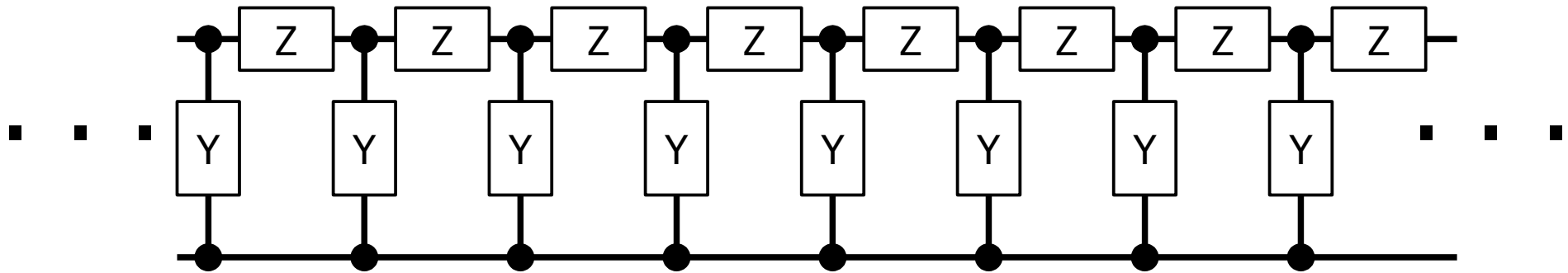
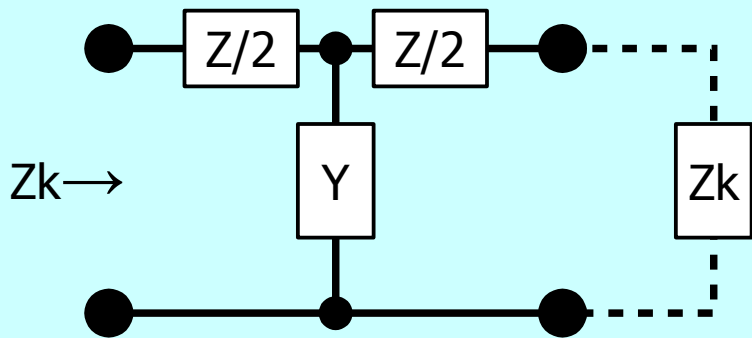


SITO	Z	Z/2	Y	$f_1$ [MHz]	$f_2$ [MHz]
LPF25MHZ	$2.2\mu\text{H}$	$1\mu\text{H}$	100pF	21.46	—
BPF25MHZ	47pF	100pF	100pF  270nH	18.05	30.63
BPF20MHZ	$47\text{pF}+2.2\mu\text{H}$	$100\text{pF}+1\mu\text{H}$	100pF   $1\mu\text{H}$	8.46	29.93
HPF15MHZ	47pF	100pF	$1\mu\text{H}$	11.61	—
BSF20MHZ	$47\text{pF}  2.2\mu\text{H}$	$100\text{pF}  1\mu\text{H}$	$100\text{pF}+1\mu\text{H}$	11.01	22.62



