Errata

(This file contains the errata from Chapters 1-12 and will be updated later to include the errata from the rest of the material).

Chapter 1

1. Page 15 – Equation below (1.4.8) should read

$$R_i = \frac{1}{[0.05 + 0.01/(0.025+1)]} = 16.73\,\text{k}\Omega.$$

2. Page 21 – Line below (1.5.9) – change "$v_I > 1.288$ V," to "$v_I > 1.26$ V,"
3. Page 24 – Line 1 - $A_v(j\omega)$ should read $|A_v(j\omega)|$
4. Page 27 – Change "**1.7. BODE PLOTS**" to "**1.7. BODE PLOTS^2**"
5. Page 40 – Line 6 should read "Let $\omega_{pN} \gg \omega_{p1}, \omega_{p2}, \ldots, \omega_{p(N-1)}, \omega_{z1}, \omega_{z2}, \ldots, \omega_{zN}$. Then, near about $\omega \approx \omega_{pN}$, the above equation can be approximated with"
6. Page 41 – Answers to Exercise 1.11 - $\omega_H = 62.55$ Mr/s, 62.47 Mr/s, and 62.39 Mr/s.
7. Page 46 – Fig. 1.10.5 – "$A_D v_D$" should be "$A_d v_D$".
8. Page 49 – Equations (1.10.19) and (1.10.20) – change "A_c" to "G".
9. Page 50 – Line 3 from the bottom – Delete the sentence "We also mentioned the effects of component tolerance."
10. Page 62 – Line 2 below "solution" – delete the words "the parameters".
11. Page 65 – Line below (1.12.6) – change "given" to "shown".
12. Page 71 – Add v_I to figure P1.23. See the new figure below.

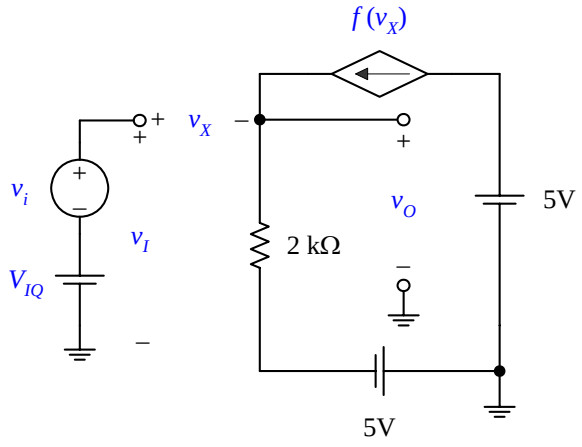


Fig. P1.23

13. Page 72 – Problem1.25 – delete the extraneous characters "$|\,r|\,s$".
14. Page 73 – Problem 1.35 - The equation is split. It should read as follows:

$$\omega_L = \omega_{p1}\sqrt{0.5[x^4 + 2x^2(3-2y^2) + (2y^2-1)^2]^{0.5} + x^2 - 2y^2 + 1}\,.$$

Chapter 2

1. Page 78 – Fig. 2.1.1(a) - "–" sign at the cathode is missing or not visible.
2. Page 79 – Fig. 2.1.3 – "v_{D1}" – subscript "1" is misplaced.
3. Page 83, 84, and 85 - Fig. 2.2.2(b), 2.2.3(b), and 2.2.4b) – Charge distributions in the depletion should be of opposite polarity. The figures should be as follows:

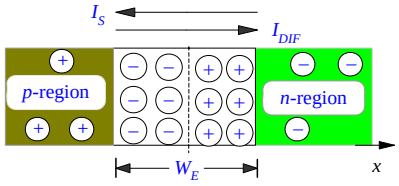


Fig. 2.2.2(b)

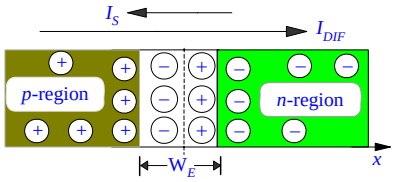


Fig. 2.2.3(b)

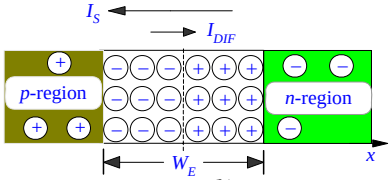


Fig. 2.2.4(b)

4. Page 84 – Line 5 below (2.2.2) –replace the word "room" with "junction".
5. Page 93 – Line 8 below (2.3.7) – change "(2.3.9) and (2.3.7)" to "(2.3.7) and (2.3.5)".
6. Page 95 – Table 2.3 – First row (headings) – last two columns – They should be "100(i_{D1}/I_{D1}-1)" and "100(i_{D2}/I_{D2}-1)".
7. Page 100 – Line below "Four Steps…" – insert "," between "amplifiers" and "are".
8. Page 102 – Exercise 2.7 – Change "Fig. E2.8" to "Fig. E2.5".
9. Page 102 – Line 6 from the bottom – delete the word "even".
10. Page 104 –Fig. 2.5.1(b) – Diode should be ideal diode without a dark shade in the triangle.
11. Page 106 – Line 5 from the bottom – delete the sentence "Also, shown is the waveform of the output voltage (broken lines), if the diodes are ideal."
12. Page 107 – Equation (2.5.10) – "γ" should be a subscript of "$_\gamma$".
13. Page 130 – Problem 2.24 – Change "I_B" to "I_{BIAS}".

