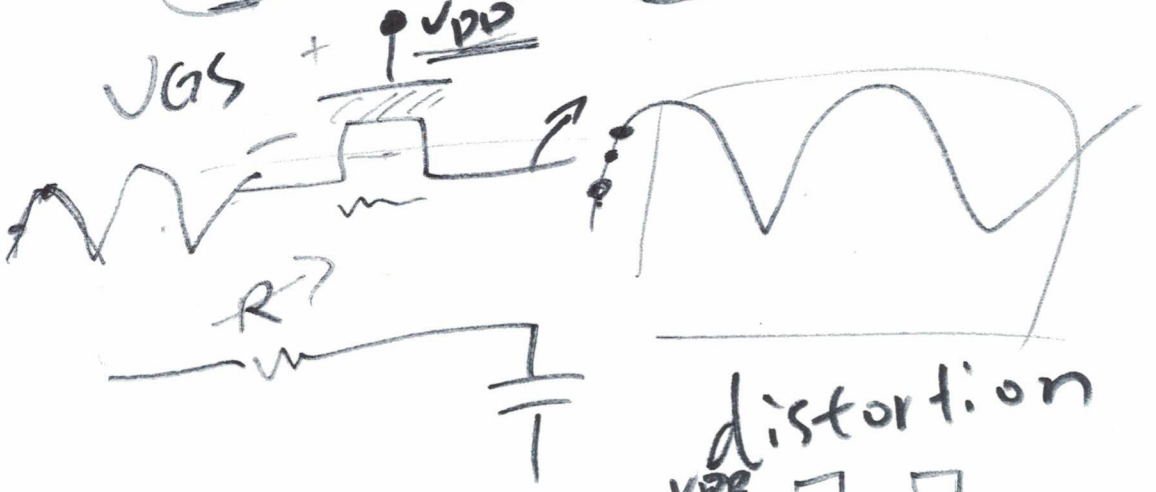
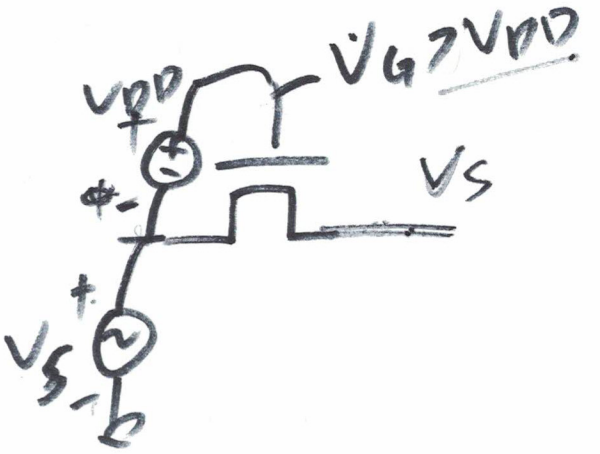
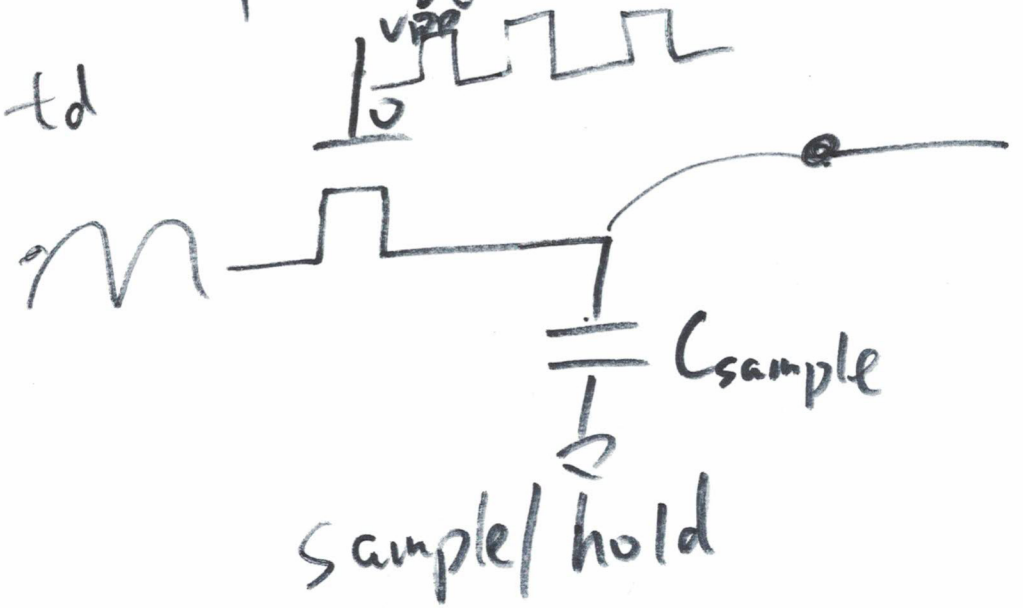
