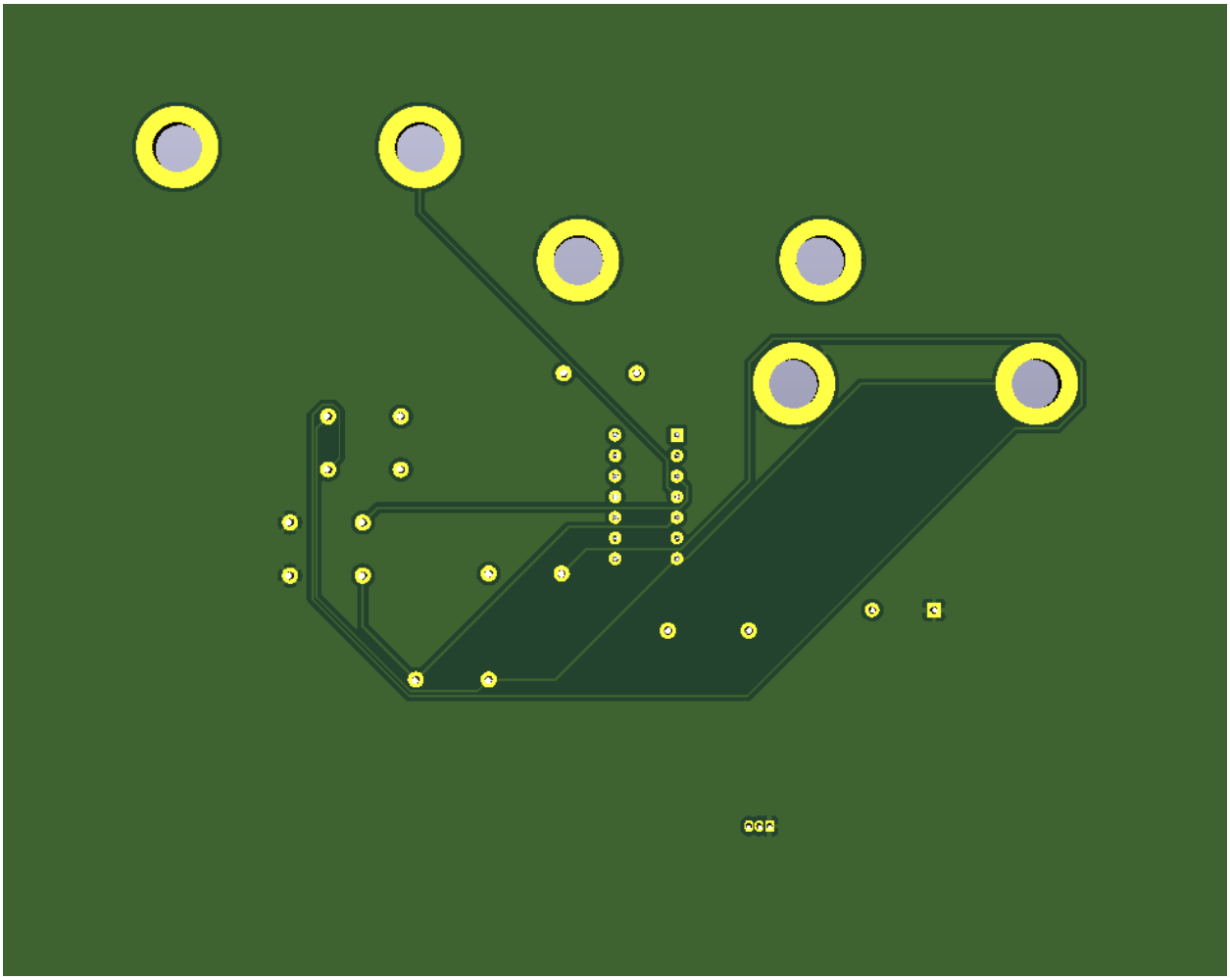
PCB DRC Report

3D view of PCB Top layer



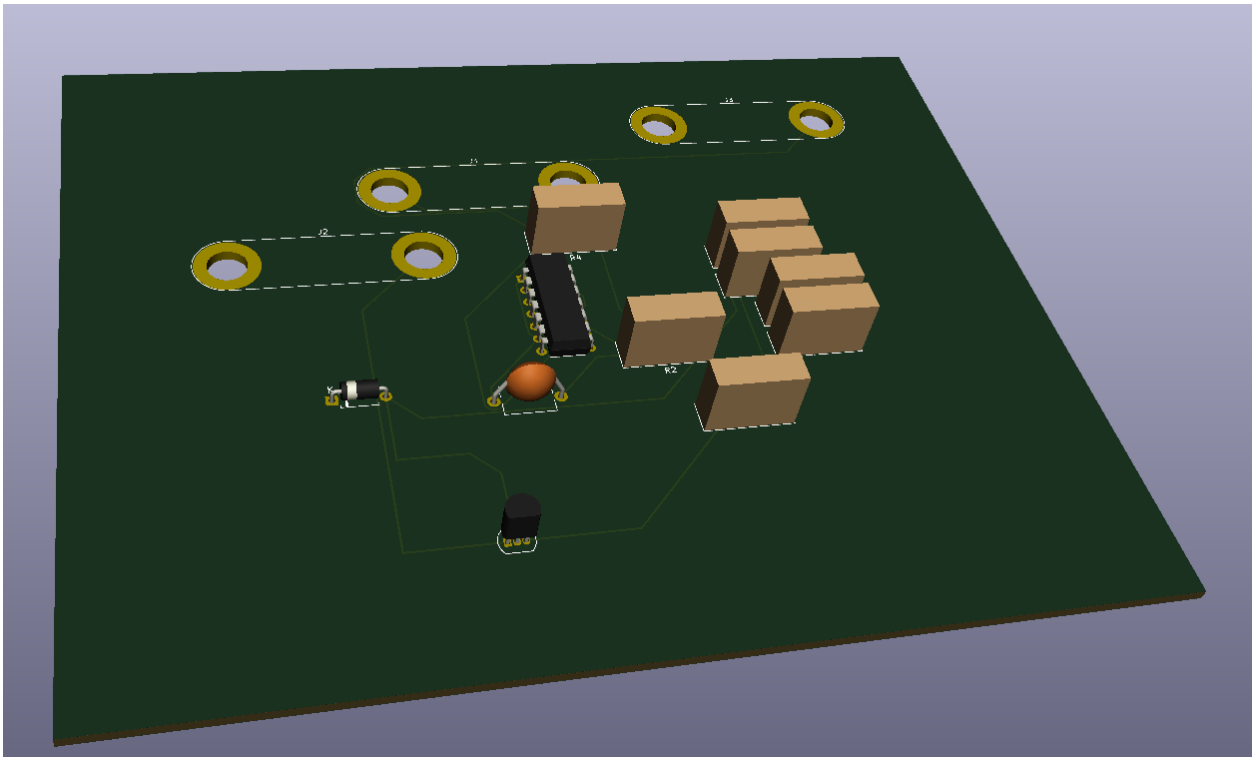
PCB 3d view Top layer

