DIC L4: Layout (1)

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1.5. CMOS layout (2)

• Detailed mask views

n well

Polysilicon
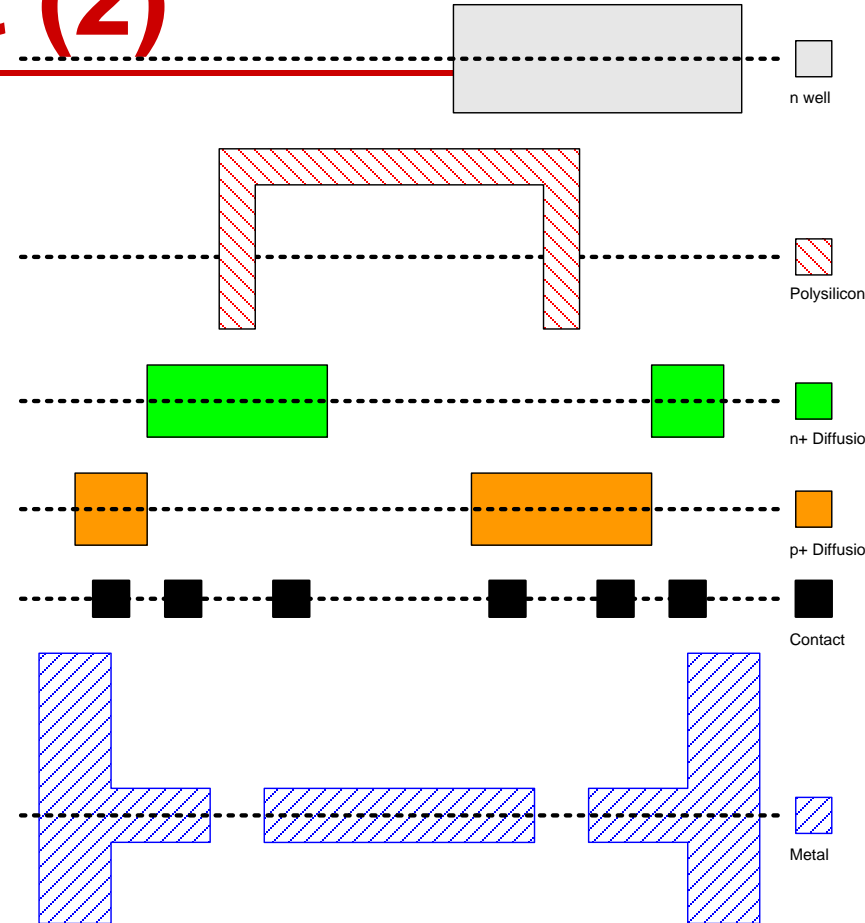
n+ Diffusion

p+ Diffusion

Contact

Metal

Fig. 1.35(b)-(g)