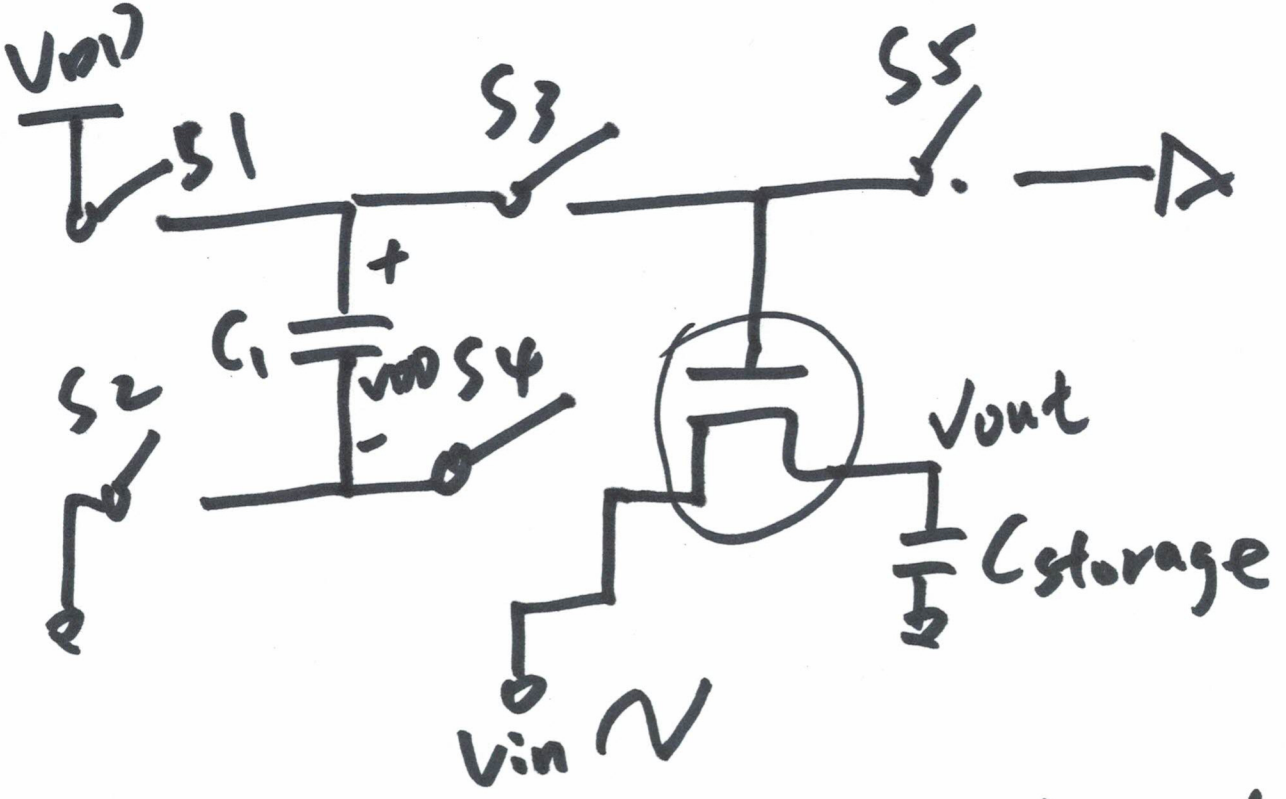
$$I = \frac{K_{Pn}}{2}\frac{W}{L}(V_{GS} - V_{THN})^2$$





