Problem 3 Lecture

REFERENCE: AN4134

SPEC: $V_o = 24V$ $T_s = 20\mu s$

$L_1 = 200\mu H$ $P_o = 70 W$
$C_o = 300\mu F$

$N_P/N_S = 5$ $\omega_{cross} = 20000$ rad/s

0: sketch plot of G_{vc}

1: Select value of $R1 + R_2$

2: Find desired gain at

ω_{ross} $\left(\text{Gain\_wcross} \sim K_{op} \dfrac{R_B}{R_D} \right)$

3: Find $\omega_{Z_c} = \omega_{cross}/3$

Select R_F and C_F

4: Find $\omega_{PC} = 3\omega_{cross}$

select R_D, R_B and C_B

5: Simulate in LT spice

a) Build power circuit

b) Build current controller

c) Build controller

d) Simulate the converter.