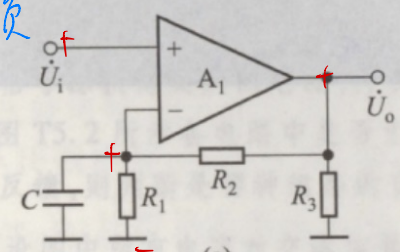
第九周作业

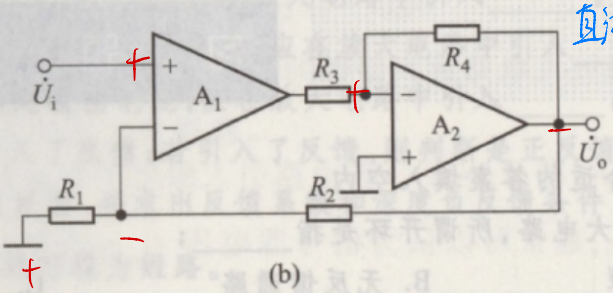
5.4 判断图 P5.4 所示各电路中是否引入了反馈，是直流反馈还是交流反馈，是正反馈还是负反馈。设图中所有电容对交流信号均可视为短路。

直流负反馈



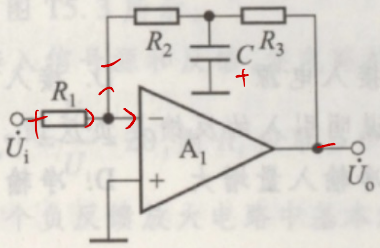
(a)

直流交流 正反馈



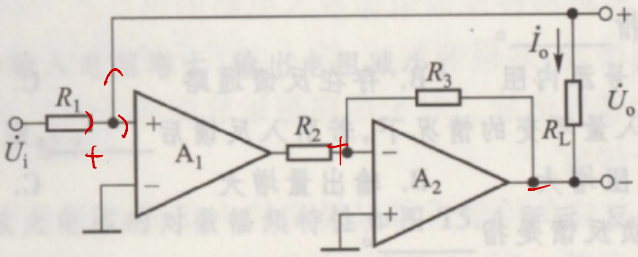
(b)

直流负反馈



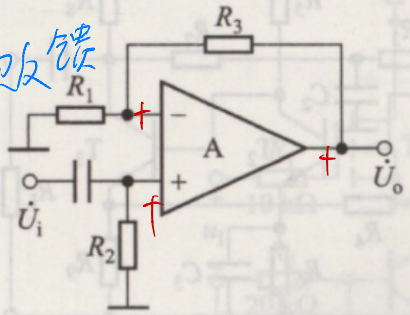
(c)

直流交流负反馈



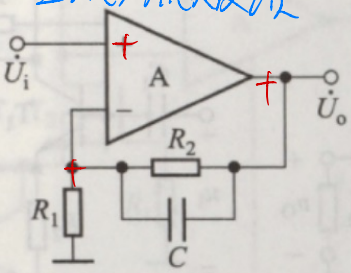
(d)

直流交流负反馈



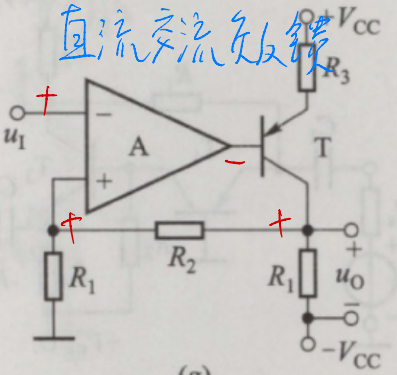
(e)

