

№ 64.

$$a) \omega = 10^3 \Rightarrow T = \frac{2\pi}{10^3} \Rightarrow T = 2\pi \cdot 10^{-3} \Rightarrow 2\pi\sqrt{LC} = 2\pi \cdot 10^{-3} \Rightarrow$$

$$LC = 10^{-6} \Rightarrow C = \frac{10^{-6}}{L} = \frac{10^{-6}}{0,4} \Rightarrow C = 0,25 \cdot 10^{-5} \text{ F}$$

$$b) I = \omega Q \Rightarrow I = 10^3 \cdot 0,4 \cdot 10^{-6} \Rightarrow I = 4 \cdot 10^{-4} \text{ A}$$

$$i = -4 \cdot 10^{-4} \mu\text{A} 1000t$$

$$g) E = U_E + U_B \Rightarrow \frac{Q^2}{2C} = U_E + \frac{L I^2}{2} \Rightarrow U_E = \frac{Q^2}{2C} - \frac{L I^2}{2} \Rightarrow$$

$$U_E = 24 \cdot 10^{-9} \text{ J}$$