Chapter 3

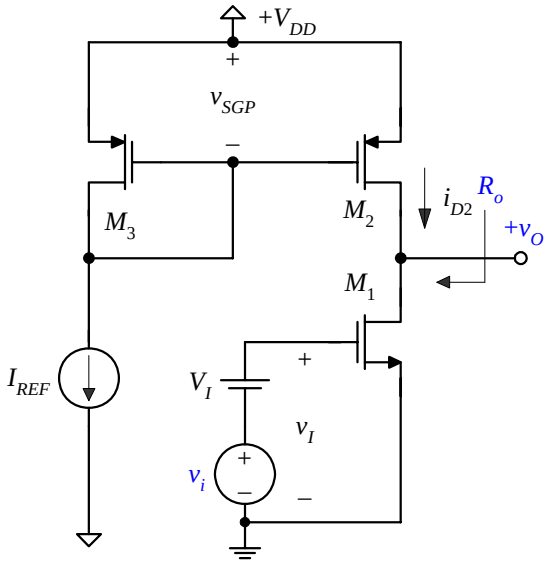
1. Page 136 – line 12 from the bottom – resp-ectively should be respectively.
2. Page 136 – line 5 from the bottom – *poly silicon* should be *polysilicon*.
3. Page 138 – line 5 – "uncovered,", should be "uncovered,"
4. Page 145 – lines 1 & 2 below "Ohmic Mode" – "…ohmic mode, including the influence of the channel-length r .odulation,…" should read "…ohmic mode, excluding the influence of the channel-length modulation,"
5. Page 154 – Lines above and below the equation (3.2.30) – v_{OV} should be v_{DSAT}.
6. Page 154 – line below the equation (3.2.31) – "reduce" should read "reduces".
7. Page 156 – Line 2 from the bottom – "v_{GS}" should read "v_{OV}".
8. Page 158 – Exercise 3.11 – "E3.10" should read "Exercise 3.10".
9. Page 165 – Line 6 below Example 3.6 – "from to 1.1 V." should read "from 0.5 V to 1.1 V."
10. Page 167 – Line 12 below "3.4 Constant Current Sources" – "constant current" should read "constant current sources".

11. Page 170 – Line 2 below Fig. 3.4.3 – “In this simulation the Pchange” should read “In this simulation, tolerances”.
12. Page 171 – Exercise 3.14 – Line 9 – delete the word “resistance”.
13. Page 179 – Line 5 above the equation (3.5.19) – “Fig. 3.5.2” should read “Fig. 3.5.3”.
14. Page 183 – Equation (3.6.1) should be as follows:

$$\begin{aligned} i_D &= 0, && v_{DS} < V_t, \\ &= Kv_{OV}^2(1+\lambda v_{DS}), && v_{DS} \geq V_t. \end{aligned} \tag{3.6.1}$$

Insert “≥” between “v_{DS}” and “V_t”.

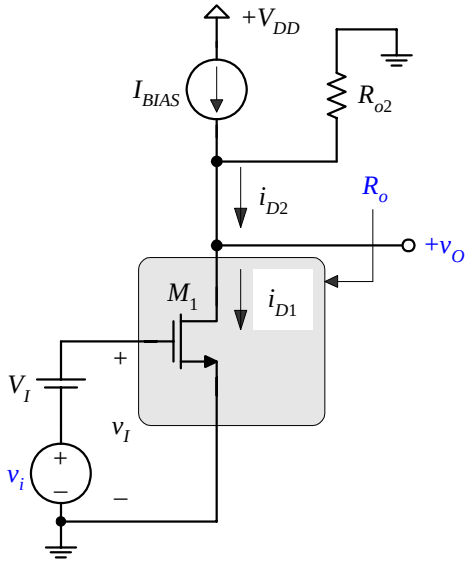
15. Page 187 – Line 8 above Fig. 3.6.8 – “$v_O = v_{DS1}$, falls” should read “$v_O = v_{DS1}$ falls”.
16. Page 191 – Line 10 (just above the unnumbered equation) – “Fig. 3.5.6(b)” should read “Fig. 3.5.7(b)”.
17. Page 192 – Fig. 3.7.1(a) should be as follows:



(a)

Two upper-case “V”s should be lower-case “v”s.

18. Page 193 – Line 3 below the equation (3.7.1) – “$v_O < v_I - V_{t1}$. M_1 enters” should read “$v_O < v_I - V_{t1}$, and M_1 enters”.
19. Page 194 – Fig. 3.7.2(a) – “I_{BIAS}” should be “I_{BIAS}”. “V_I” should be “v_I”. The figure should be as follows:



(a)

20. Page 198 – Equation (3.7.1) – "V_γ" should be "V_Y". Subscript "γ" should be "Y".
21. Page 199 – First equation – "v_O" should be italic.
22. Page 200 –Equation (3.7.16) –

