



AL- MUSTAQBAL UNIVERSITY COLLEGE
DEPARTMENT OF BIOMEDICAL ENGINEERING

Bio-Electronics Design Lab

BME 515

Lecture 5

- Electrocardiogram II -

Dr. Zaidoon AL-Shammari

Lecturer / Researcher

zaidoon.waleed@mustaqbal-college.edu.iq

Electrocardiogram (ECG)

Al- Mustaqbal
University College



Things have to know them



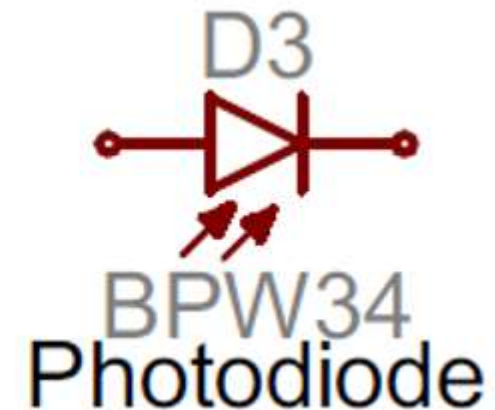
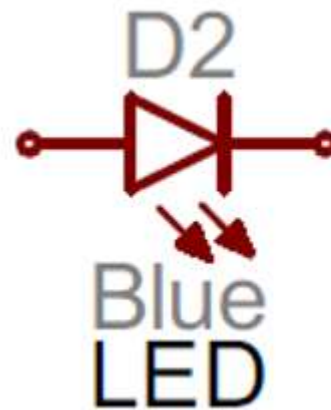
1. Power supplies.
2. Block Diagrams.
3. Schematic Diagrams.
4. Circuit Diagrams.

How to Read a Schematic

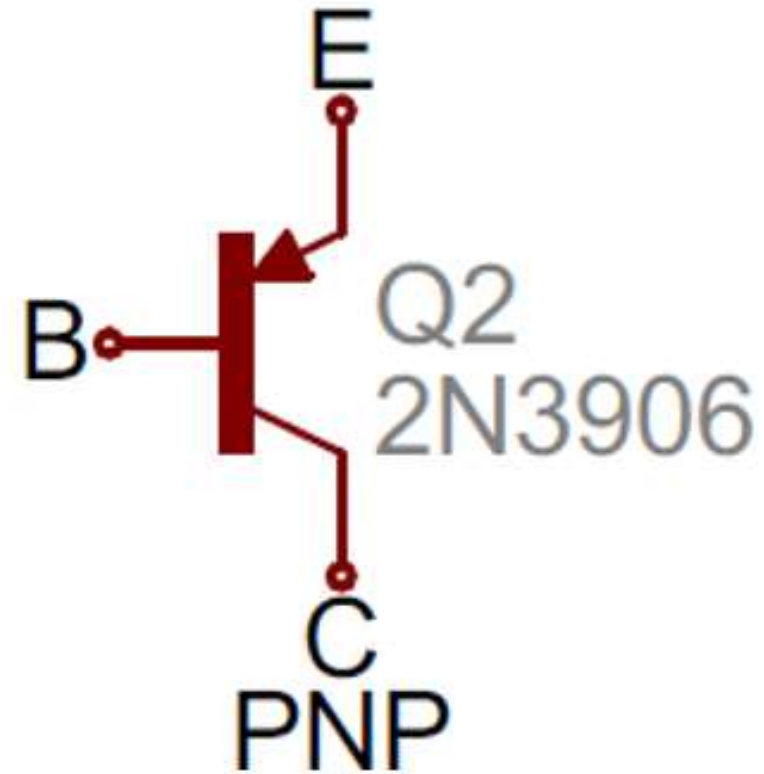
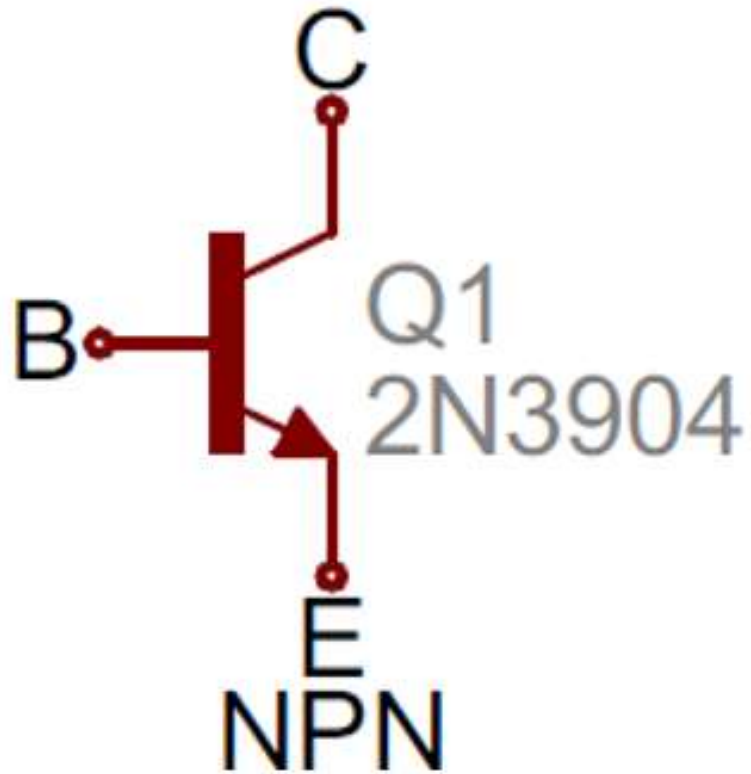