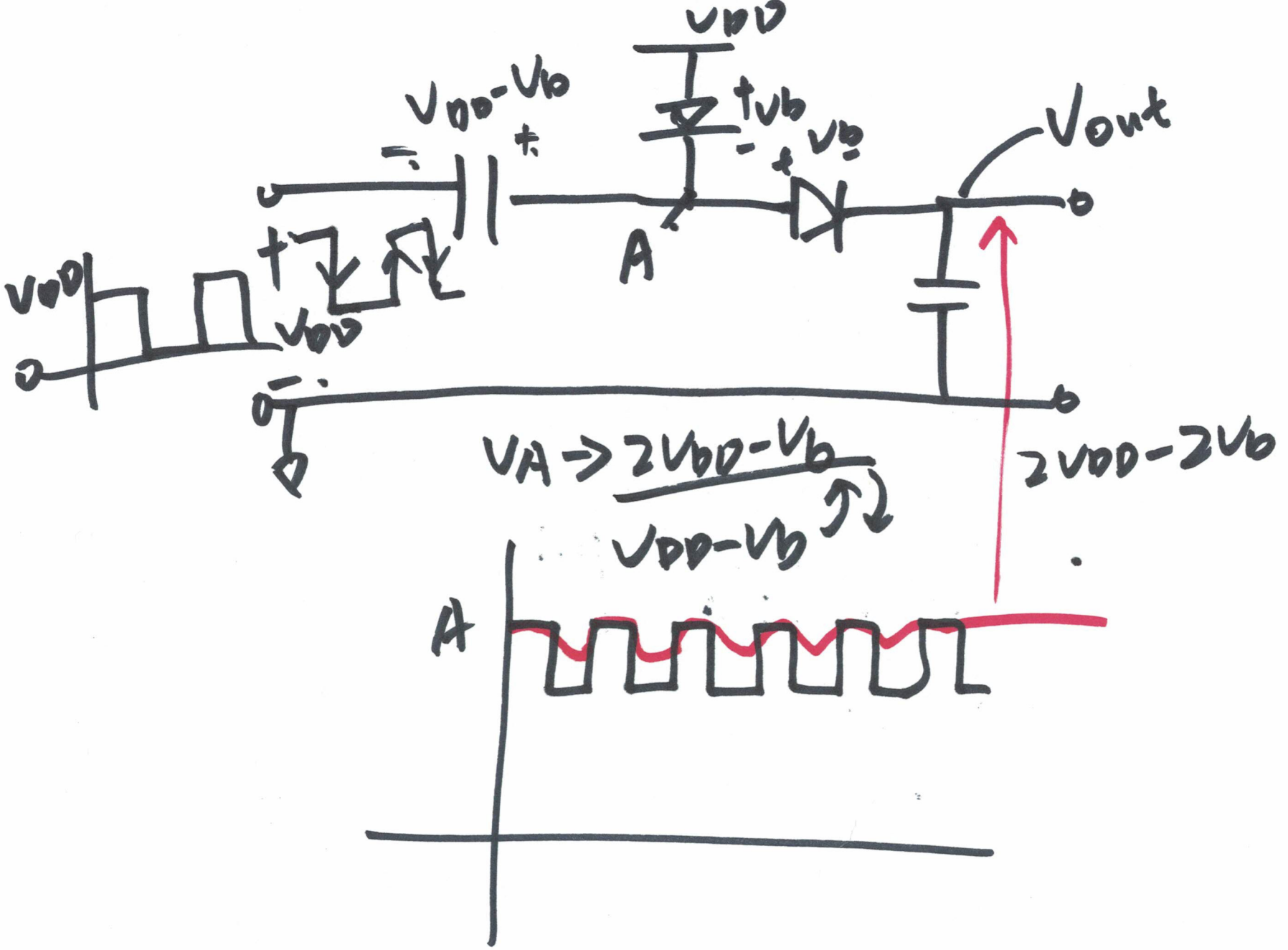
distortion

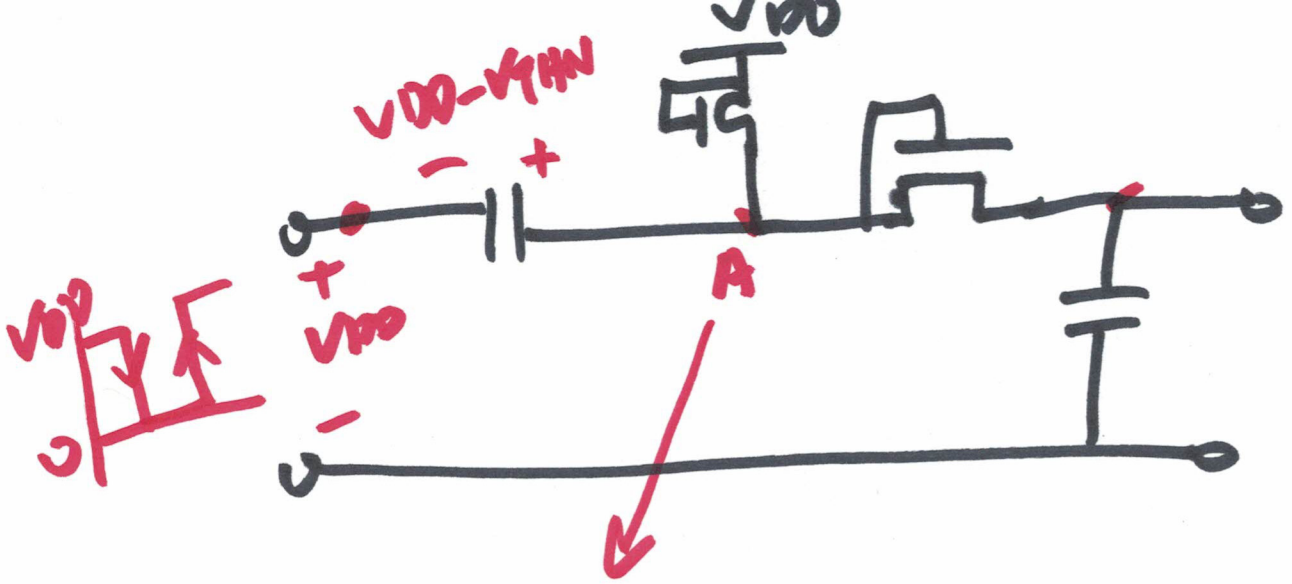


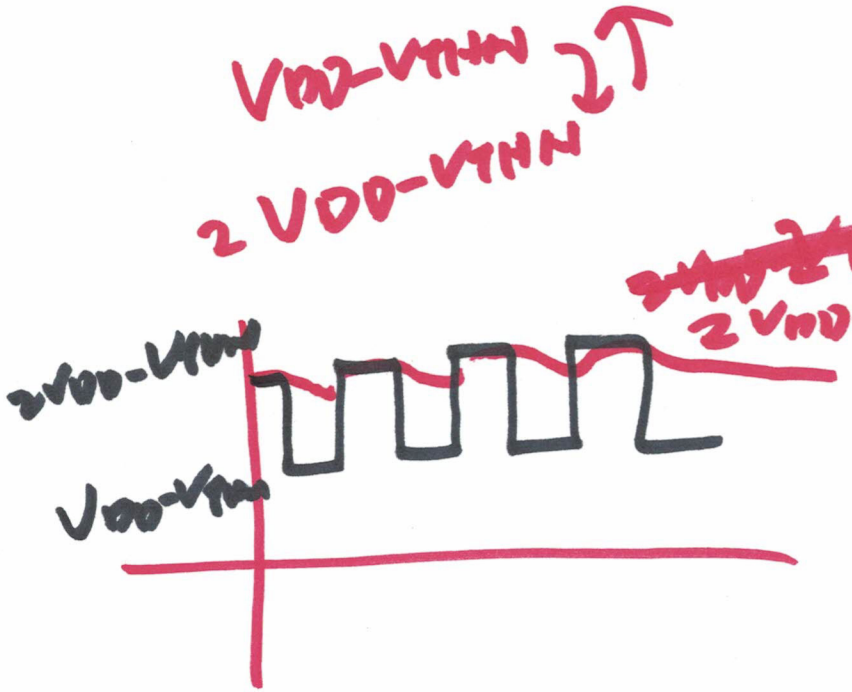


