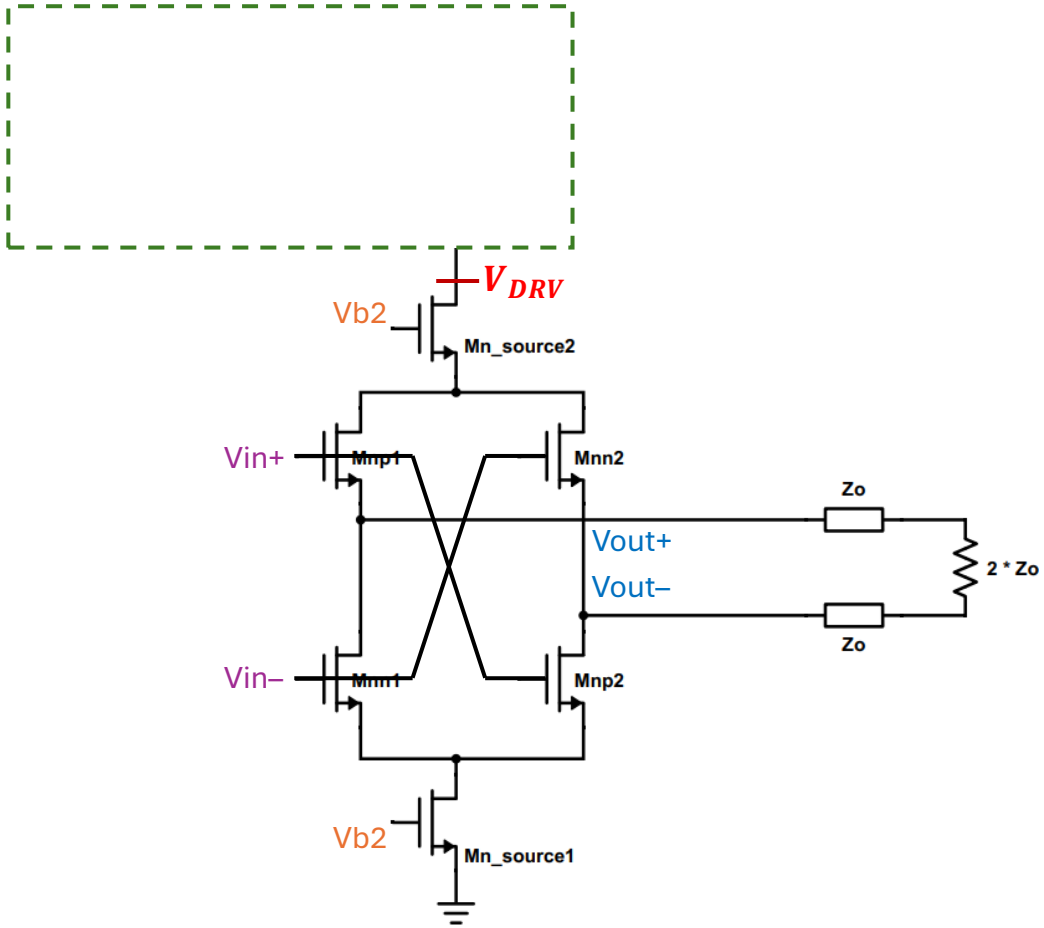
Tx Driver – VM

Notes on devices’ initial sizing

Notes

- Start with DC Analysis.
  a) Set $V_{IN+} = V_{dd}$ & $V_{IN-} = \mathrm{GND}$.
  b) Replace the Regulator with a DC voltage source = V_{DRV}