直流交流负反馈

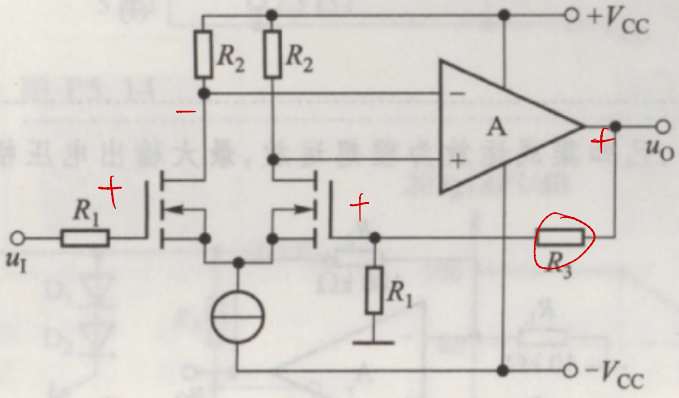


(f)

直流交流负反馈



(g)

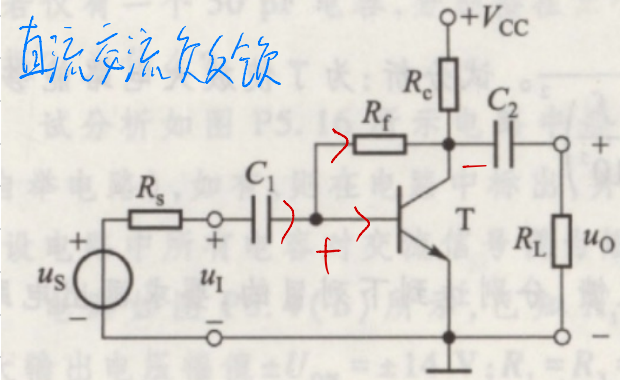


(h)