1.5. CMOS layout (3)

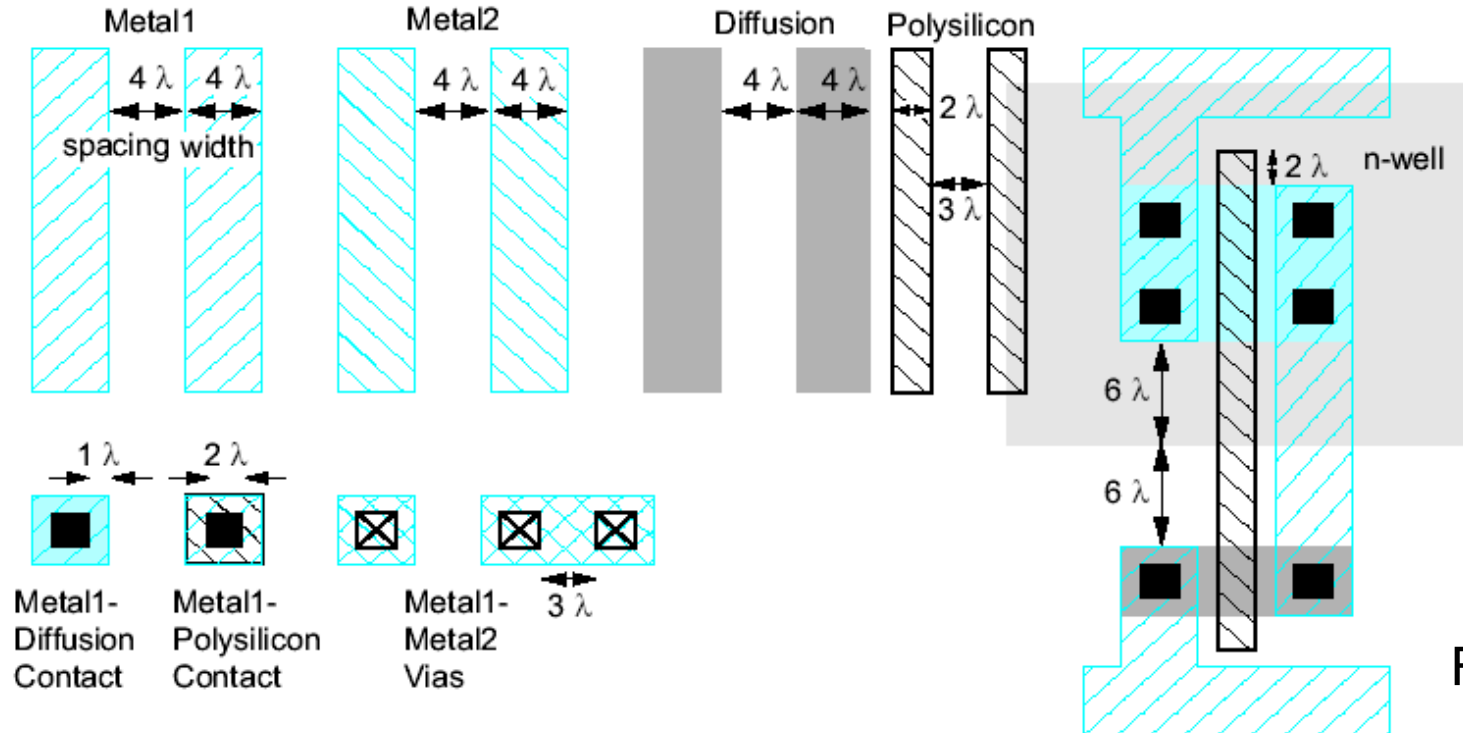- Design rules in the textbook

Fig. 1.39

1.5. CMOS layout (4)
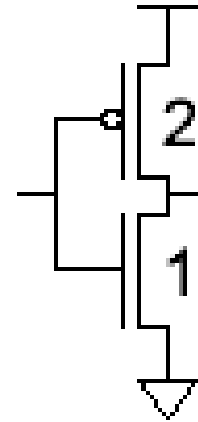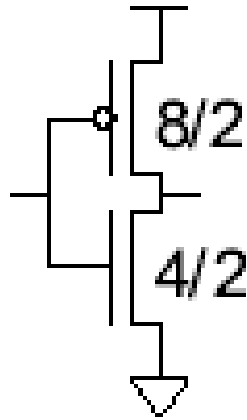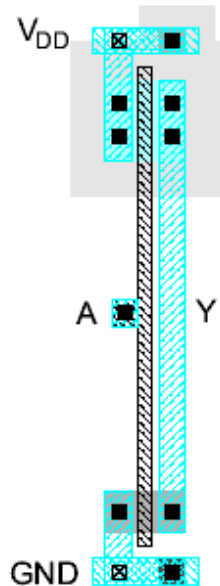
- Inverter layout
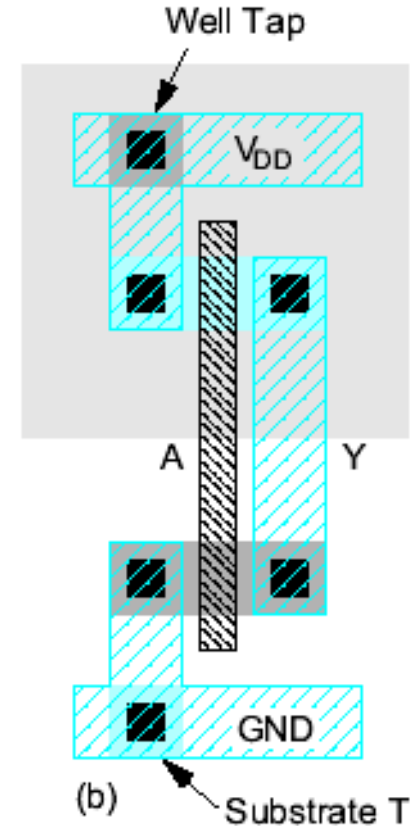

Fig. 1.40

1.5. CMOS layout (5)

- Inverter layout

Fig. 1.41(b)

