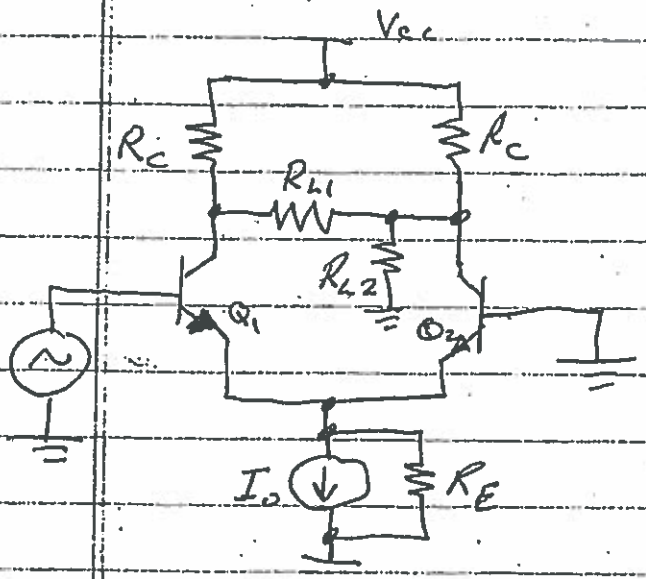
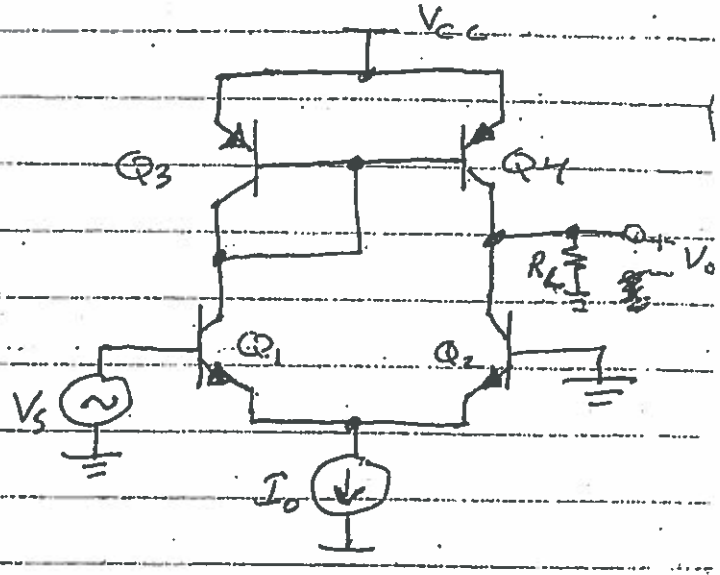
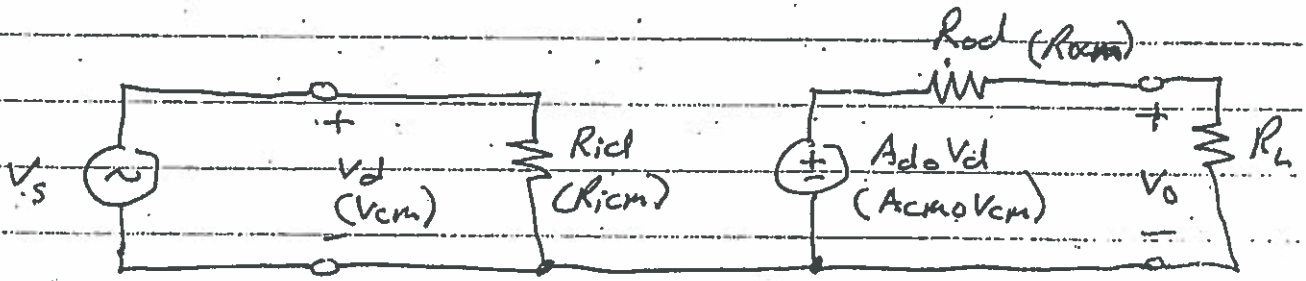
EE352

