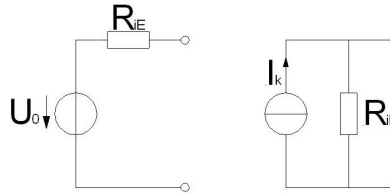


Lösungen

Aufgabe 1:

- a) $R_{iE} = 40 \, \Omega$
 $U_0 = 35 \, V$
 $I_k = 0,875 \, A$



- b) $I_2 = 0,875 \, A$

Aufgabe 2:

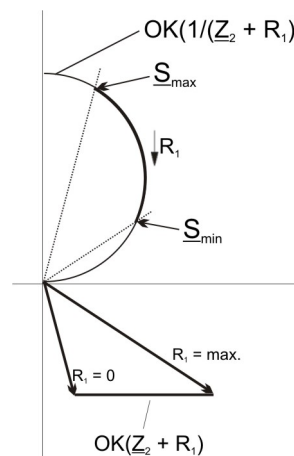
- a) 1.) $F_{3x} = 7,94 \cdot 10^{-6} \, N$ $F_{3y} = -14,52 \cdot 10^{-6} \, N$
 2.) $F_{3x} = 3,6 \cdot 10^{-6} \, N$ $F_{3y} = -6,6 \cdot 10^{-6} \, N$
 b) $U_{AB} = 351 \, V$

Aufgabe 3:

- a) $\Phi = 0,4 \, mVs$
 b) $B_M = 1 \, T$ $H_M = -1000 \, A/cm$ $l_M = 7,95 \, mm$
 c) $44,4 \, \%$
 d) $n = 1592$ $A_F = 12,4 \, cm^2$

Aufgabe 4:

- a) $\underline{Z}_{ges} = 53,1 \, \Omega \cdot e^{j45^\circ}$
 b) $\underline{S} = (703,9 + j704,2) \, VA = 995 \, VA \cdot e^{-j45^\circ}$
 c)



d) $\underline{I}_{MP} = 3,55A \cdot e^{j180^\circ}$

$$u_2(t) = 326,6V \cdot \sin(\omega t - 120^\circ)$$

$$i_2(t) = 6,15A \cdot \sin(\omega t - 165^\circ)$$

$$i_{MP}(t) = 5A \cdot \sin(\omega t - 180^\circ)$$