1.5. CMOS layout (6)

- 3-input NAND
  - Serially connected NMOS transistors
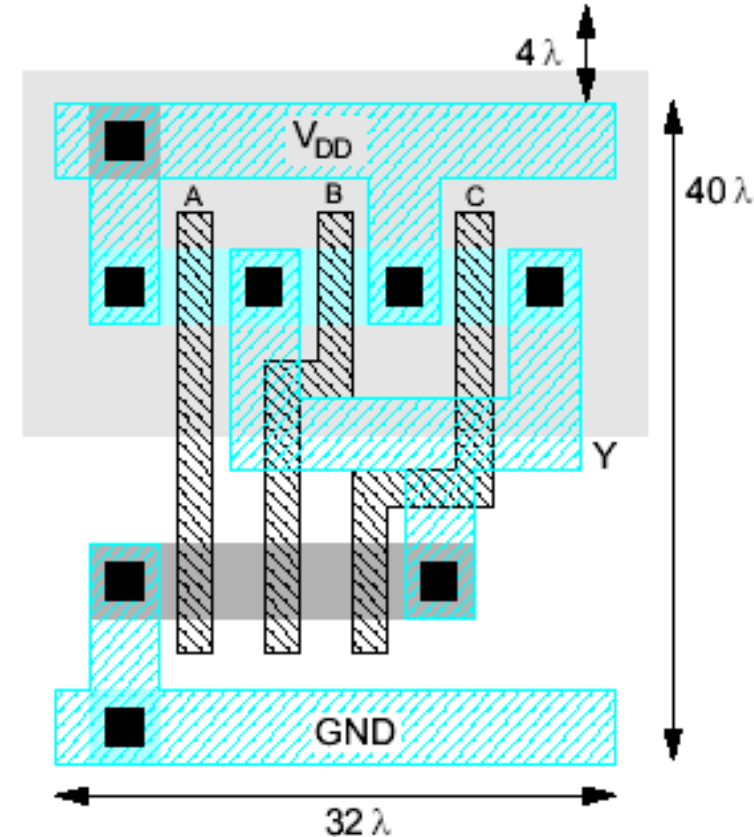 - Paralley connected PMOS transistors

Fig. 1.42

1.5. CMOS layout (6)

- 3-input NAND
  - Serially connected NMOS transistors
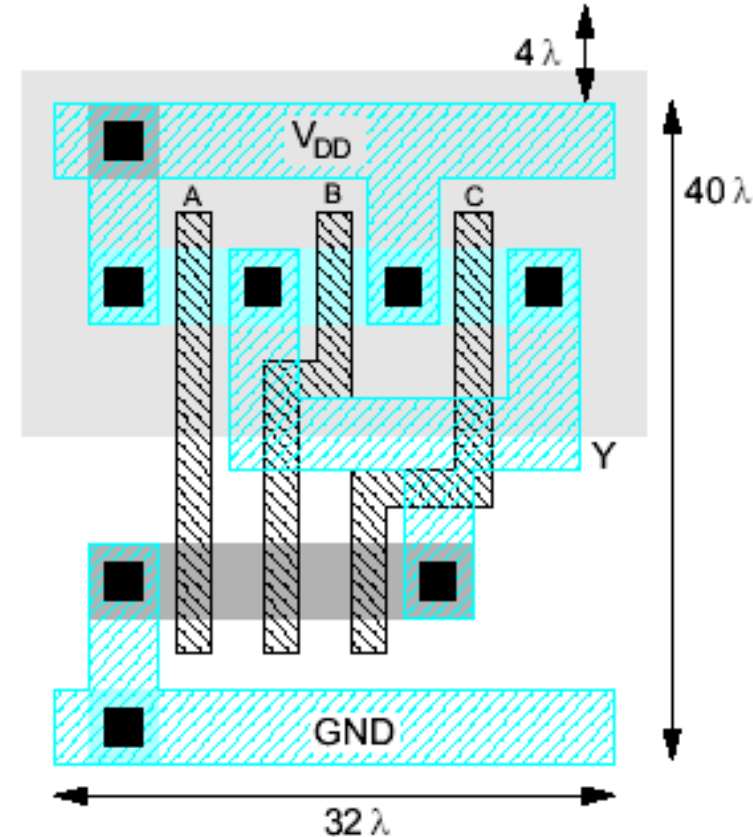 - PMOS transistors are in parallel.

Fig. 1.42

1.5. CMOS layout (6)

- Let us install the "Magic" VLSI layout tool.
  - Prerequisite: Linux O/S
  - Visit

    http://opencircuitdesign.com/magic

  - Download the source file.

    tar –xvzf [filename]

  - Then, install the magic program.
    - You may install some packages.
    - Use tcsh.

1.5. CMOS layout (7)

- In this course, the 180 nm technology is used.
  - Copy the "sample6m.tech" file.