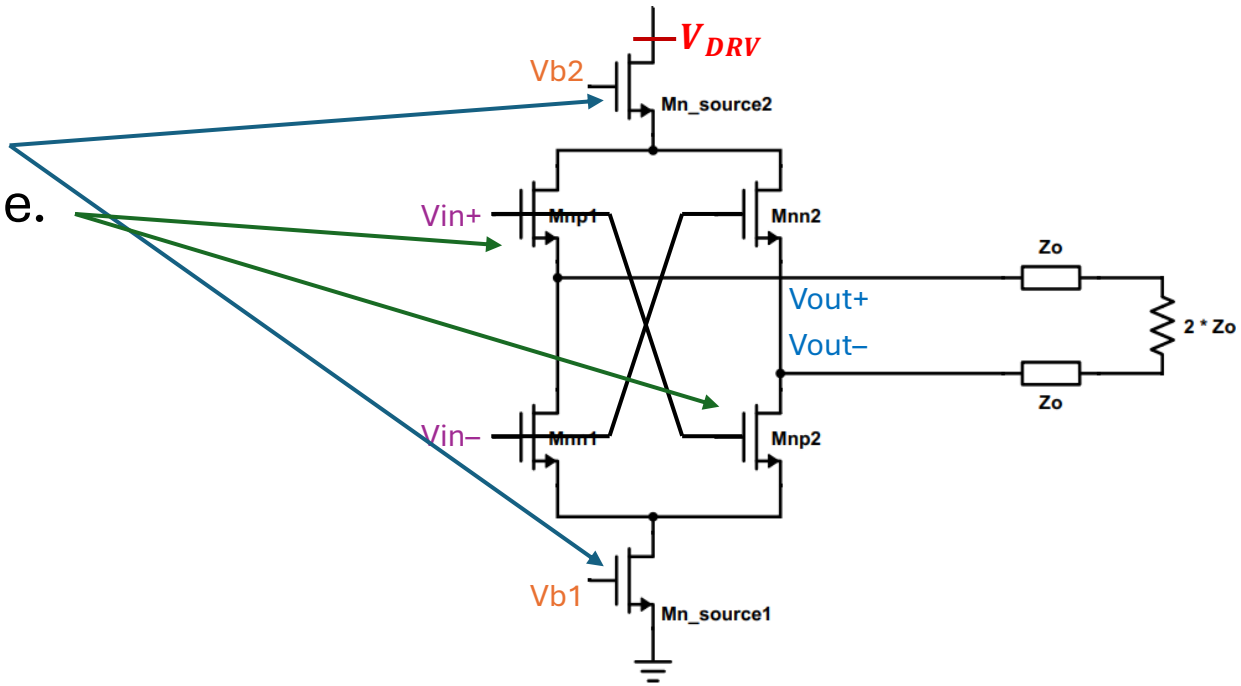


$For\ V_{Swing_{(pk2pk)}} = 500\ mV$:

$V_{REF} = V_{DRV} = \mathbf{500\ mV}$

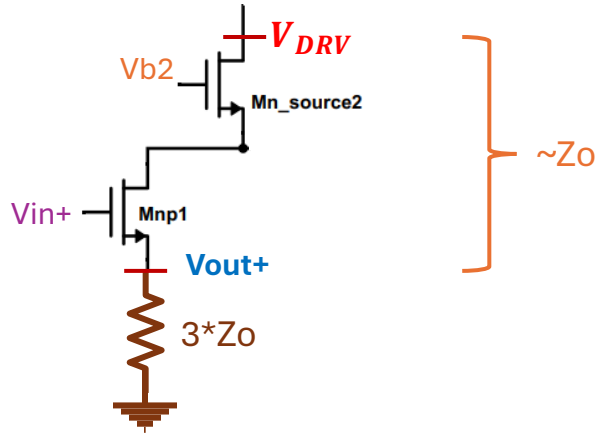
Notes

- Start with DC Analysis.
  - Source devices should be in SAT.
  - Switch (input) devices are in Triode.



Notes

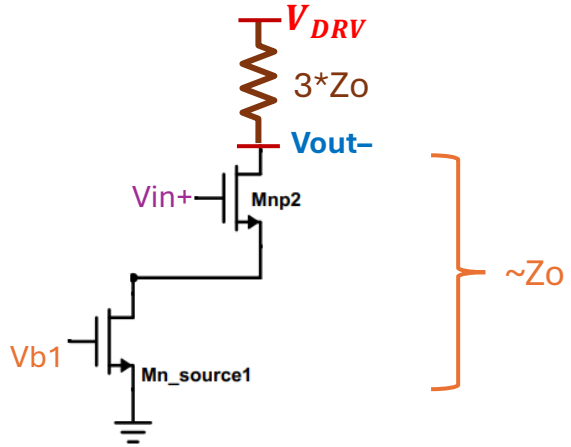
- Start with DC Analysis.
  - **<u>Upper devices:</u>**
    - Start with Some initial sizes for the 2 devices.
    - Connect R = 3*Zo = 150 Ohm to Vout+ (Connected to GND).
    - Find Vb2 that will make Vout+ = ¾ * V_{DRV} .



Mnp1 :	L = L_{MIN}	, m=100x
Mn_source2 :	L = L_{MIN}	, m=200x

Notes

- Start with DC Analysis.
  - **<u>Lower devices:</u>**
    - Start with Some initial sizes for the 2 devices.
    - Connect R = 3*Zo = 150 Ohm to Vout– (Connected to V_{DRV}).
    - Find Vb1 that will make Vout – = ¼ * V_{DRV} .



Mnp1 :	L = L_{MIN}	, m=100x
Mn_source2 :	L = L_{MIN}	, m=200x