

GRUPA 2

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$$i_1(t) = i_x(t) - i_2(t)$$

$$\bar{I}_1 = \bar{I}_x - \bar{I}_2$$

$$\bar{I}_x = \sqrt{3} e^{j\pi/6} = \sqrt{3} \left[\cos\frac{\pi}{6} + j\sin\frac{\pi}{6} \right] = \frac{3}{2} + j\frac{\sqrt{3}}{2}$$

$$\bar{I}_2 = 1 \cdot e^{j\pi/3} = \left[\cos\frac{\pi}{3} + j\sin\frac{\pi}{3} \right] = \frac{1}{2} + j\frac{\sqrt{3}}{2}$$

$$\bar{I}_x - \bar{I}_2 = \left(\frac{3}{2} - \frac{1}{2} \right) + j \left(\frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} \right) = 1$$

$$\bar{I}_1 = 1 e^{j0} \Rightarrow i_1 = \sqrt{2} \sin \omega t$$

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$$\bar{Z} = -jX_C + \frac{RjX_L}{R+jX_L} = -j7 + \frac{j36}{6+j6} = -j7 + \frac{j6}{(1+j1)} =$$

$$-j7 + j \frac{6(1-j1)}{1+1} = -j7 + j3(1-j1) = (-j7 + j3) + 3 = 3 - j4$$

$$\bar{Z} = 3 - j4 \quad Z = \sqrt{3^2 + 4^2} = \sqrt{9+16} = 5$$

$$\bar{I} = \frac{\bar{U}}{\bar{Z}} = \frac{200}{3-j4} = \frac{200(3+j4)}{25} = 8(3+j4) = 24 + j32 \text{ A}$$

$$S = \bar{U} \bar{I}^* = 200(24 - j32) = 4800 - j6400 \text{ VA}$$

$$P_a = 4800 \text{ W} \quad Q = 6400 \text{ VA} \quad \text{намагничивае}$$