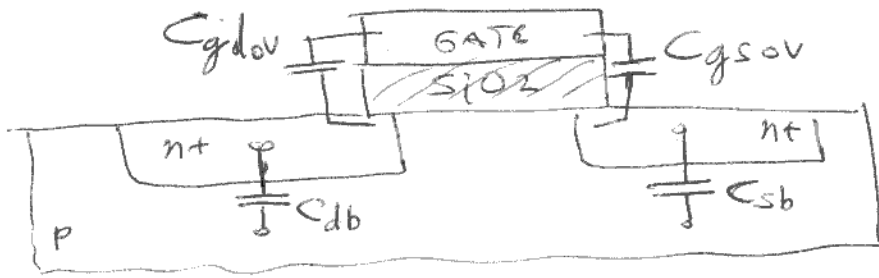


# MOSFET EXTRINSIC CAPACITANCES

(11)



$C_{gdov}$  = OVERLAP CAPACITANCE (G-D)

$C_{gs0v}$  : " " (G-S)

$$C_{gdov} = C_{gdo} \times W$$

$$C_{gs0v} = C_{gso} \times W$$

↳ GIVEN BY FAB. PROCESS  
USUALLY,  $C_{gdo} = C_{gso}$   $\left(\frac{fF}{\mu m}\right)$

$$C_{db} = C_{dbj} + C_{dbsw}$$

DEPLETION CAP. (AREA)      DEPLETION CAP (SIDEWALL)

$$C_{dbj} = \frac{C_{dbj0}}{\left(1 + \frac{V_{DB}}{PB}\right)^{m_j}}$$

$$C_{dbsw} = \frac{C_{dbsw0}}{\left(1 + \frac{V_{DB}}{P_{BSW}}\right)^{m_{jsw}}}$$

( $C_{sb}$  IS SIMILAR TO  $C_{db}$ )