### Gradnik T

$$Z_k = Z/2 + \frac{1}{Y + \frac{1}{Z/2 + Z_k}}$$

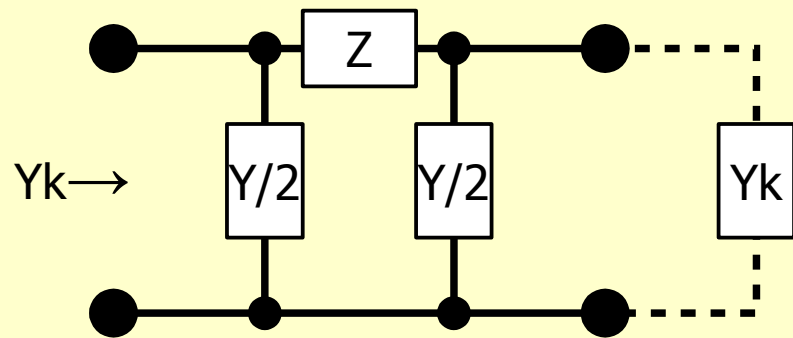


Karakteristična impedanca

$$Z_k = \sqrt{\frac{Z}{Y} + \left(\frac{Z}{2}\right)^2}$$

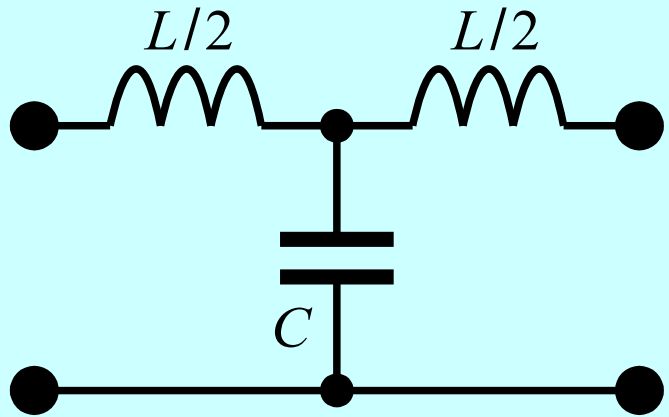
### Gradnik $\pi$

$$Y_k = Y/2 + \frac{1}{Z + \frac{1}{Y/2 + Y_k}}$$



Karakteristična admitanca

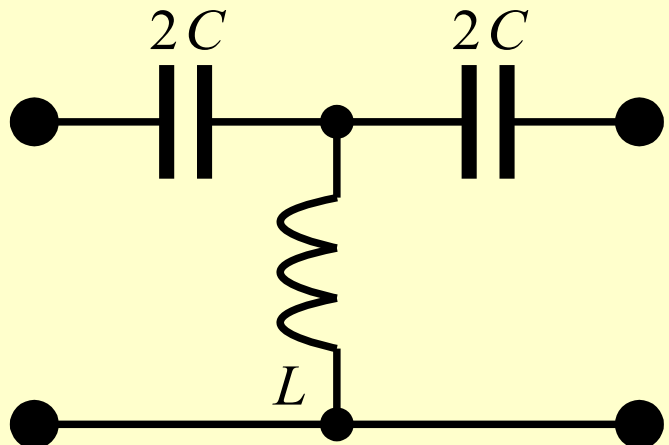
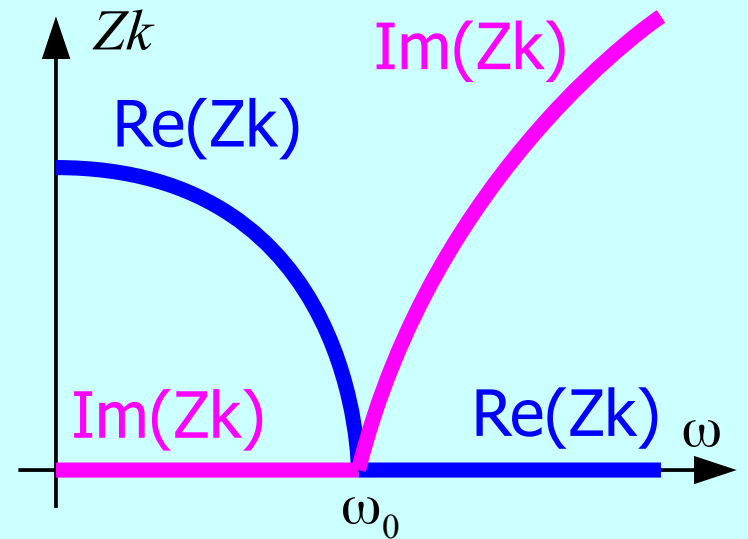
$$Y_k = \sqrt{\frac{Y}{Z} + \left(\frac{Y}{2}\right)^2}$$



Nizko-prepustno sito (LPF)