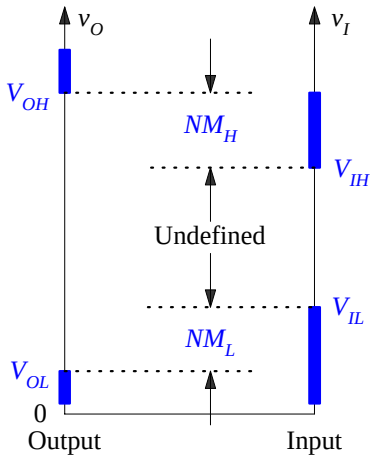
$$A_v = \frac{v_o}{v_i} = \frac{r_{o2}(r_{o1} + r_{s1}^{/})}{r_{s1}^{/}(r_{o1} + r_{o2})},\ R_i = \frac{1}{Y_i} = \frac{r_{s1}^{/}(r_{o1} + r_{o2})}{(r_{o1} + r_{s1}^{/})},\ \text{and}\ R_o = r_{o2}\left\|[r_{o1}(1 + R_s / r_{s1}^{/}) + R_s\right]. \qquad (3.7.16)$$

The highlighted subscript should be lower italic lower-case "$_o$" and not zero "$_0$".

23. Page 200 – Line below the equation (3.7.16) – "$r_{o1} \gg r_{s1}^{/}$." should read "$r_{o1} \gg r_{s1}^{/}, R_S$."
24. Page 201 – Line 12 – "(3.7.15)" should read "(3.7.16)".
25. Page 201 – Fig. 3.7.10 – Right side – "*V/V*" should be "V/V".
26. Page 203 – Equation (3.7.19) should be

$$r_{oc} = r_{o2}[1 + r_{o1} / (r_{s2}^{/}\|r_{o2})],\ \text{and}\ g_{mc} = [1 - (r_{o2}/r_{oc})]g_{m1}. \qquad (3.7.19)$$

27. Page 204 – Line 9 below the equation (3.8.1) – "and develop" should read "and find"
28. Page 204 – Fig. 3.8.2 – "V_{IL}" and "V_{IH}" should be located as shown below right across the dotted lines.



29. Page 206 – Equation (3.8.11) – Replace "NM_L." with "NM_L,".
30. Page 208 – Line 4 below Exercise 3.22 – "…due to fact the fact…" should read "…due to the fact…".
31. Page 210 – Line 8 below "Solution" – "…the value of v_{DSN}." should read "…the value of v_{SDP}."
32. Page 211 – Line 3 should consist the following equation:

$$V_{tN} = V_{toN} + \gamma_N[\sqrt{3 - v_I + PHI} - \sqrt{PHI}] = 0.4 + 0.433[\sqrt{3.0 + 0.7 - 1.517} - \sqrt{0.7}] = 0.6775\ \text{V}.$$

33. Page 216 – Line 1 – "3.6" should be "D3.6".
34. Page 217 – Problem 3.19 – Line 1 – "In each circuit…" should read "In the circuit…"
35. Page 218 – Problem 3.29 – Line 5 – "In the circuit of Fig. 3.6.7." should read "In the circuit of Fig. 3.6.7,"
36. Page 218 – Problem D3.30 – Line 3 – "9 m A/V^2" should be "9 mA/V^2".
37. Page 220 – Problem 3.40 – Lines 6 &8 – "V_{GSQ} = 0.9 V," should read "V_{GS} = 0.9 V,".
38. Page 220 – Problem 3.48 – Line 2 from the bottom – "v_I = 2.9 V." should read "v_I = 2.5 V."
39. Page 221 – Problem 3.52 – Lines 7, 8 & 9 should read "…show that

$$I_{REF} = K_1\left(\sqrt{I_O / K_2} + \sqrt{I_O / K_3} + V_t\right)^2.$$

"

40. Page 222 – Problem 3.56 – Line 2 from the bottom "What value of dc bias …" should read "What value of input dc bias …"
41. Page 223 – "3.61" and "3.63" should read "D3.61" and "D3.63" respectively.
42. Page 223 – Problem 3.64 – Delete "Estimate the required bias values of V_I and V_B."
43. Page 224 – "3.67" should read "D3.67"
44. Page 224 – Problem 3.72 – Last line – = 3 V" should read = 3 V – delete """.

Chapter 4

1. Page 226 – Introduction – First paragraph – Line 3 from the bottom – "…on the controlled current." should read "…on the controlling current."
2. Page 232 – Title of Fig. 4.2.5 – "To large-signal…" should read "Two large-signal…"

3. Page 238 – Equation (4.2.25) should read

$$I_C = I_S(1+\lambda V_{CE})e^{V_{BE}/V_T} = \beta(1+\lambda V_{CE})I_B. \quad (4.2.25)$$

4. Page 238 – The equality sign should be "approximately equal" sign in (4.2.36). The equation should read

$$\alpha_{dc} \approx \alpha. \quad (4.2.36)$$

5. Page 240 – Lines 8 & 10 - delete the subscript "*o*" from β_o.
6. Page 241 – Add periods "." at the end of equations (4.3.7) and (4.3.9).
7. Page 241 – Line 2 below (4.3.9) – change "with" to "within".
8. Page 241 – Add periods "." at the end of "100 kΩ" and "10 kΩ".
9. Page 243 – Line before Example 4.2 – Change "solution" to "answer".
10. Page 248 – Exercise 4.4 – "$R_{B1} = R_{B1}$ = 20 kΩ" should read "$R_{B1} = R_{B2}$ = 20 kΩ".
11. Page 249 – Line 3 above Fig. 4.4.1 – Change the word "sufficient" to "sufficiently"
12. Page 250 – Line 6 – delete "as follows"
13. Page 250 – Line above (4.4.7) – "v_I" should be "v_I"
14. Page 257 – Line 2 below (4.5.17) – "…the collector and base terminals." should read "…the collector and emitter terminals."
15. Page 269 – Line below (4.6.26) – "Using this collector…" should read "Using the collector…".
16. page 270 – Equation (4.6.29b) – "R_1 =" should be "R_i =".
17. Page 280 – Answer line above Fig. 4.7.10 – delete the negative sign in front of '3" and add negative sign in front of "g_{mc}"- should be