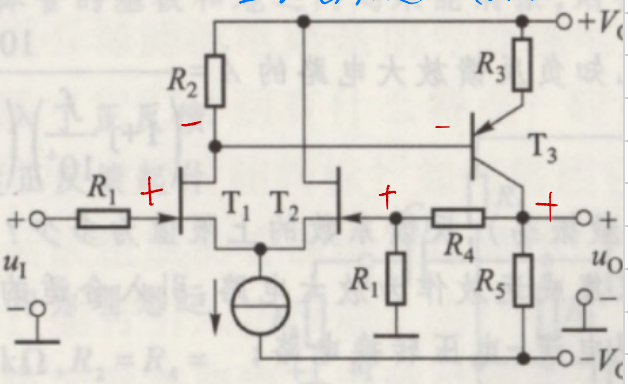
直流交流负反馈

5.5 电路如图 P5.5 所示，要求同题 5.4。

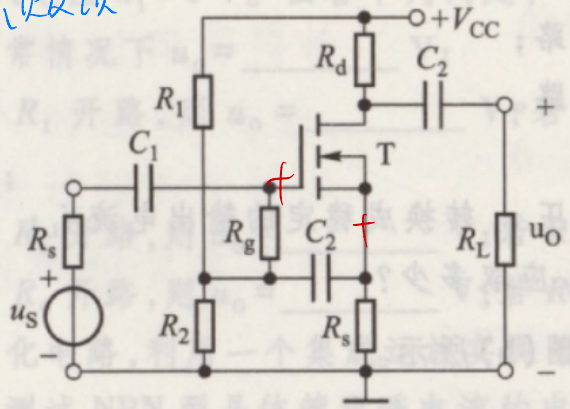
直流交流负反馈



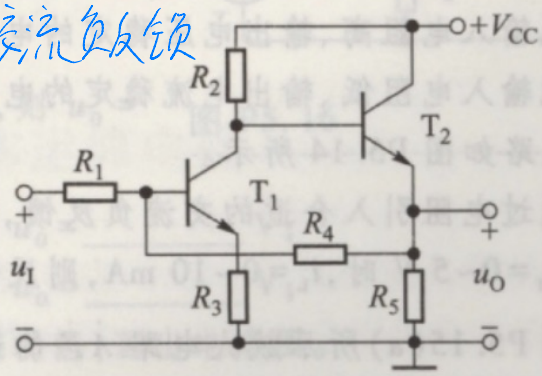
直流交流负反馈

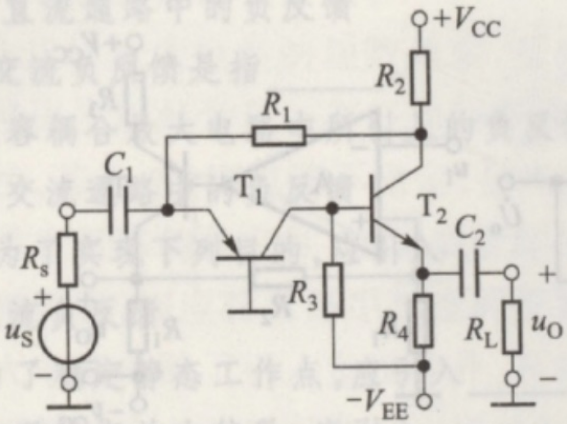


直流交流负反馈

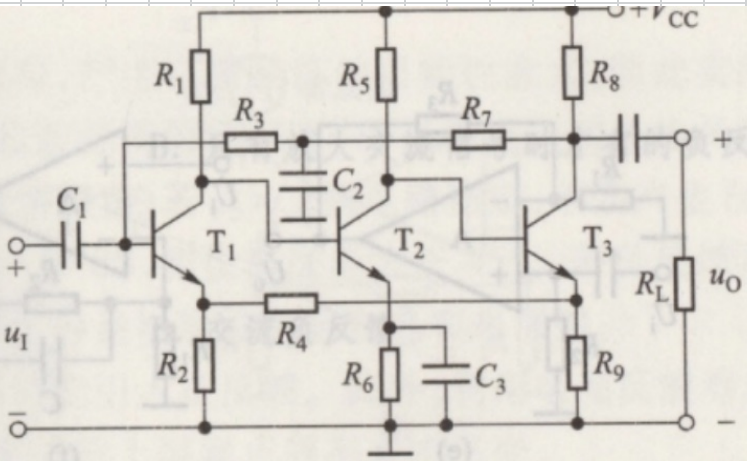


直流交流负反馈





直流交流负反馈 (e)



直流交流负反馈 (f)

图 P5.5

5.6 分别判断图 P5.4(d)~(h)所示各电路中引入了哪种组态的交流负反馈。

(d) 电流并联负反馈

(e) 电压串联负反馈

(f) 电压串联负反馈

(g) 电压串联负反馈

(h) 电压串联负反馈

5.7 (a) 电压并联负反馈

(b) 电压串联负反馈

(c) 电流并联负反馈

(f) 电流串联负反馈

5.9 分别估算图 P5.5(a)、(b)、(c)、(f)所示各电路在深度负反馈条件下的电压放大倍数。

(a) $\dot{F} = \frac{\dot{I}_f}{\dot{U}_o} = -R_f$ $\quad \dot{A}_{usf} = \frac{1}{\dot{F}} \cdot \frac{1}{R_s} = -\frac{R_f}{R_s}$

(b) $\dot{F} = \frac{\dot{U}_f}{\dot{U}_o} = \frac{R_1}{R_1+R_4}$ $\quad \dot{A}_{uf} = \frac{1}{\dot{F}} = \frac{R_1}{R_1+R_4}$

(c) $\dot{F} = \frac{\dot{I}_f}{\dot{I}_o} = \frac{R_2}{R_1+R_2}$ $\quad \dot{A}_{usf} = \frac{1}{\dot{F}} \cdot \frac{(R_4 /\!/ R_L)}{R_s} = \frac{R_1}{R_1+R_2} \cdot \frac{(R_4 /\!/ R_L)}{R_s}$

(f) $\dot{F} = \frac{\dot{U}_f}{\dot{I}_o} = -\frac{R_2 R_9}{R_2+R_4+R_9}$ $\quad \dot{A}_{uf} = \frac{1}{\dot{F}} \cdot (R_7 /\!/ R_8 /\!/ R_L) = -\frac{(R_2+R_4+R_9)(R_7 /\!/ R_8 /\!/ R_L)}{R_2 R_9}$