Rin

$R_{in} = [r_\pi + (\beta+1)\,10k] \| 75k \| 8.2k$ $\quad r_\pi = \frac{\beta}{g_m} = \frac{\beta}{\frac{I_C}{V_T}} = \frac{\beta V_T}{I_C} = \frac{300(0.026)}{66\,\mu A} = 118182\,\Omega$

$R_{in} = [118182 + (301)\,10k] \| 75k \| 8.2k = 7374\,\Omega$

Rout of circuit

$R_{out} = \left(\frac{1}{g_m} + \frac{R_B}{\beta}\right) \| R_E$ $\quad R_B = 10M \| 1M \| 120k = 106007\,\Omega$ $\quad \beta = 300$

$\frac{1}{g_m} = \frac{V_T}{I_C} = \frac{0.026}{169\,\mu A} = 153.846\,\Omega$ $\quad R_E = 10k$

$R_{out} = \left(153.846 + \frac{106007}{300}\right) \| 10k = 482\,\Omega$

Rout of Capacitor circuit

$R_{out} \simeq 120k$

Lower C

$\frac{1}{2\pi(R_{in})C} = 150\,Hz$ $\quad \frac{1}{2\pi(7374)150} = C = 144\,nF$

Upper C

$\frac{1}{2\pi(120k)15k} = C = 88\,pF$