1.
$$U_{\rm d,rms} = 122,474~{\rm V} \rightarrow \alpha = 110^{\circ}$$

$$P_{\rm T1} = 5,93 \; \rm W$$

$$\lambda = 0,5325$$

$$2. f_s = 236 \text{ Hz}$$

$$I_L = 33,53 \text{ A}$$

$$\Delta i_L(t) = 6.3 \text{ A}$$

3.
$$D_{1, bip} = D_{1, unip} = 0.65$$

$$\Delta i_L({\rm t}) = 1{,}55~{\rm A}$$