$$R_o = 523.7\ \text{k}\Omega,\ g_{mc} = 3.988\ \text{mS, and } A_v = -g_{mc}R_o = -2089\ \text{V/V}.$$

18. Page 302 – Problem 4.13 – Line 3 – "9V" should be "9 V".
19. Page 306 – Problem 4.41 – Line 2 – "50 MΩ" should be "5 MΩ".
20. Page 307 – Problem 4.50 – Line 16 – "200μA" should be "200 μA".
21. Page 310 – Fig. P4.61 – "R_{E1}" should be "R_E".
22. Page 311 – Problem 4.66 – (b) – "Repeat (a)" should be "Repeat (a)."
23. Page 311 – Problem 4.68 – (c) – "100kΩ." should be "100 kΩ."
24. Page 312 – Problem 4.76 – Line 4 – "5 %" should read "5%".
25. Page 313 – Problem 4.77 – Line 4 – "75 V" should be "75 V."
26. Page 313 – Problem 4.79 – Line 1 – "4.76" should be "4.77."
27. Page 313 – Problem 4.80 – Line 5 –Delete "However, the β value can be from 50 to 250."
28. Page 313 – Problem 4.81 – Last sentence – "What will be the percentage yield of the design?" should read "If the collector current should remain within ±5% of the nominal value, what will be the percentage yield of the design?"

Chapter 5

1. Page 329 – Fig. 5.2.2 – Shade is missing.

2. Page 329 – Line 2 from the bottom – "…i_{C1} and i_{C2} as function of v_D, …" should read "…i_{C1} and i_{C2}, as functions of v_D, …"
3. Page 334 – Fig. 5.2.5 – "v_{GS1}, v_{GS2}, and $-V_{SS}$" are missing.
4. Page 337 – Fig. 5.3.1 – "v_{C1}" and "v_{C2}" should be "v_{O1}" and "v_{O2}". Also, shade is missing.
5. Page 339 – Equation (5.3.8) – Subscript "0" (zero) should be "*o*" (l.c.) in "i_{o1}" and "i_{o2}".
6. Page 340 – Line 2 – "difference module" should read "differential module"
7. Page 340 – Equation (5.3.14) – "g_{21}" should read "g_{m21}".
8. Page 342 – Line 2 above (5.3.17) – "After using (5.3.4)" should read "After using (5.3.5)".
9. Page 343 – Equation (5.3.22) – "v_{01}" should be "v_{o1}".
10. Page 344 – Exercise 5.9 – Closing parenthesis is missing in two locations. The answers should be

$$A_{d1} \approx \frac{-\alpha R_{C1}}{2r_e[1+(R_{C1}+R_{C2})/(2r_o)]}, A_{d2} \approx \frac{-\alpha R_{C2}}{2r_e[1+(R_{C1}+R_{C2})/(2r_o)]},$$
$$A_{cm1} \approx \frac{-\alpha R_{C1}(1+R_{C2}/r_o)}{2R[1+(R_{C1}+R_{C2})/(2r_o)]}, \text{and } A_{cm2} \approx \frac{-\alpha R_{C2}(1+R_{C1}/r_o)}{2R[1+(R_{C1}+R_{C2})/(2r_o)]}.$$

11. Page 346 – Line 13 below Fig. 5.3.7 – Answer – "v_{cn}" should be "v_{cm}".
12. Page 351 – Line 10 from the bottom – "Next, using (5.4.10)," should read "Next, using (5.4.7) and (5.4.10),"
13. Page 356 – Line 13 from the bottom – The equation should be

$$R_B = \frac{(10-0.9589)}{0.21402} = 42.24\ \text{k}\Omega.$$

14. Page 366 – Line 1 below Fig. 5.5.8 – "ratio" should read "ratios".
15. Page 368 – Line 6 – Equation – "$(r_{06}||r_{07})$" should be "$(r_{o6}||r_{o7})$". The second occurrence is correct.
16. Page 369 – Line 9 – "…less than 10 V. Clearly, I_{BIAS} should be slightly more than…" should read "…more than 10 V. Clearly, I_{BIAS} should be slightly less than…".
17. Page 369 – Lines 9 & 10 – "The MOSFETs…" should read "The diode-connected MOSFETs…".
18. Page 370 – Line 21 – "(5.5.60)" should be "(5.5.59)".
19. Page 372 – Line 1 above (5.6.5) – "ln (1+*x*)" should be "ln(1+*x*)".
20. Page 372 – Line 6 below (5.6.6) – "$(W/L)_1$" should all be one word.
21. Page 373 – Line 10 below (5.6.8) – "β value" should read "β-value".
22. Page 379 – Problem 5.10 – Delete the last sentence.
23. Page 379 – Problem 5.13 – "In the circuit of Fig. 5.2.1, Q_1 and Q_2 operate in the active mode. Assume that…" should read "In the circuit of Fig. 5.2.1, assume that…".
24. Page 381 – Problem 5.24 – Line 4 – "g_{mcm1}" should be "g_{mc1}".
25. Page 381 – Problem 5.26 – Line 2 – "R_{C1} = 50 kΩ" should be "R_{C1} = 0".
26. Page 381 – Problem 5.29 – Line 1 - "5.29" should be "D5.29".
27. Page 382 - "5.31" & "5.35" should be "D5.31" & "D5.35".

