Figure 1

Figure 1

test_robert21

vdda

M3 — pch_ulvt_mac   pch_ulvt_mac — M1
vgate
3/0.008u   3/0.008u
m/nf=12/1   m/nf=12/1
totalM=12   totalM=12

vout

M4 — nch_ulvt_mac   M0 — nch_ulvt_mac
vbias
3/0.008u   3/0.008u
m/nf=12/1   m/nf=12/1
totalM=12   totalM=12

vsource

acm=1
idc=0
I3

V1 vdc=vdda_vol   V2 vdc=vbias_vol
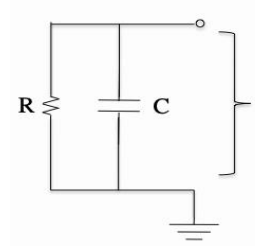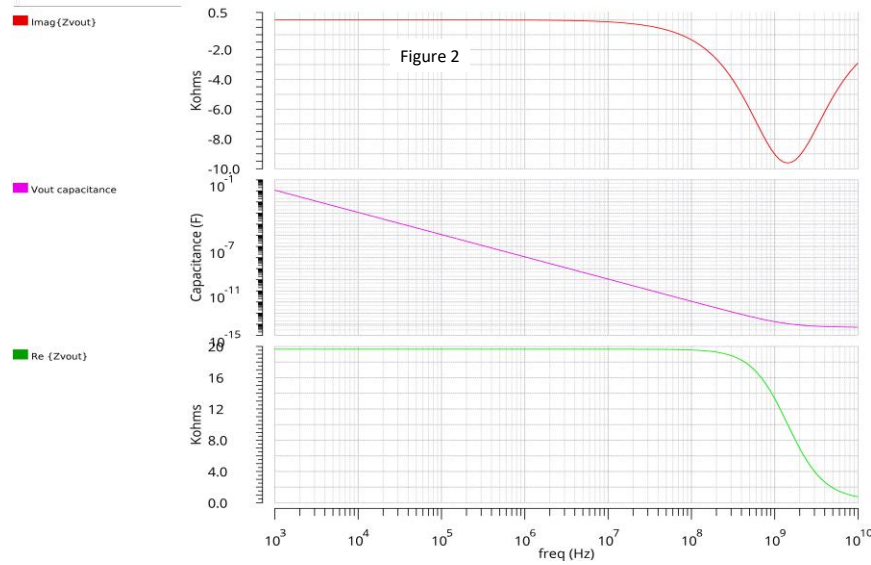
I1 idc=50u

vsso

V0

gnd

Figure 2

robert21's circuit output impedances

Figure 2

Legend:
- Imag{Zvout}
- Vout capacitance
- Re {Zvout}

Y-axes: Kohms, Capacitance (F), Kohms
X-axis: freq (Hz)

Figure 3

Figure 3

$$Zin = R \parallel \frac{1}{j\omega C}$$

$$Zin = \frac{R}{[j\omega CR + 1]} = R\frac{1 - j\omega CR}{\left[1 + (\omega CR)^2\right]}$$

$$Re\{Zin\} = \frac{R}{\left[1 + (\omega CR)^2\right]} \qquad Im\{Zin\} = \frac{-j\omega CR^2}{\left[1 + (\omega CR)^2\right]}$$

$$Capacit\,an\,ce\{Zin\} = \frac{\left[1 + (\omega CR)^2\right]}{\omega^2 CR^2}$$