- Diodes.
- Transistors.
- Digital Logic Gates.
- Integrated Circuits.
- Op Amps.
- Headers and Connectors.
- Transformers.
- Speakers.
- Relays.

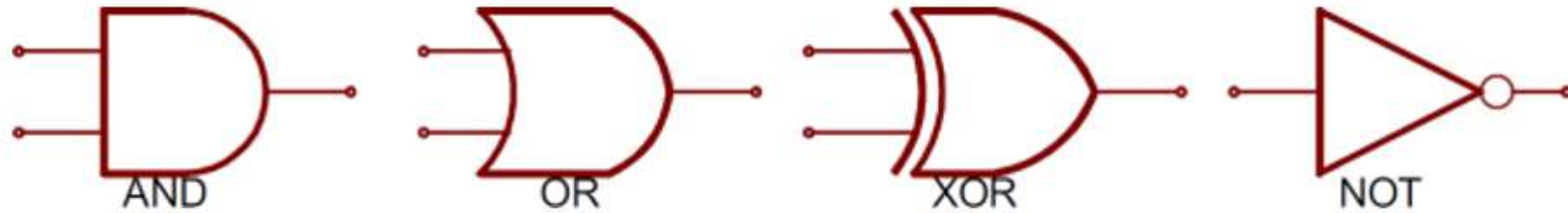
Diodes



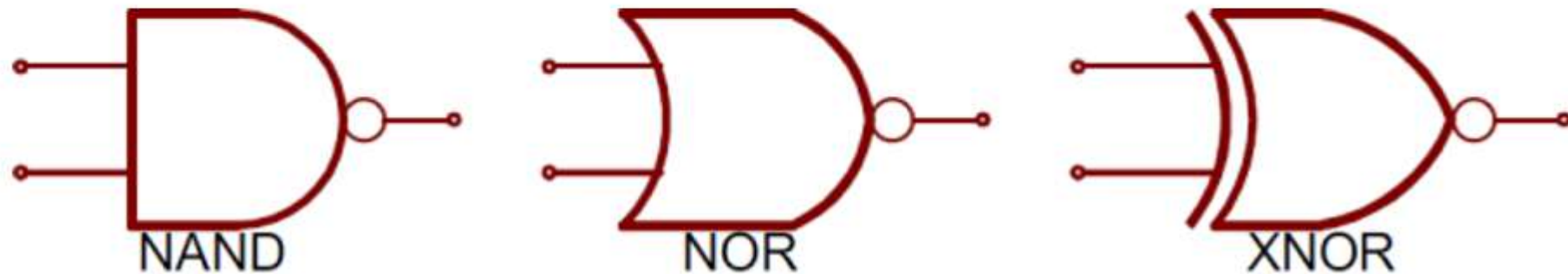
Transistors

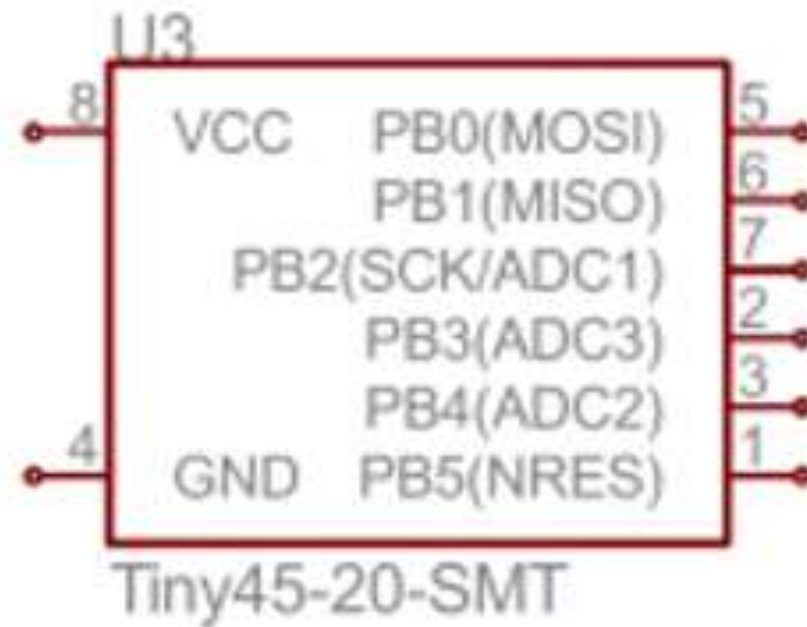
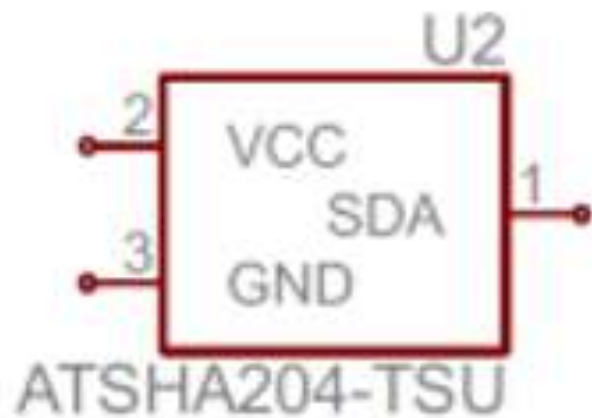