28. Page 383 – Delete the last sentences in Problems 5.40 and 5.41.

Chapter 6

1. Page 388 – Exercise 6.2 – Answer “12 W.” should be “4 W.”
2. Page 389 – Line 1 above (6.2.4) – “The maximum power…” should read “The maximum average power…”
3. Page 389 – Line 1 below (6.2.4) – “M” should be “M_1”.
4. Page 389 – Line 3 below (6.2.4) – “V_{CC}” should be “V_{DD}”.
5. Page 408 – Line 3 – “dues” should read “does.”
6. Page 413 – Line 1 – “…one of these MOSFETs…” should read “one or the other MOSFET…”
7. Page 415 – Lines 19&20 – Delete the sentence “MOSFET power amplifiers can be developed by replacing the BJTs with power MOSFETs in most circuits.”
8. Page 415 – Lines 23 – “KP” should be “K”.
9. Page 415 – Fig. 6.7.1 – Delete some lines. See the figure below (see the next page).

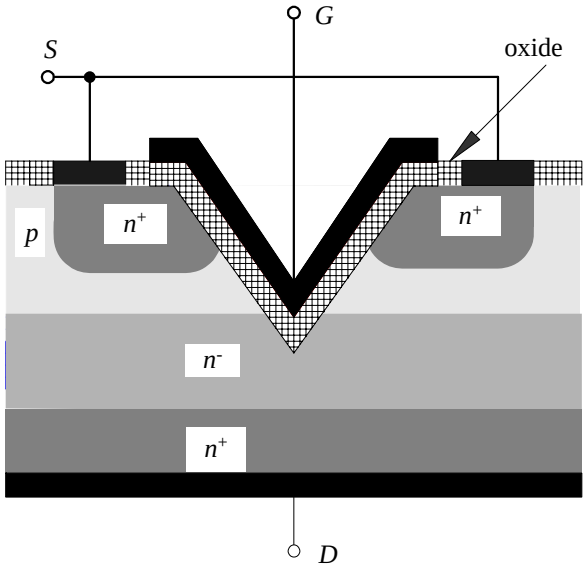


Fig. 6.7.1: The structure of the V-groove MOSFET with a short vertical channel.

10. Page 417 – Problem 6.2 – Line 3 – delete “…of on a dc signal of 10 mA.” should read “…of 10 mA.”
11. Page 418 – Problem 6.17 – “Repeat Problem 6.18,…” should read “Repeat Problem 6.16,…”.

Chapter 7

1. Page 425 – “Example 7.2” should read “Example 7.2(Design)”
2. Page 426 – Line 7 above Fig. 7.2.2 – The equation – subscripts should be

$$I_{D7} = I_{D8} = I_{D9} = I_{D10} = 18.67\ \mu\text{A and } I_{D11} = I_{D12} = 98.66\ \mu\text{A}.$$

3. Page 430 – Line 11 from the bottom – “resistance-rationed” should read “resistance-ratioed”

4. Page 430 – Line 7 from the bottom – “Section 6.6” should read “Section 5.6”
5. Page 432 – Line 6 below “The Output stage” – “6.4.7” should read “6.4.6”.
6. Page 434 – Line 15 – “(6.1.24)” should read “(5.1.12)”.
7. Page 439 – Line 1 – “R_{c4}” should be “R_{c6}”.
8. Page 439 – Exercise 7.2 – Answer – “G_{mcm}” should be “G_{cm}”.
9. Page 440 – Line 5 in the paragraph on the left of Fig. 7.4.5 – “Fig. 7.4.5” should be “Fig. 6.4.5”.
10. Page 440 – Equation (7.4.13a) – “r_{ec}” should be “r_{ee}”.
11. Page 441 – Equation (7.4.14b) – “0.9992” should be “0.9998”.
12. Page 443 – Equation (7.5.1) – center the equation
13. Page 445 – Exercise 7.3 – Line 1- “0.8 μm” should be “0.25 μm”.
14. Page 446 – Line 446 – Line 7 from the bottom – “and =” should be “and”.
15. Page 451 – Line below (7.6.4) – “…circuit for Fig. 7.6.3…” should read “…circuit of Fig. 7.6.3…”
16. Page 452 – Line below (7.6.10) – “Then, we require R_B = …” should read “Assume that we require R_B = …”.
17. Page 453 – Line 3 – “G_y” should read “R_y”.
18. Page 453 – Line 5 – “(5.1.23)” should read “(5.1.19)”.
19. Page 453 - Line above (7.6.12) - “(5.1.17)” should read “(5.1.19)”.
20. Page 458 – Problem 7.7 – Line 3 – “I_S” should be “I_S”.
21. Page 461 – Problem 7.11 – Lines 5-7 should read “…and those of the *n*-channel MOSFETs are KP_n = 51 μA/V^2, V_{tn} = 0.75 V, and λ_n = 0.03 V^{-1}. $V_{DD} = V_{SS}$ = 5 V.”
22. Page 461 – Problem 7.11 – Line 10 – “I_B” should be “I_{BIAS}”.