$$Z_k = \sqrt{\frac{L}{C} - \left(\frac{\omega L}{2}\right)^2}$$

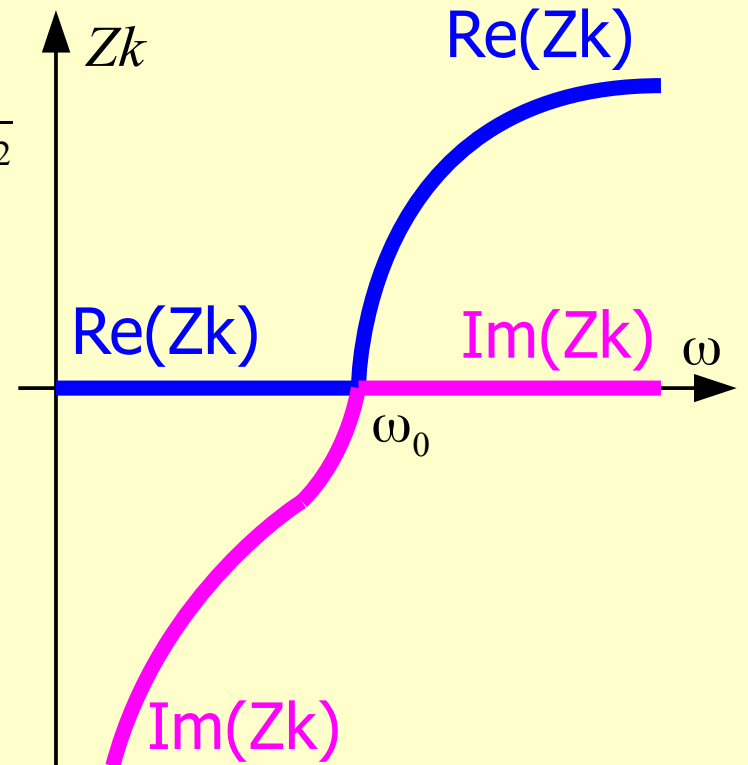
$$\omega_0 = \frac{2}{\sqrt{LC}}$$

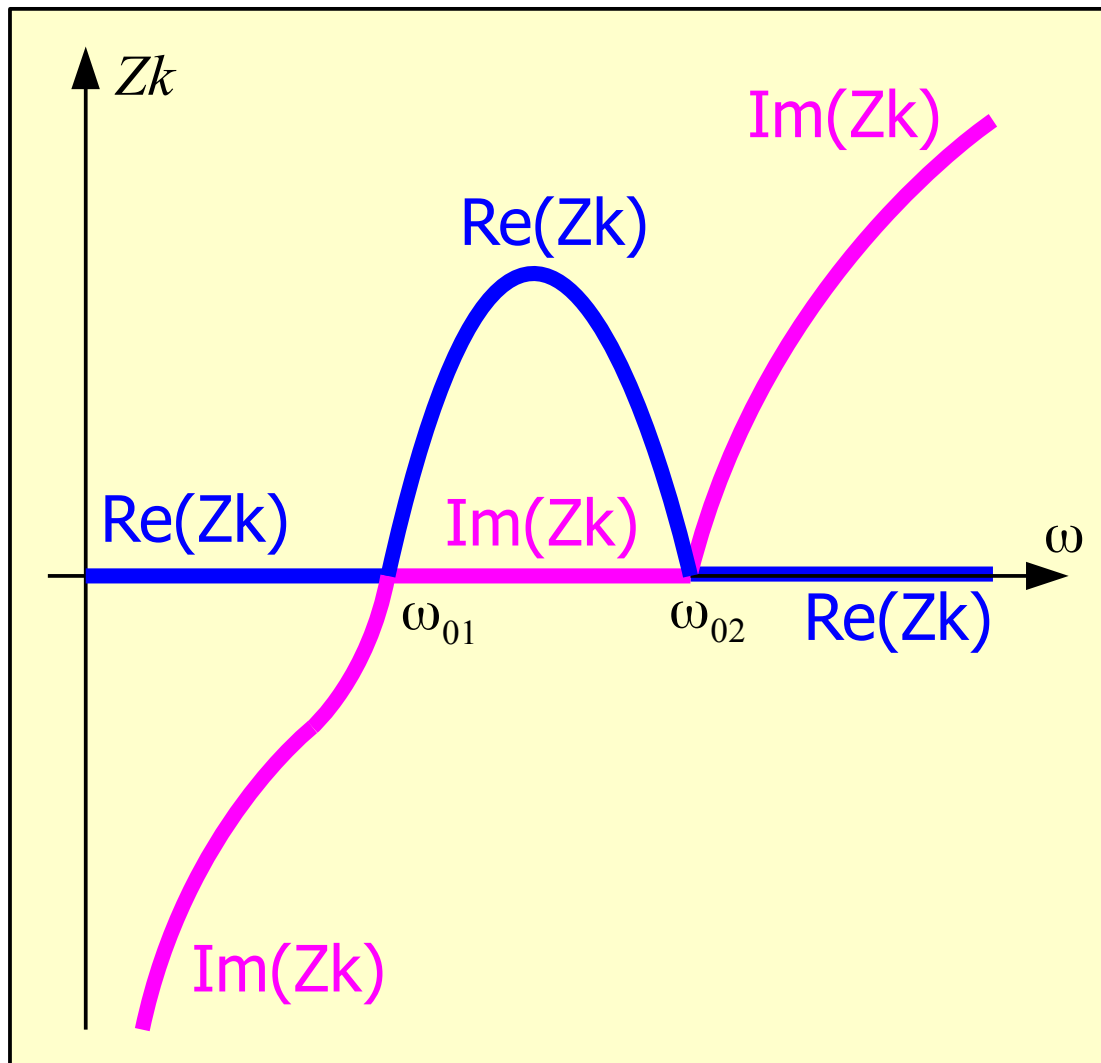
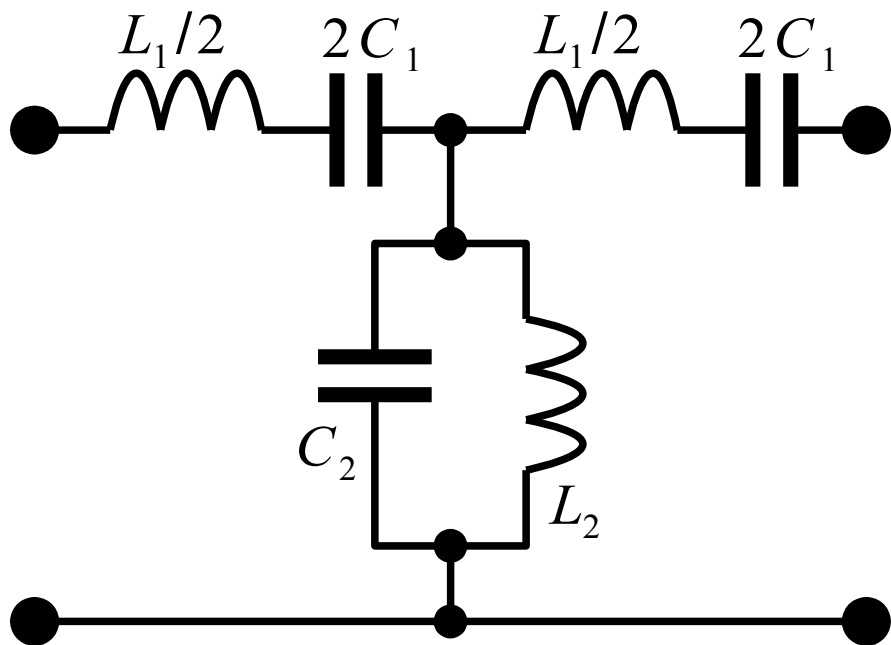


