$$D_{\max}=\frac{U_o-\sqrt{2}U_{in-\min}}{U_o}=\frac{390-1.414\times 90}{390}=0.674$$

$$I_{in-\max}=\frac{P_o}{\eta V_{in-\min}}=\frac{300}{90}=3.33A$$

$$\Delta I=2\sqrt{2}K_{RF}I_{in-\max}=2\sqrt{2}\times 0.15\times 3.33=1.414A\left(K_{RF}=0.15\right)$$

$$L=\frac{\sqrt{2}U_{in-\min}D_{\max}}{\Delta If_s}=\frac{\sqrt{2}\times 90\times 0.674}{1.414\times 70\times 10^3}=866\mu H\,(f_s=70K)$$

$$\left(B+\frac{\Delta B}{2}\right)=B\left(1+K_{RF}\right)=1.15B\le B_{sat}=0.35T$$

$$B\le 0.3T$$

$$\Delta B=0.09T$$

$$N=\frac{L\Delta I}{\Delta BA_e}=\frac{866\times 10^{-6}\times 1.414}{0.09\times 1.48\times 10^{-6}}=92(EI40,A_e=1.48cm^2)$$

$$\phi=0.8mm,A_w=\pi\times 0.4^2=0.5mm^2$$

$$J_{\max}=\frac{I_{in-\max}}{A_w}=\frac{3.33}{0.5}=6.67\,A/mm^2$$