<u>Chapter 8</u>

1. Page 466 – Line 5 below Example 8.1 – “F = 0.00999” is an answer.
2. Page 467 – Line 4 from the bottom – “and (8.1.13)” should read “and (8.1.12)”.
3. Page 468 – Line 2 below “Reduction of noise and Distortion” – “Fig. 6.3.6” should be “Fig. 6.3.4”.
4. Page 474 – Fig. 8.3.1 – an old figure – “$h_{12A}V_o$” is missing – a terrible mistake. The figure should be as follows:

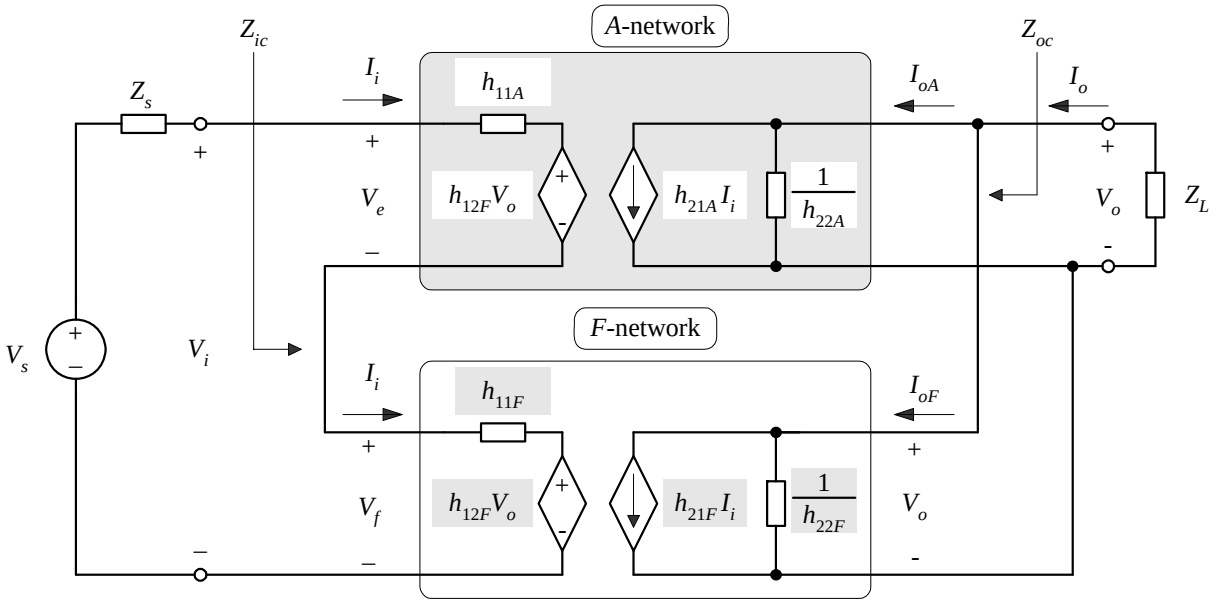


Fig. 8.3.1: The equivalent circuit of Series-Shunt configuration using the *h*-parameters of the *A*- and *F*-networks.

5. Page 477 – Equation (8.3.14) – "short circuit" should read "short-circuit".
6. Page 482 – Line 2 above Fig. 8.4.3 – delete "open-loop".
7. Page 482 –Fig. 8.4.3 – "1 K" and "4.7 K" should be "1 kΩ" and "4.7 kΩ" respectively.
8. Page 487 – Exercise 8.9 – Answer for Z_{oc} should be in "mΩ" not "MΩ".
9. Page 491 – Line 2 from the bottom – "…of g_{21F}" should be "…of g_{21A}".
10. Page 494 – Problem 8.15 – Line 1 – "Exercise" should read "Problem".
11. Page 495 – Problem 8.18 – Line 7 – "PHI = 0.7 V" should be "PHI = 0.7 V."

Chapter 9

1. Page 501 - Line 4 below – "short circuit" should be "short-circuit" – same everywhere else.
2. Page 504 – Fig. 9.2.1 – "C_s" should be "C_S".
3. Page 511 – Line 2 above (9.3.5) – "…see (2.4.10) depending…" should read "…(see (2.4.10)) depending…"
4. Page 514 – Line 2 from the bottom – "β_o" should read "β" (and throughout this chapter, see page 576, 577, 578, 579, 581).
5. Page 518 – Heading for Table 9.1 – "*34.531 pf/m*" should be "34.531 pf/m".
6. Page 521 – Exercise 9.8 – Line 5 – "And" should be "and".
7. Page 530 – Fig. 9.4.10 – "$y_{21A}V_o$" should be "$y_{12A}V_o$".
8. Page 532 – Line 1 – "1/*d*" should be "$1/d_1$".
9. Page 532 – Exercise 9.10 - Lines 1&2 – "Example 4.15" should be "Example 4.15".
10. Page 541 – Line below (9.6.15) – "…must have with a low value…" should read "…must have a low value…"
11. Page 541 – Line 10 from the bottom – "…is higher than…" should read "…is close to…".
12. Page 544 – The first equation should be

$$V_{\pi 2} = \frac{-r_{e2}(1+r_{e1}C_1 s)V_{\pi 1}}{r_{e1}(1+r_{e2}C_2 s)} \approx \frac{-r_{e2}(1+s/\omega_{T1})V_{\pi 1}}{r_{e1}(1+s/\omega_{T2}s)}.$$