Visoko-prepustno sito (HPF)

$$Z_k = \sqrt{\frac{L}{C} - \left(\frac{1}{2\omega C}\right)^2}$$

$$\omega_0 = \frac{1}{2\sqrt{LC}}$$

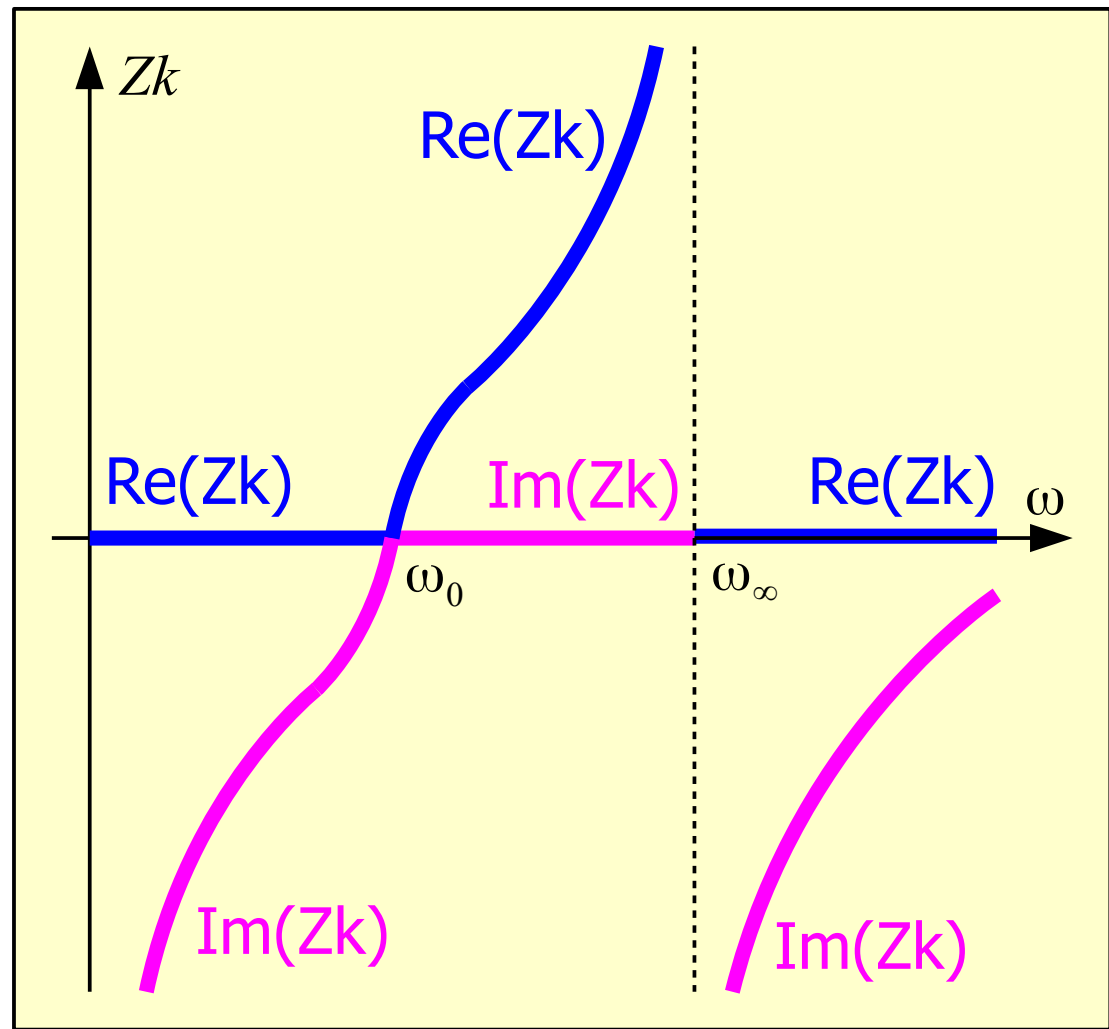
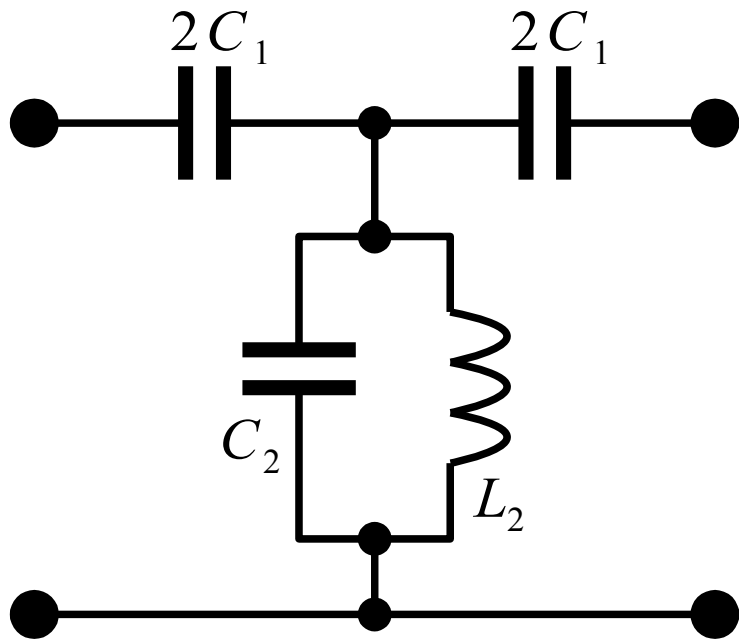




$$Z_k = \sqrt{\frac{\omega L_1 - \frac{1}{\omega C_1}}{\omega C_2 - \frac{1}{\omega L_2}} - \left( \frac{\omega L_1 - \frac{1}{\omega C_1}}{2} \right)^2}$$