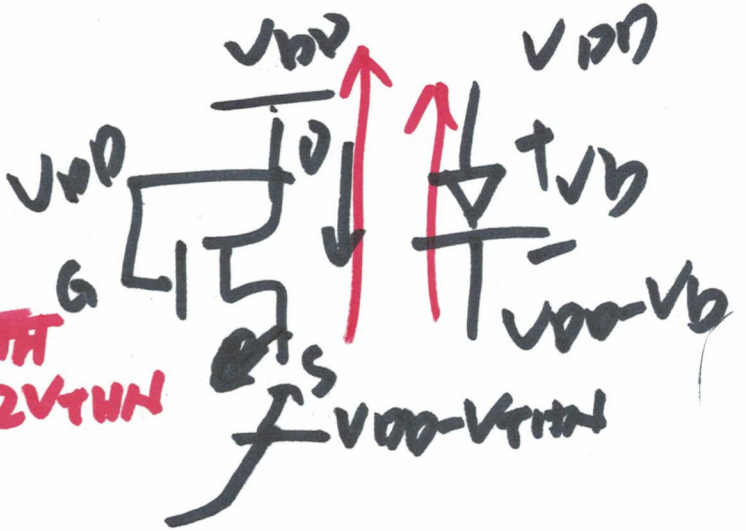
S_1, S_2, S_5 closed: reset the gate
charge up C1 to VDD