BJT Diff Amp Summary

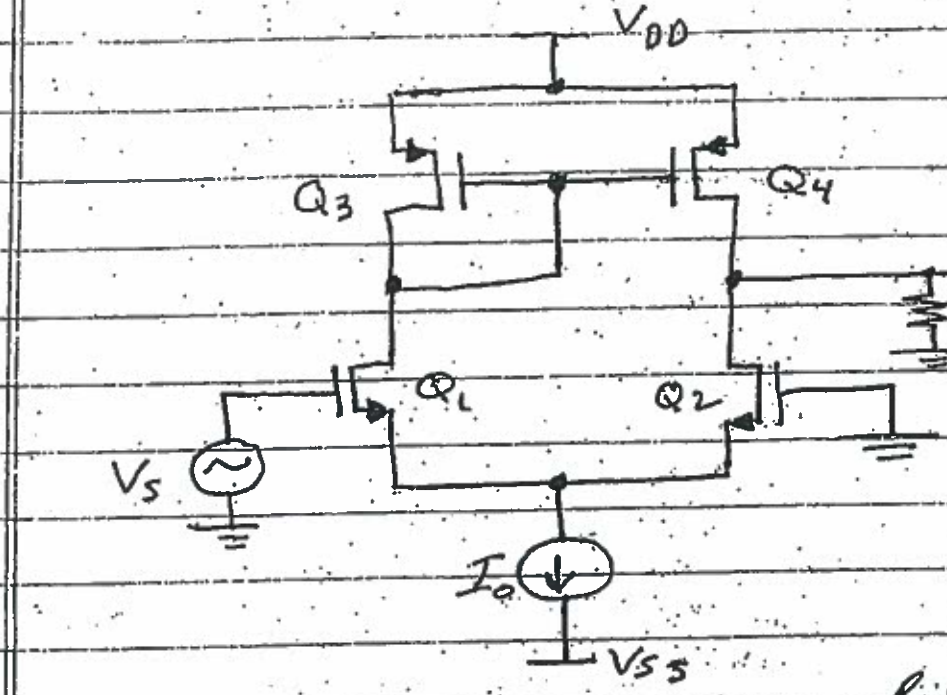


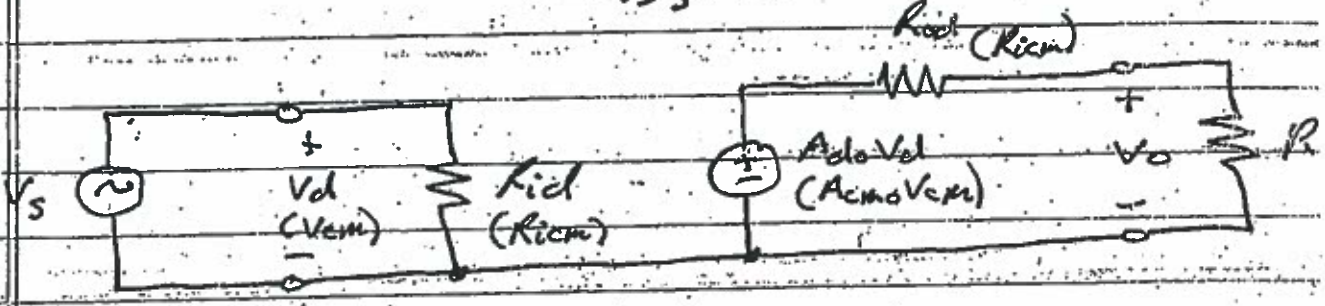




	P/L DOM ($R_{L2}=\infty$)	P/L SEOM ($R_{L1}=\infty$)	A/L SEOM
A_{do}	$-\frac{g_m}{2}R_{od}$	$+\frac{g_m}{2}R_{od}$	$+g_m R_{od}$
A_d	$-\frac{g_m}{2}[R_{od}\|\|R_{L1}]$	$+\frac{g_m}{2}[R_{od}\|\|R_{L2}]$	$+g_m[R_{od}\|\|R_L]$
R_{id}	$2r_\pi$	$2r_\pi$	$2r_\pi$
R_{od}	$2R_c$	R_c	$r_{o2}\|\|r_{o4}$
A_{cmo}	0	$\frac{-\alpha R_{ocm}}{2R_E}$	0
A_{cm}	0	$\frac{-\alpha[R_{ocm}\|\|R_{L2}]}{2R_E}$	0
R_{icm}	$R_E(1+\beta)$	$R_E(1+\beta)$	~~N/A~~ $R_E(1+\beta)$
R_{ocm}	$2R_c$	R_c	~~N/A~~ $r_{o2}\|\|r_{o4}$
CMRR	∞	$20\log\left[\frac{g_m R_E}{\alpha}\right]$	∞
R_E	V_A/I_o	V_A/I_o	~~N/A~~ V_A/I_o

MOS Diff Amp Summary





	A/L SEOM
A_{do}	$+g_m R_{od}$
A_d	$+g_m[R_{od} \| R_L]$
R_{id}	∞
R_{od}	$r_{o2} \| r_{o4}$
A_{cmo}	0
A_{cm}	0
R_{icm}	~~N/A~~ ∞
R_{ocm}	~~N/A~~ $r_{o2} \| r_{o4}$
CMRR	∞
R_E	~~N/A~~ $\frac{1}{2} I_o$