$$\omega_{01}, \omega_{02} = \sqrt{\frac{\left( \frac{L_1}{L_2} + \frac{C_2}{C_1} + 4 \right) \pm \sqrt{\left( \frac{L_1}{L_2} + \frac{C_2}{C_1} + 4 \right)^2 - 4 \frac{L_1 C_2}{L_2 C_1}}}{2 L_1 C_2}}$$

Pasovno-prepustno sito (BPF)

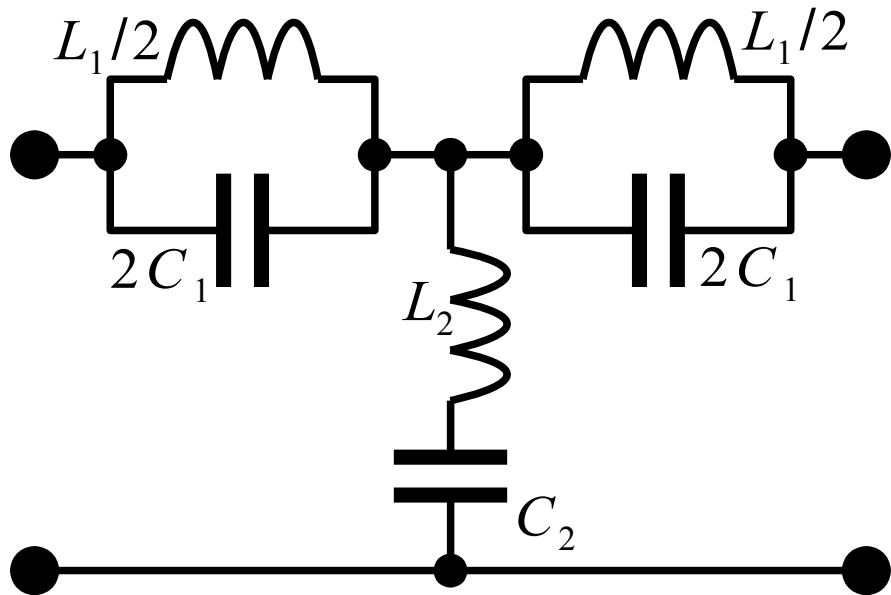


$$Z_k = \sqrt{\frac{1}{\omega C_1 \left( \frac{1}{\omega L_2} - \omega C_2 \right)} - \left( \frac{1}{2\omega C_1} \right)^2}$$