S_3, S_4 closed: V_{DD} is applied to V_{GS}
⇒ sample / track


VDD
VDD-Vb
Vb
Vout
A
VDD
VDD
VA → 2VDD-Vb
VDD-Vb
2VDD-2Vb
A



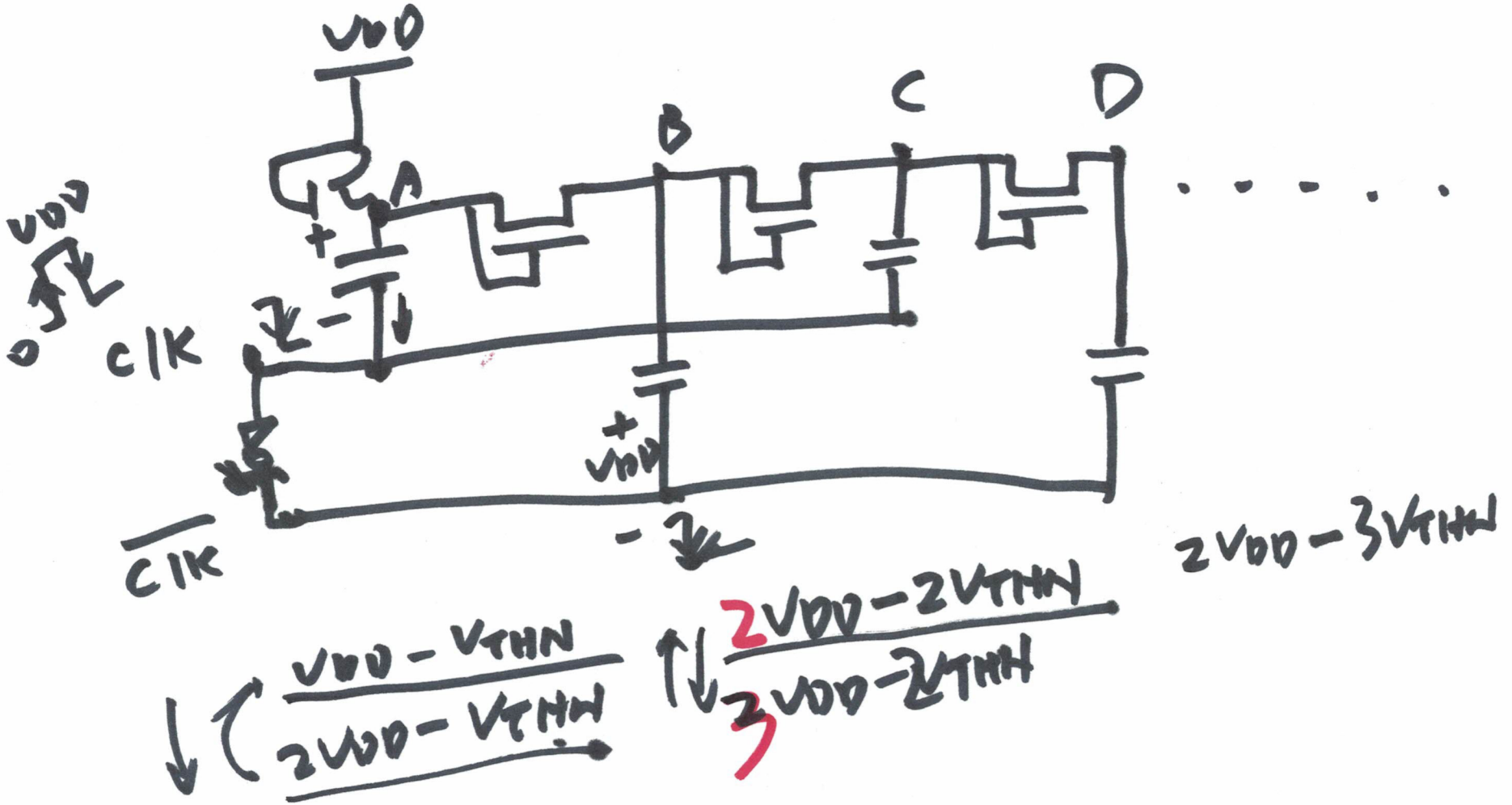




$V_G = VDD$

$V_S = VDD - V_{THN}$

$V_{GS} = VDD - (VDD - V_{THN})$

$= V_{THN}$

Dickson's charge Pump