13. Page 548 – Line 6 below "A Wide-band Amplifier" – "…in Examples 9.10 and 9.12…" should read "…in Example 9.10 and Exercise 9.14…".
14. Page 552 – Line 2 above (9.7.34) – "$\omega_{\pi 2}$" should be "ω_{p2}".
15. Page 553 – Line 4 below Fig. 9.7.11 – "(see also Example 9.13)" should read "(see Example 9.13)".
16. Page 553 – Line 12 below Fig. 9.7.11 – "…their frequency response." should read "…their frequency responses."
17. Page 557 – Line 2 – "Using (9.4.20b)" should read "Using (9.4.20c)".
18. Page 560 – Line 2 from the bottom – "Problem 9.33" should be "Problem 9.32".
19. Page 561 - Line 6 from the bottom – "…in Table 9.3." should read "…in Table 9.3 (Problem 9.18)."
20. Page 564 – Last sentence "Although, we have not provided…." – Replace the entire sentence with "Thus,"
21. Page 565 – Equation (9.8.21) – "=" should be "≈".
22. Page 566 – Equation (9.9.2) – "=" should be "≈".
23. Page 574 – Equation (9.9.12) – "R_t" should be "Z_t".
24. Page 576 – Problem 9.20 - "β_o" should read "β".
25. Page 577 – Problem 9.27 - "β_o" should read "β".
26. Page 579 – Problem 9.38 – "Fig. 3.7.10(a)" should be "Fig. 3.7.9(a)".
27. Page 579 – Problem 9.39 – Line 1 – "I =" should be "I_{BIAS} =".
28. Page 579 – Problem 9.39 – Line 2 – "$R_{C1} = R_{C2}$ = 100 kΩ," should be "$R_{C1} = R_{C2} = R_C$ = 100 kΩ,"
29. Page 579 – Problem 9.42 – Line 1 – "I =" should be "I_{BIAS} =".
30. Page 580 – Problem 9.46 – Delete "or Exercise 5.15".
31. Page 580 – Problem 9.46 – Second column – "0.04229 V^{-1}" should go together.
32. Page 580 – Problem 9.46 – Second column – "pF/m" should go together.
33. Page 581 – Problem 9.48 – (70 μm/5 μm)" should go together.
34. Page 581 – Problem 9.48 – "V_{S1}" should be "V_{S2}".
35. Page 581 – Problem 9.50 - "β_o" should read "β".
36. Page 581 – Problem 9.52 - "β_o" should read "β".

Chapter 10

1. Page 587 – Line 1 – "(8.1.11)" should read "(8.1.7)".
2. Page 589 – Line 2 below (10.1.19) – "20log$L(j\omega)$" should be "20log$|L(j\omega)|$".
3. Page 589 – Line 2 from the bottom – "*30°*","*60°*", and "*10 dB"* should be "30°","60°", and "10 dB" – non-italic.

4. Page 590 – Lines above Example 10.2 – “20 dB/decade” should go together.
5. Page 594 – Bottom line – “Such feedback…” should read “Such a feedback…”
6. Page 599 – Lines 6 & 7 – “[$-1/(R_2C_2)$]” should go together.
7. Page 601 – Line 2 below (10.2.21) – “$\omega_{p1} \ll \omega_{p2} \ll {}_{p3}$” should be “$\omega_{p1} \ll \omega_{p2} \ll \omega_{p3}$”.
8. Page 601 – Bottom line – “…with such an…” should read “…with an…”.
9. Page 601 – Line 7 from the bottom – “This is main reason…” should read “This is the main reason…”.
10. Page 603 – Bottom line “…the study of this until…” should read “…the study of this behavior until…”
11. Page 612 – Equation (10.5.5) – “V_o” should be “V_r”
12. Page 612 – Equation (10.5.8) – “ω_o”. “ω” should be non-italic.
13. Page 616 – Line 2 above (10.5.25) – “If the amplifier is finite…” should read “If the amplifier gain is finite…”.
14. Page 617 – Line 4 below “Exercise 10.8” – “…designed in Example, harmonic…” should read “…designed in Example 10.7, harmonic…”.
15. Page 618 – Equation (10.5.33) should be

$$\omega_o = \frac{1}{\sqrt{R_1R_2C_1(C_2+C_i)}} \text{ and } \frac{R_F}{R_G} \geq \frac{R_1}{R_2} + \frac{(C_2+C_i)}{C_1}.$$

In the second inequality, the denominator “C_i” should be “C_1”.

