Top view of MOSFET

S G D

W

L

■ Gate poylysilicon

■ S/D Diffusion region
  (either n+ or p+)

□ metal 1

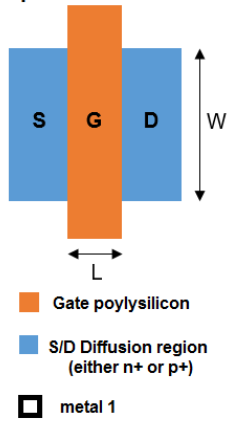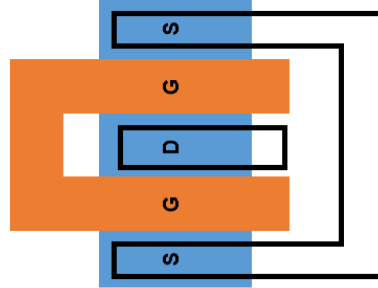### Increasing width using Fingers

No. of Fingers (Nf) = 2
Unit finger width (Wf) = W
Total width = Nf x Wf = 2W
Length = L
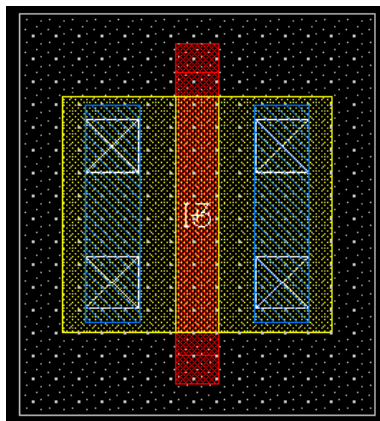

S

G

D

G

S

Increasing width using multipliers
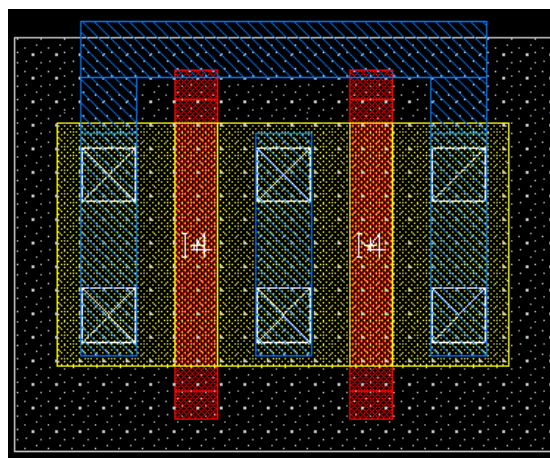
Multiplier (m) = 2
Total width = m x W = 2W
Length = L

D   D

G   G

S   S

Two different devices with their
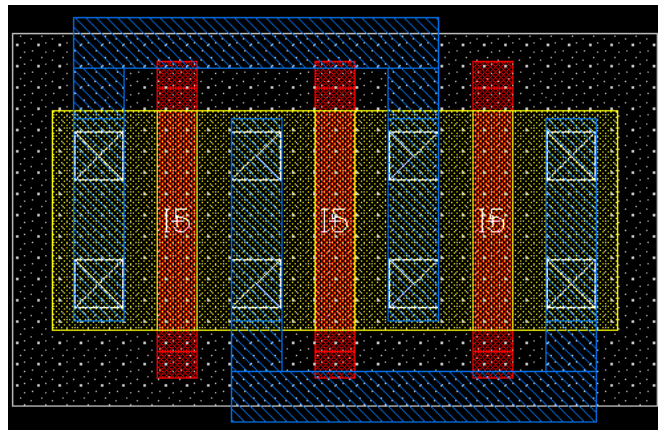Gate, Source & Drain shorted

MOSFET layout in Cadence

W= 1μm, L= 0.18 μm (Let's say the unit transistor)

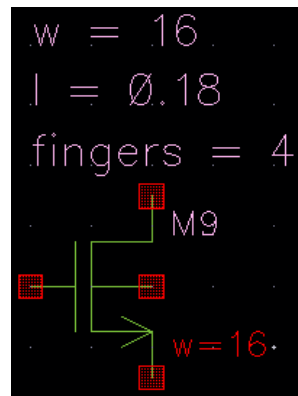### Total W= 2μm (2x1), L= 0.18 μm (using 2 fingers)

Total W= 2µm (3x1), L= 0.18 µm (using 3 fingers)

Using fingers in circuit schematic

Consider Total Width = 16µm. Unit finger width = 4µm. L=0.18µm

N-MOSFET properties dialog box

CDF Parameter	Value	Display
Model Name	n18	off
Multiplier	1	off
Gate Width	16	both
Gate Length	0.18	both
Gate Splitting	○ None ● Fingers ○ Threshold	off
Fingers	4	both

Total Gate width (W) — Gate Width

Total no. of fingers (Nf) — Fingers

$$W = N_f \times W_f$$

Then, unit finger width (Wf) = 4 um