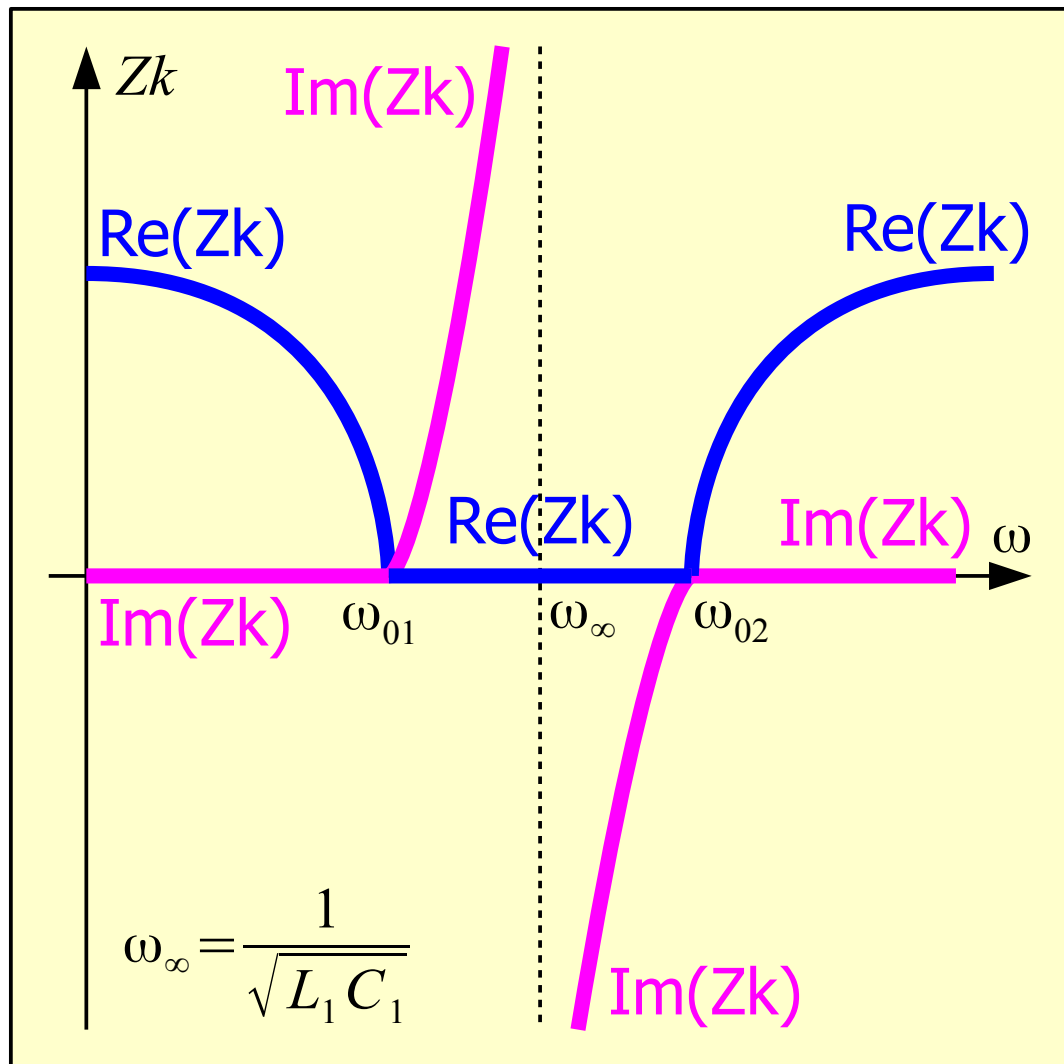
$$\omega_0 = \frac{1}{\sqrt{L_2(4C_1 + C_2)}}$$