Digital Logic Gates

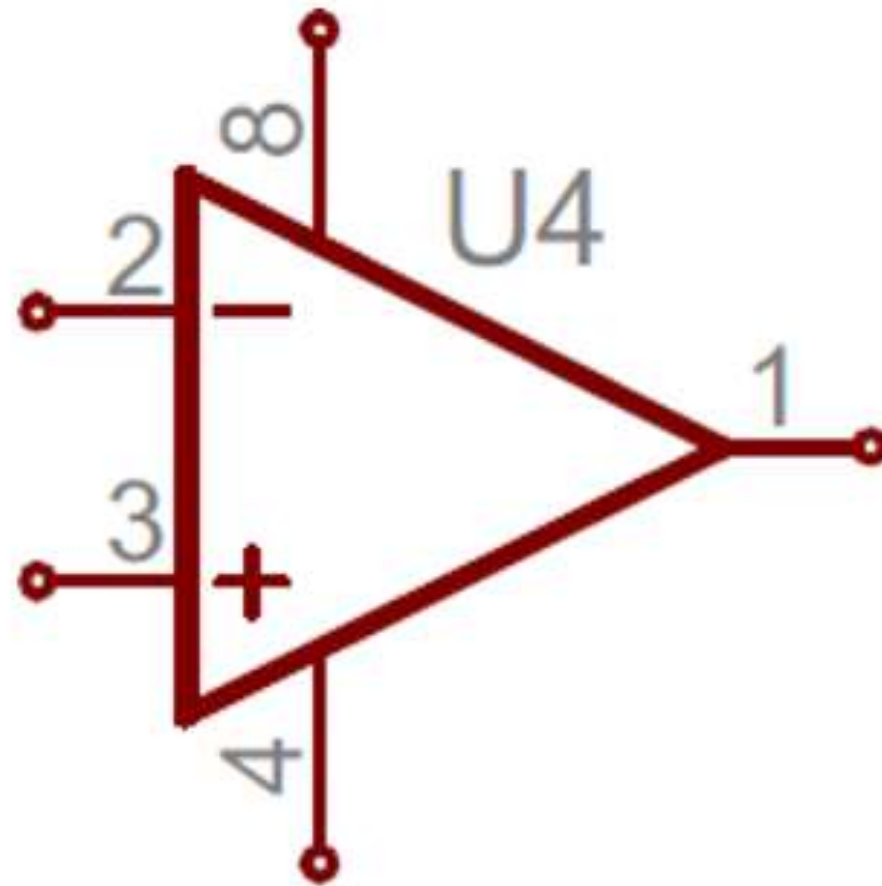


Adding a bubble to the output **negates** the function, creating NANDs, NORs, and XNORs:

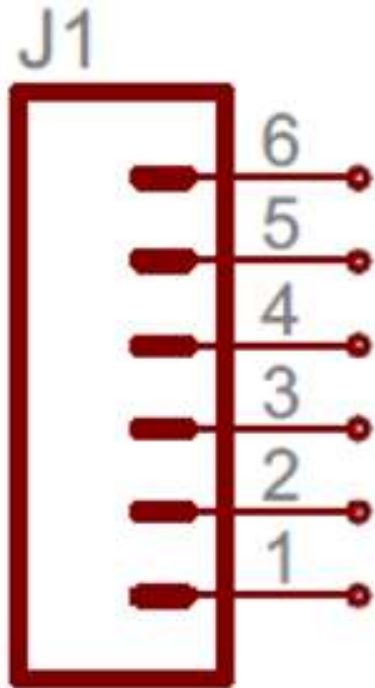




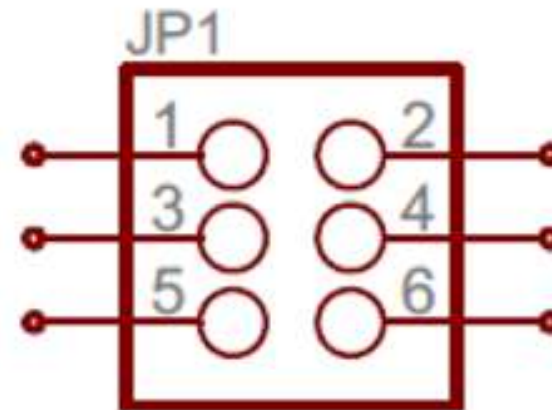
Operation Amplifiers (Op Amps)



