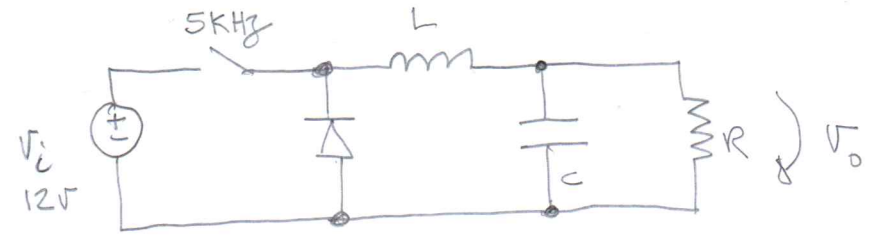
CC/CC E3



$\langle V_o \rangle = 4,5V \qquad \Delta V_{pp} = 2mV \qquad R = 500\,\Omega$

a) $\langle V_o \rangle = D\,V_i$

$D = \frac{4,5}{12} = 0,375$

b) $L_{crítico} = ?$ $\qquad L_{crit} \geq (1-D)\frac{RT}{2}$; $T = \frac{1}{5.10^3}$

$= (1-0,375)\frac{500 \times (\frac{1}{5.10^3})}{2}$

$= 0,03125\ [H]$

c) $C = ?$ sabendo L_{crit}

$C_{crit} \geq \frac{(1-D)T^2 V_o}{8 \times L \times \Delta V_{pp}}$

$= \frac{(1-0,375) \times (\frac{1}{5.10^3})^2 \times 4,5}{8 \times 0,03125 \times 2.10^{-3}}$

$= 0,000225\ [F]$

d) $i_{L(t)} = \langle i_o \rangle = \frac{V_o}{R} = \frac{4,5}{500} = 9\ [mA]$

e) $\Delta i_L = \frac{V_i\,(1-D) \times DT}{L} = \frac{V_o\,(1-D)T}{L}$

$= 0,018\ [A]$

$= \frac{4,5\,(1-0,375).(\frac{1}{5.10^{-3}})}{0,03125}$

f) Desenho ondas