

## Emissioni condotte - Es.2

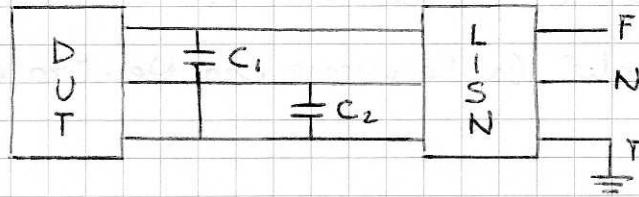
Dimensionare il filtro in figura in modo che il disturbo di modo comune venga attenuato di 20 dB.

Dati:

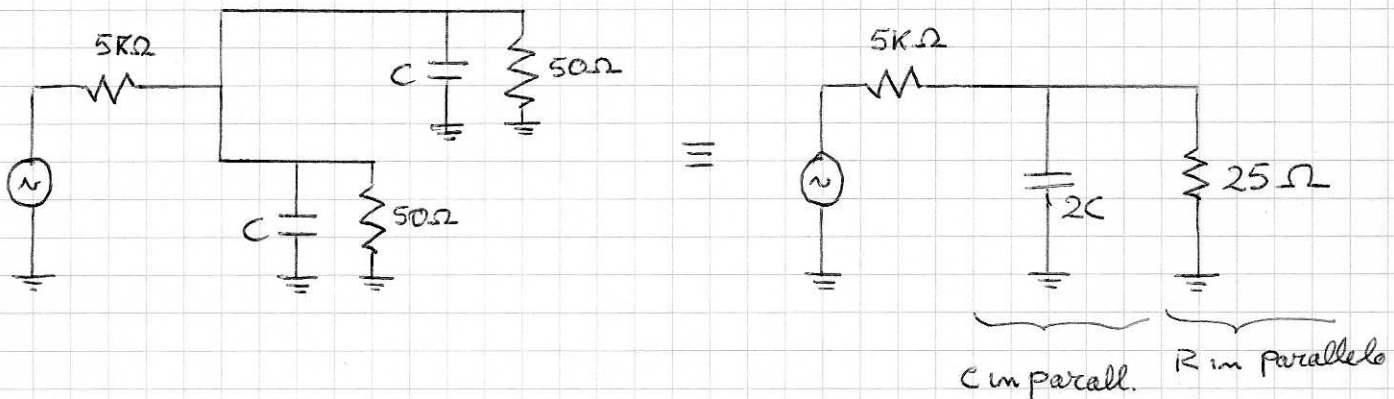
$$f = 1 \text{ MHz}$$

$$R_s (\text{C.M.}) = 5 \text{ k}\Omega$$

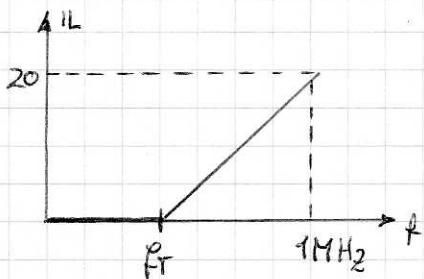
$$C_1 = C_2 = ?$$



Circuito equivalente per il modo comune:



condizione per  $e'_{IL}$ :  $IL(1 \text{ MHz}) = 20 \text{ dB}$ :



$$\Rightarrow f_T = 100 \text{ kHz}$$

pongo:

$$f_T = \frac{Z_L + Z_s}{2\pi Z_L Z_s C'} \approx \frac{1}{2\pi Z_L C'} = 100 \cdot 10^3 \quad \text{con} \quad \begin{cases} Z_L = 25 \Omega \\ C' = 2C \end{cases} \Rightarrow$$

$\Rightarrow C = 31,8 \text{ nF}$  (valore accettabile per un condensatore).

