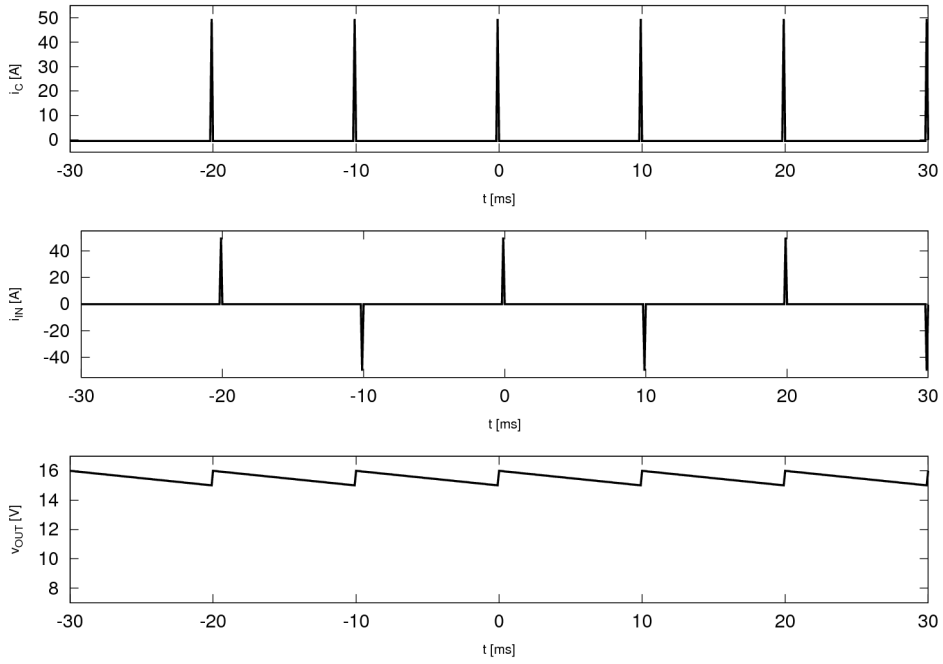
3.

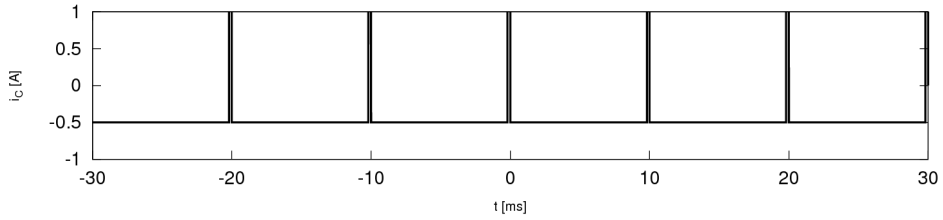
a) $V_{OUT}+2V_D=\frac{V_{RMS}\sqrt{2}}{n}$, $16\,\mathrm{V}+2\cdot 1\,\mathrm{V}=\frac{220\,\mathrm{V}\sqrt{2}}{n}$, $n=17.28$

b) $V_{OUT}=16\,\mathrm{V}-\frac{1}{4f_0C}I_{OUT}$, $\frac{1\,\mathrm{A}}{4\cdot 50\,\mathrm{Hz}\cdot C}=1\,\mathrm{V}$, $C=5\,\mathrm{mF}$

c) $Q=10\,\mathrm{ms}\cdot 0.5\,\mathrm{A}=5\,\mathrm{mC}$, d), $Q_{IN}=Q/n=289\,\mu\mathrm{C}$, e)



pazite kod i_C , detaljnije:



f) $\gamma=\frac{1}{\sqrt{3}}\cdot\frac{\Delta v_{OUT}}{V_{OUT}}$, $\gamma=\frac{1}{\sqrt{3}}\cdot\frac{0.5\,\mathrm{V}}{15.5\,\mathrm{V}}$, $\gamma=1.86\,\%$

g) $P_D=\frac{1}{2}V_DI_{OUT}$, $P_D=0.5\,\mathrm{W}$

h) $\eta=\frac{P_{OUT}}{P_{IN}}=\frac{P_{OUT}}{P_{OUT}+4P_D}$, $\eta=\frac{15\,\mathrm{W}}{17\,\mathrm{W}}=88.23\,\%$