$$\omega_\infty = \frac{1}{\sqrt{L_2 C_2}}$$

Pasovno-prepustno sito (BPF) brez prevelikih, neizvedljivih tuljav

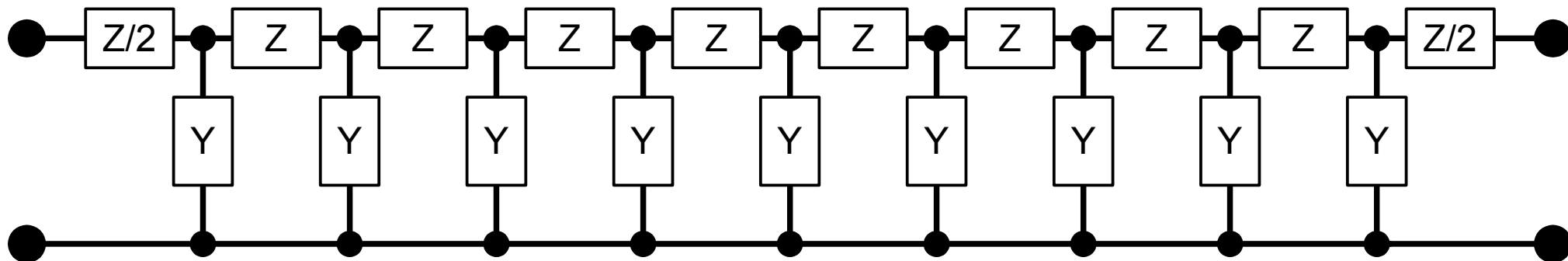


$$Z_k = \sqrt{\frac{\omega L_2 - \frac{1}{\omega C_2}}{\omega C_1 - \frac{1}{\omega L_1}} - \left( \frac{1}{2\omega C_1 - \frac{2}{\omega L_1}} \right)^2}$$



