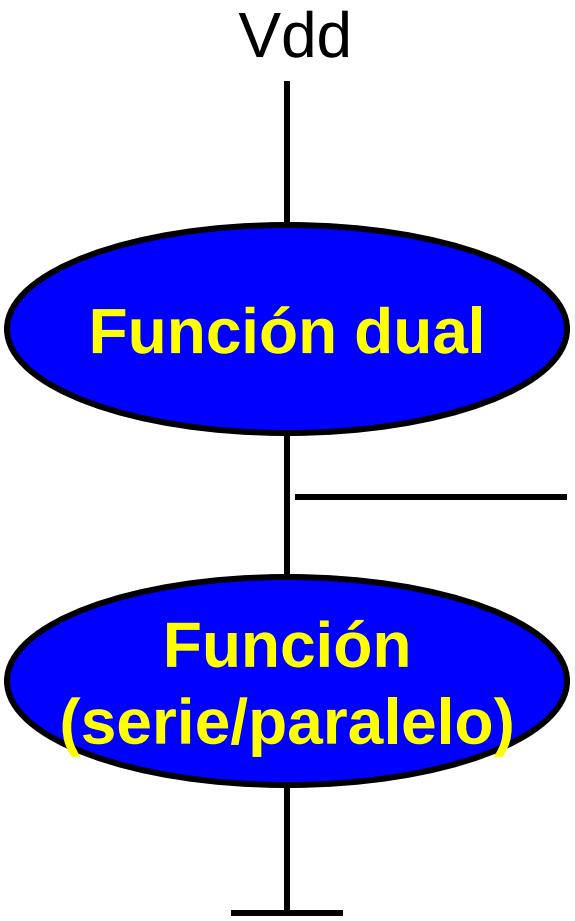
EL 653

Diseño CMOS

Metodologia General

- CMOS produce funciones invertidas
- Metodo
  - Invierta la función en caso que sea necesario
  - Diseñe la función NMOS (pull down) (AND/OR → serie/paralelo)
  - Diseñe el circuito dual PMOS (pull up) (AND/OR → paralelo/serie)

Metodologia General



Canal P: **AND → paralelo**
OR → serie

Canal N: **AND → serie**
OR → paralelo

Ejemplo 1

$f = \overline{a \bullet b + c}$

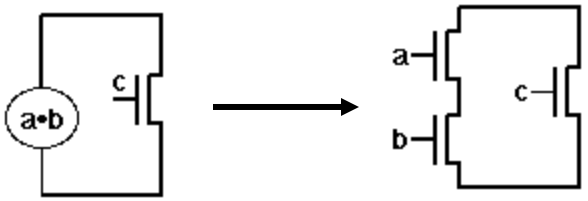
N – channel (pull down)