3D view of PCB Bottom layer



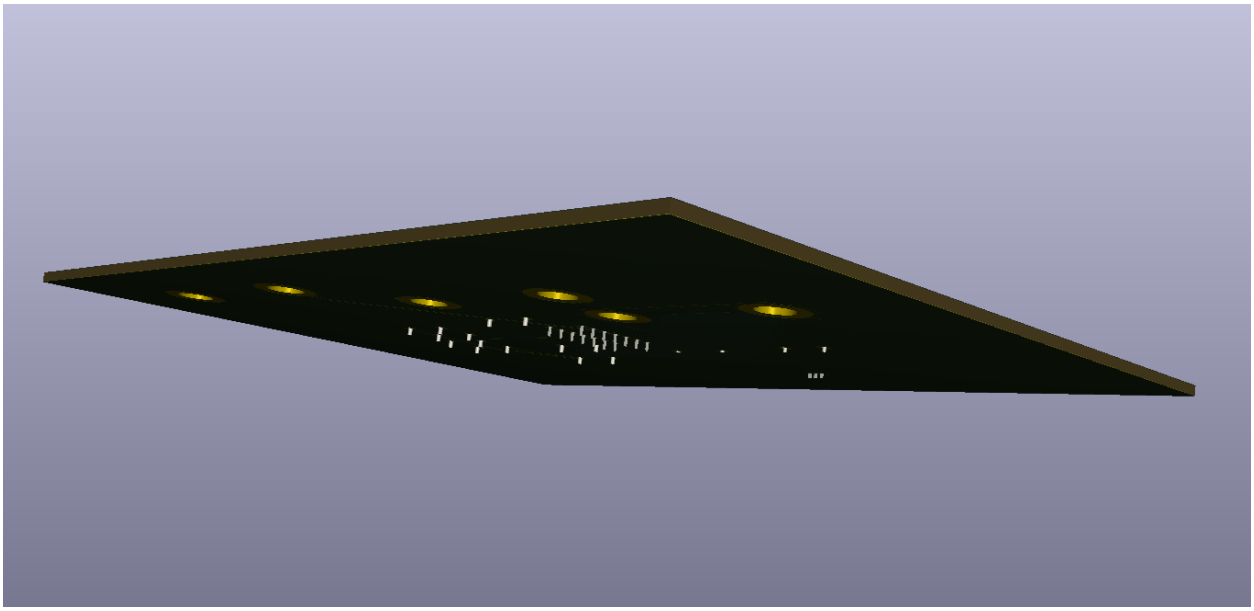
PCB 3d view Bottom layer

3D side view of PCB



PCB 3d view

3D side view of PCB



PCB 3d view


thank
you