Solution to lecture 7 exercises

7-100

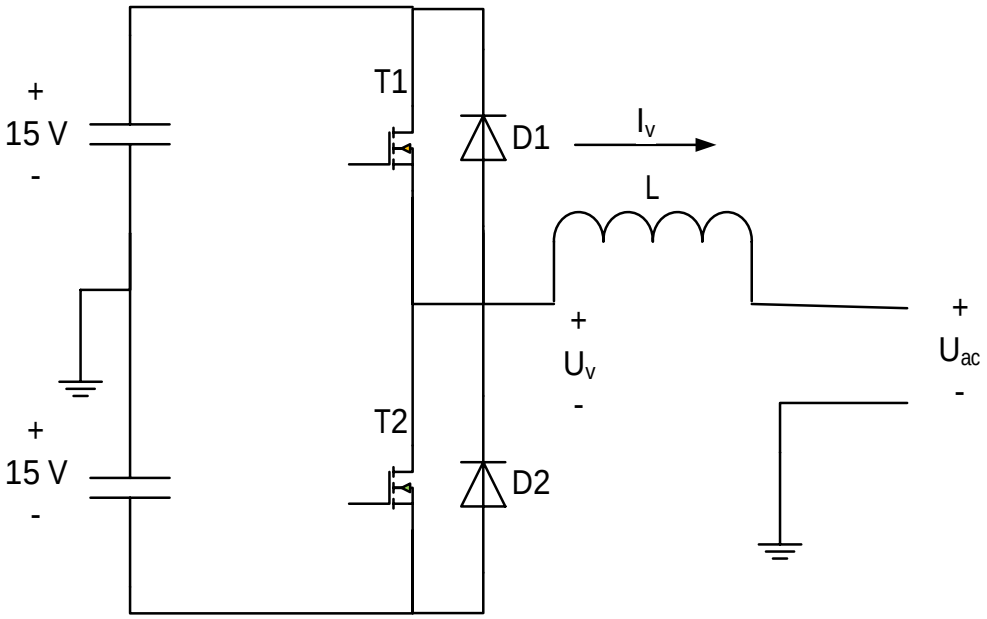

Figure 1

- m_f=19, f_s=19*50 = 950 Hz
- L = 1.0 mH
- I_{vpk} = 8 A
- m_a = 0.9
- Pac=U_{ac}*I_v*cos(fi)=13.2*8/2=52 W,
  Qac= U_{ac}*I_v*sin(fi)=0 VAr.
- angle(I_{v1}-U_{v1})=15 deg
- Pv= U_{v1}*I_v*cos(fiv)=13.5*8/2*cos(15deg)=52 W
  Qv = U_{v1}*I_v*sin(fiv)=13.5*8/2*sin(15deg)=14 Var
- Switch utilization ratio = U_{v1}*I_v/2/(4*30*8)=5.6%

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