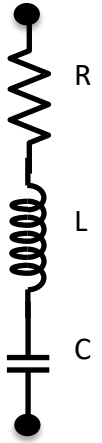
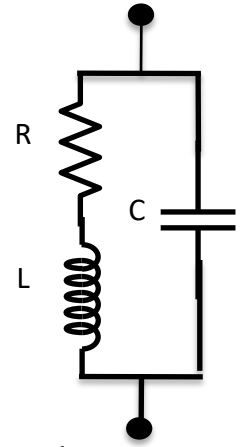
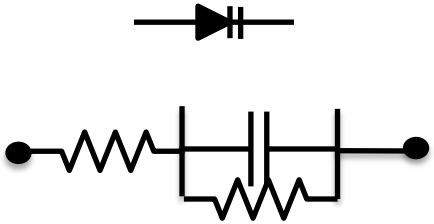


$Z^2=R^2+(wL-(1/wC))^2$



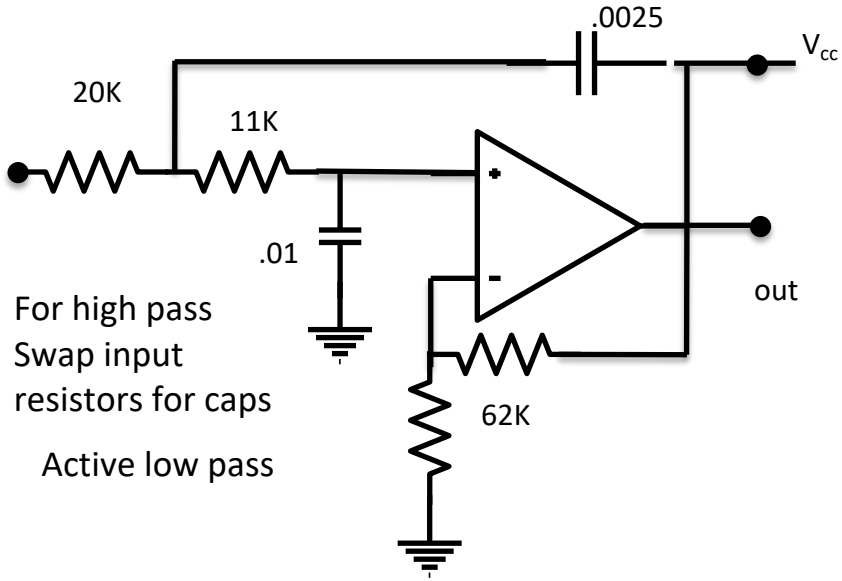
$Z=(L/C-j(R/wC))(R+j(wL-(1/wC))^{-1}$

$f_0= (2p)^{-1}(LC)^{-1/2}$



$$C_j = \frac{C_{j0}}{\sqrt{V_{on} - V_{revbias}}}$$

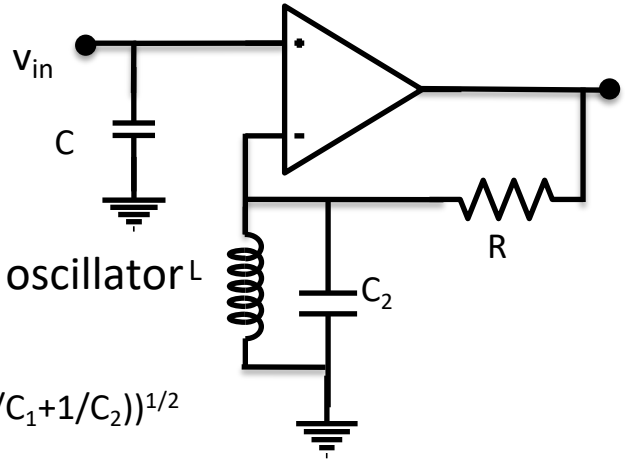
Varactor model



For high pass
Swap input
resistors for caps

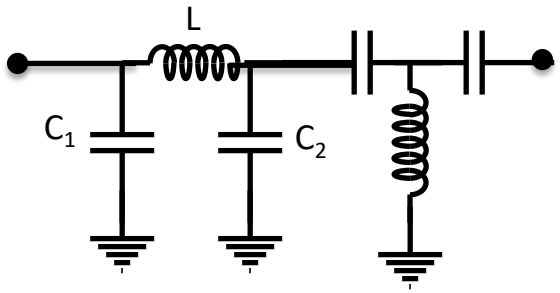
Active low pass

Flat side transistor (L to R): E, B. C



Colpitts oscillator

f= $(2p)^{-1}((1/L)(1/C_1+1/C_2))^{1/2}$



π and T impedance matching