Headers and Connectors

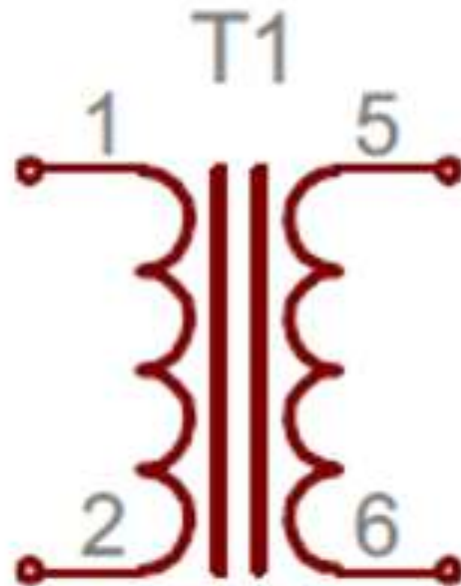


6-Pin Connector

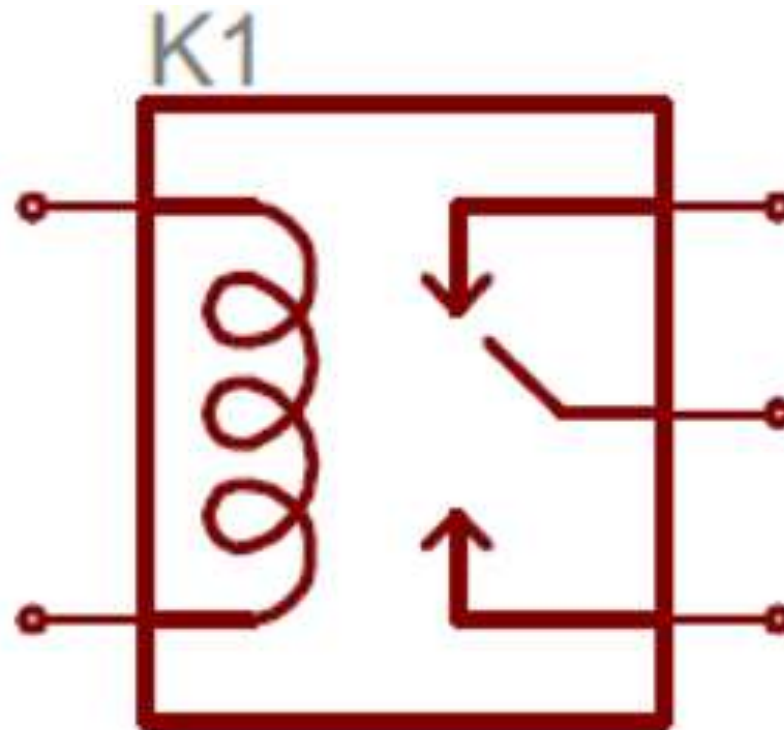


2x3-Pin connector

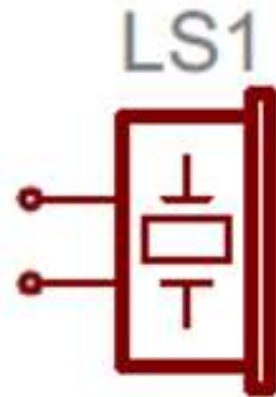
Transformers



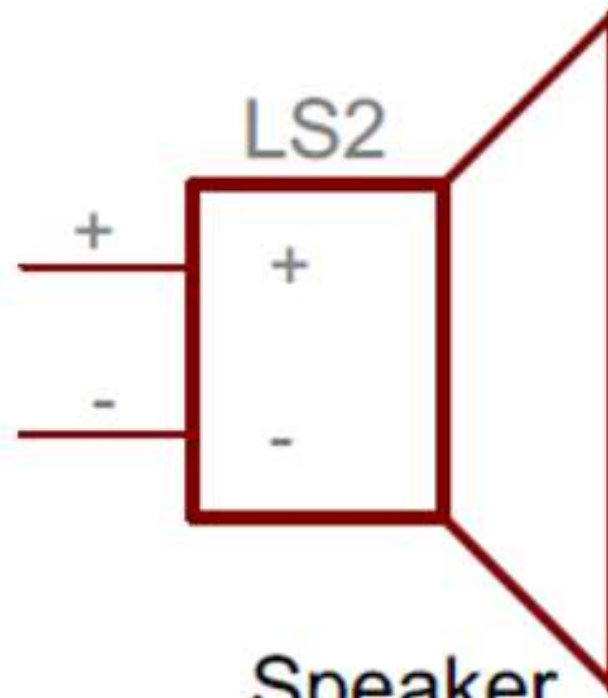
Relays



Speakers and buzzers



Piezo Buzzer



Speaker

Fuses