Formato: $\overline{(ANDs, Ors)}$

$f = \overline{a \bullet b + c}$

(a AND b) OR C

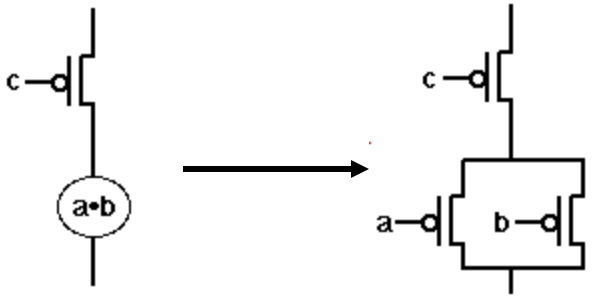
(a serie b) paralelo C



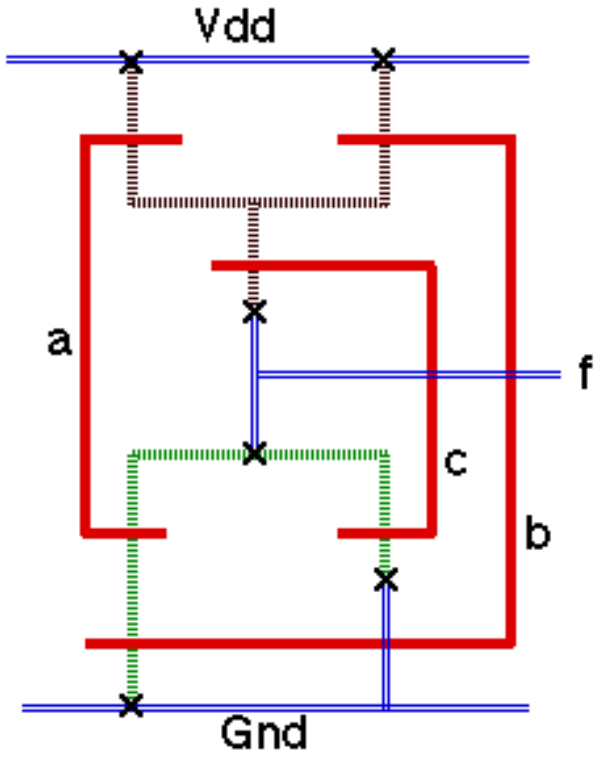
P – channel (pull up)

Formato dual: (a AND b) OR C

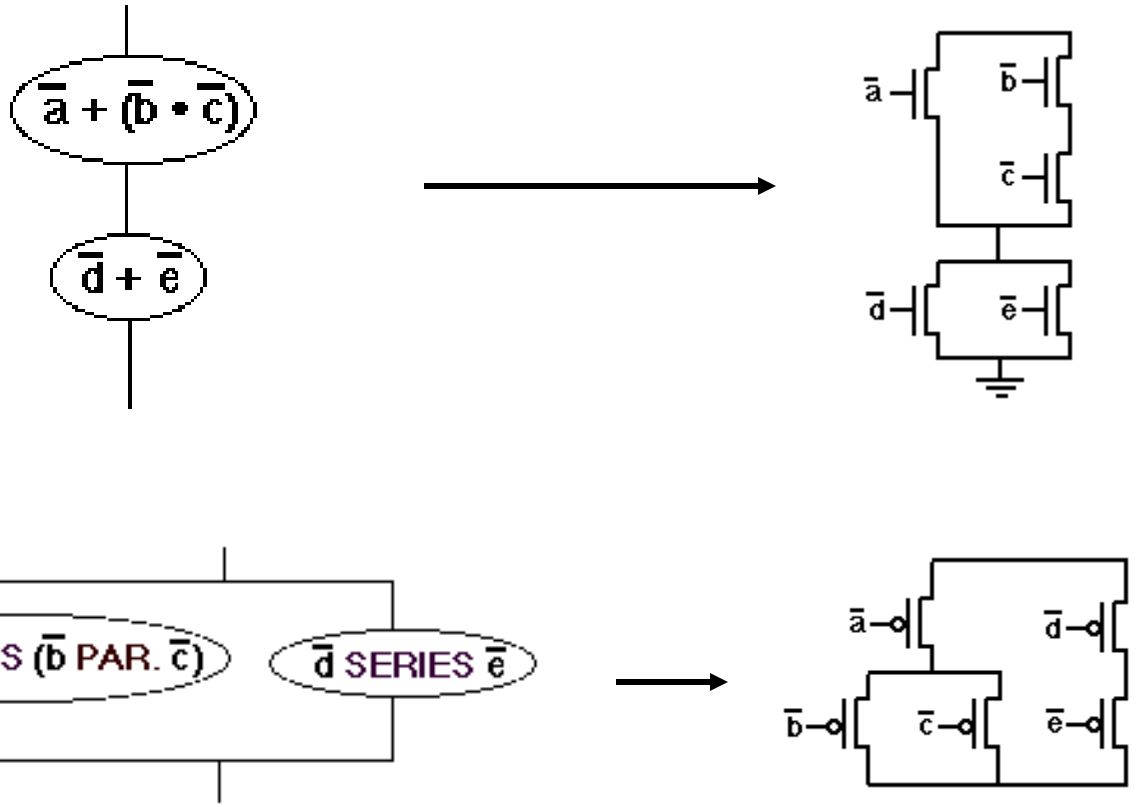
(a paralelo b) serie C



Ejemplo 1 - Layout



$f = [a\,(b + c)] + (d \bullet e)$



f = [a (b + c)] + (d • e)