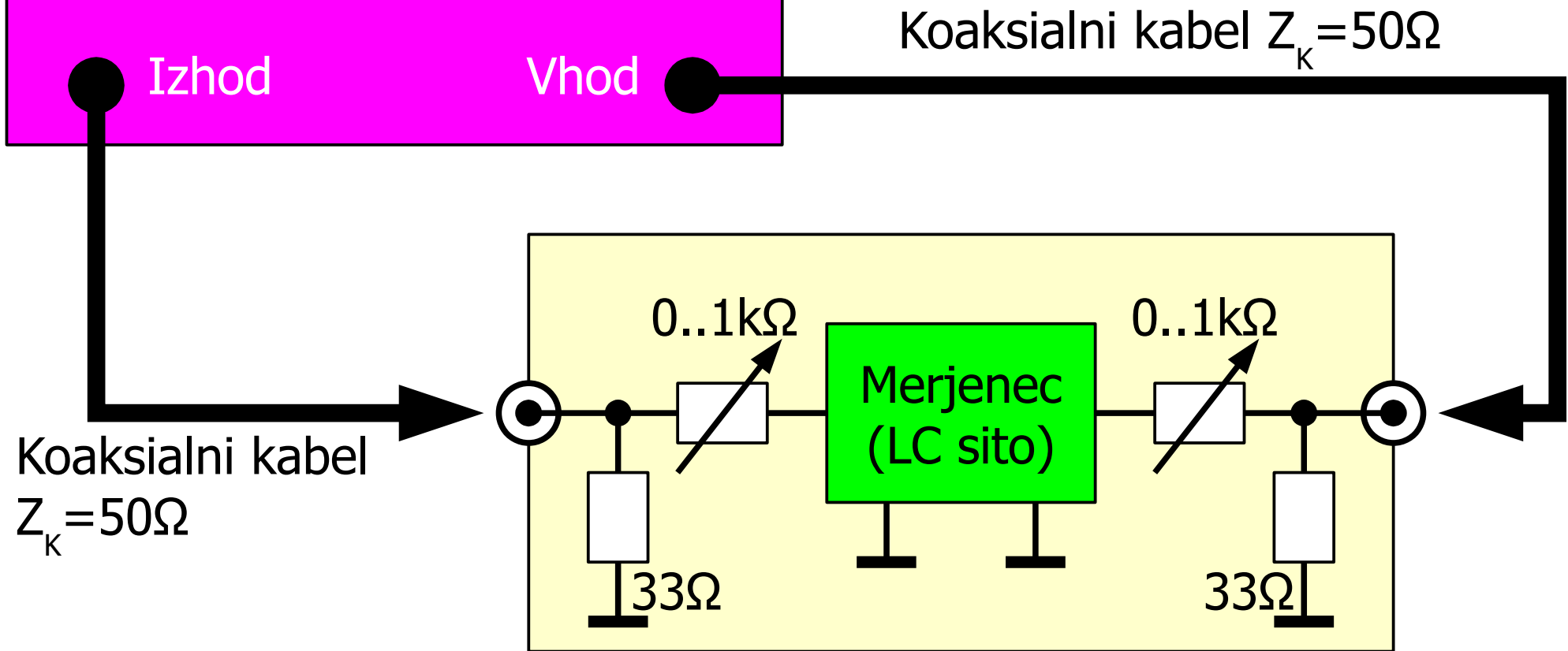
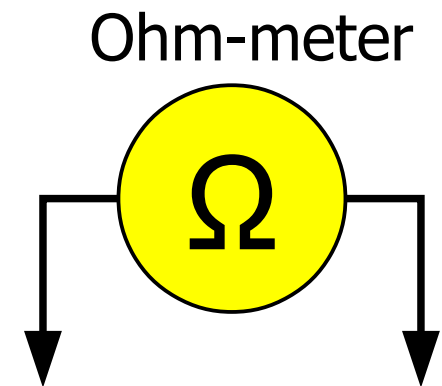
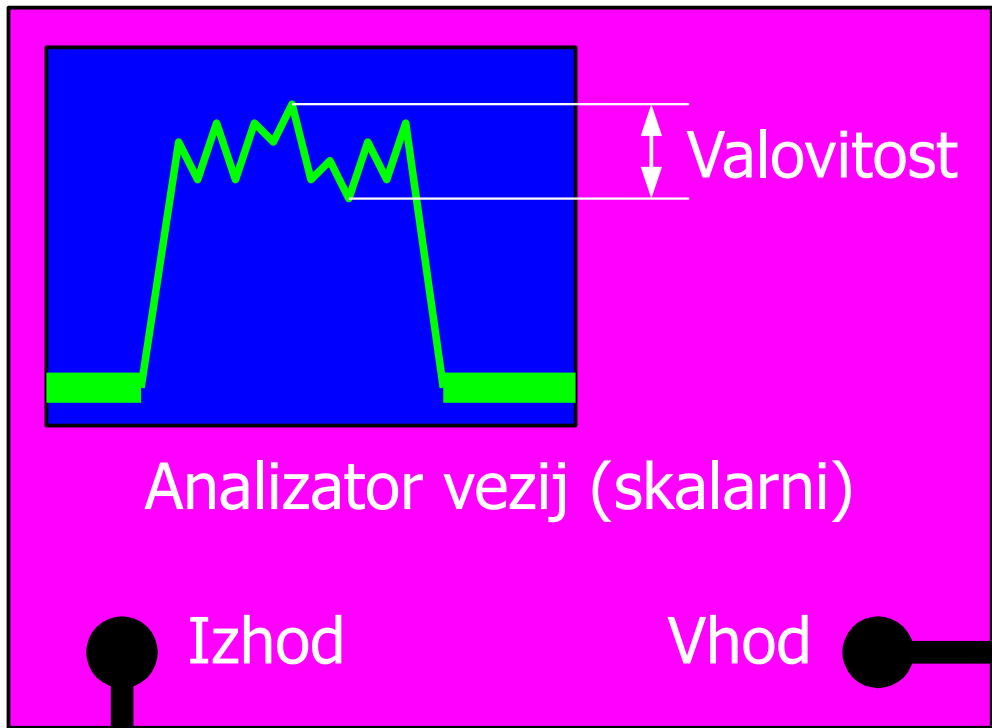
$$\omega_{01}, \omega_{02} = \sqrt{\frac{\left(4 \frac{C_1}{C_2} + 4 \frac{L_2}{L_1} + 1\right) \pm \sqrt{\left(4 \frac{C_1}{C_2} + 4 \frac{L_2}{L_1} + 1\right)^2 - 64 \frac{L_2 C_1}{L_1 C_2}}}{8 L_2 C_1}}$$

Pasovno-zaporno sito (BSF)



SITO	Z	Z/2	Y	Izračunana $f_1$ [MHz]	Izračunana $f_2$ [MHz]
LC LPF	$2.2\mu\text{H}$	$1\mu\text{H}$	$100\text{pF}$		
LCLC BPF	$47\text{pF}+2.2\mu\text{H}$	$100\text{pF}+1\mu\text{H}$	$100\text{pF}\parallel 1\mu\text{H}$		
CLC BPF	$47\text{pF}$	$100\text{pF}$	$100\text{pF}\parallel 270\text{nH}$		
LC HPF	$47\text{pF}$	$100\text{pF}$	$1\mu\text{H}$		
LCLC BSF	$47\text{pF}\parallel 2.2\mu\text{H}$	$100\text{pF}\parallel 1\mu\text{H}$	$100\text{pF}+1\mu\text{H}$		

Načrt in podatki LC sit



Merilno vezje za LC sito



