

OTA
SHORT
PMOS

$$W = 5 \mu m$$

$$L = 1 \mu m$$

$$NF = 6$$

$$W_{-}NF = 9 \mu m$$

LONG
PMOS

$$W = 63 \mu m$$

$$L = 1 \mu m$$

$$NF = 7$$

$$W_{-}NF = 9 \mu m$$

Filler: $(132 \mu m \times 45 \mu m = 5940 \mu m^2)$

Resistors (high poly, $W = 0.35 \mu m$):

$$R_1: L_1 = 36 \mu m \approx 2 \mu m \times 18$$

$$R_2: L_2 = 38 \mu m \approx 2 \mu m \times 19$$

$$R_3: L_3 = 126 \mu m \approx 2 \mu m \times 63$$

$$R_4: L_4 = 76 \mu m \approx 2 \mu m \times 38$$

$$\left. \begin{array}{l} L = 2 \mu m \\ \times 158 \end{array} \right\}$$

NMOS

$$W = 18 \mu m$$

$$L = 1 \mu m$$

$$NF = 6$$

$$W_{-}NF = 3 \mu m$$

#3

$$\approx 18 \text{ Fingers}$$

NMOS

$$W = 2 \mu m$$

$$L = 1 \mu m$$

$$NF = 7$$

$$W_{-}NF = 3 \mu m$$

#9

$$+ 63 \text{ Fingers} = 81 \text{ Fingers}$$

Capacitors (M3, M1M):

$$C_1: W_1 = L_1 = 3 \mu m, 7 \times 10 = 70 (\sim 1.42 pF)$$

$$C_2: W_2 = L_2 = 3 \mu m, 7 \times 6 = 42 (\sim 851 pF)$$

$$2 \times C_{3i}: W_3 = L_3 = 3 \mu m, 1 \times 5 = 5 (\sim 101 pF)$$

$$2 \times C_{dec}: W_{dec} = L_{dec} = 3 \mu m, 1 \times 1 = 1 (\sim 2 \times 223 pF)$$

Decoupling Capacitors

1x11	1x5
7x10	7x6
1x11	1x5

3 $\mu m \times 3 \mu m$
9 x 16 away!