16. Page 619 – Bottom equation – “…$\rightarrow \infty$,” should be “…$\rightarrow \infty$.”
17. Page 621 – Line 5 below (10.5.39) – “…using only using…” should read “…using only …”
18. Page 623 – Lines 12 & 13 – “R_{D2}” should be “R_D”.
19. Page 623 – Exercise 10.9 – Line 2 below the figure – “…39 kΩ, R_E = 2.1 kΩ, and R_C = 4.7 kΩ.” should read “…39 kΩ, and R_E = 2.1 kΩ.”.
20. Page 625 – Delete the sentence “In getting this equivalent circuit, we have also assumed that both transistors have the same geometry, and therefore, they have identical parameters.”
21. Page 630 – Problem D10.28 – Line 2 – “10.5.4” should be “10.5.3”.
22. Page 630 – Problem D10.29 – Line 1 – “Assume that the op-map…” should read “If the op-amp…”
23. Page 630 – Problem D10.29 – Line 3 – “…gain of,” should read “…gain of”
24. Page 630 – Fig. P10.30 – One “C_1” should be “C_2” – see the figure below.

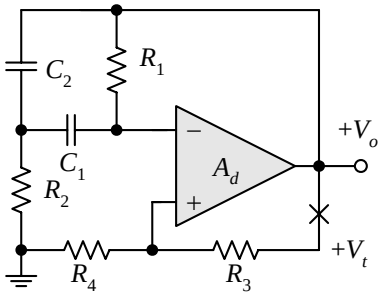


Fig. P10.30.

25. Page 630 – Problem 10.33 – Equation – Change "," to "." at the end.
26. Page 631 – Figs. P10.38 and P10.39 – Fonts are not consistent with those in other figures and are wrong.

Chapter 11

1. Page 632 – Paragraph 2 – Line 2 – "…design and its…" should read "…design and their…".
2. Page 636 – Line 2 – "Fig. 2.2.7" should be "Fig. 2.2.8".
3. Page 639 – Line above (11.2.2) – "…Fig. 12.1.1 and (12.1.4))" should read "…Fig. 1.12.6 and (1.12.9))".
4. Page 657 – Line below Fig. 11.5.5 – "D_1" should be "D".
5. Page 669 – Line 2 above (11.8.10) – "both T_1 and T_2 will have equal values" could be "T_1 and T_2 will be equal".
6. Page 670 – Equation below (11.8.12) – "C" is not a subscript – it should be as follows:

$$(R_1 / R_2 - T_1 / RC) V_{OP} = -(R_1 / R_2) V_{OP}.$$

7. Page 676 – Line 19 – "…MOSFET will be zero…" should read "…MOSFET will be greater than zero…"
8. Page 690 – Example 11.3 – Line 2 – "…PSPICE." should read "…PSPICE simulation."
9. Page 693 – Fig. 11.12.1 – "$+v_C$" should be marked at the output of the amplifier "K".
10. Page 695 – Line 2 above (11.12.9) – "$(2\pi f_s/Q_L)$" should be "$(2\pi f_s L/Q_L)$".
11. Page 705 – Problem 11.31 – "$V\gamma$" should be "V_γ".
12. Page 706 - Problem 11.33 – "$V\gamma$" should be "V_γ".

Chapter 12

1. Page 711 – Line 6 from the bottom – "Section 12.8" should read "Section 12.9".
2. Page 714 – Equation (12.1.12) – "stopband(s)" should read "stopband(s)."
3. Page 716 – Line 5 – "…another class to filters." Should read "…another class of filters."
4. Page 723 – Line 7 below (12.3.3) – "…$s = -\sigma$, $H(s)$…" should read "…$s = -\sigma$, $H(-s)$…".
5. Page 724 – Fig. 12.3.2 – "ε" should be "ε" – non-italic.
6. Page 731 – Fig. 12.3.5 should be as follows:

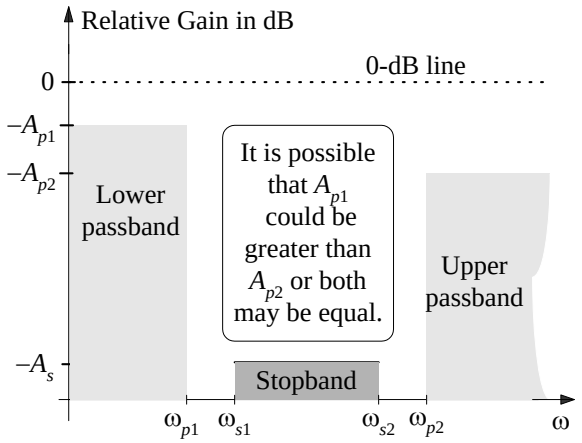
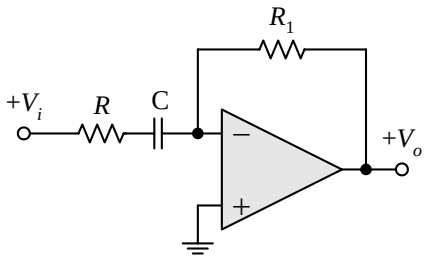


Fig. 12.3.5: The illustration of the specifications for a bandstop function.

7. Page 734 – Line 6 – "$|V_N/2(j\omega)|$" should be "$|V_{N/2}(j\omega)|$".
8. Page 735 – Line below (12.4.1) – "…desired bandwidth." should read "…desired passband edge."
9. Page 736 – Fig. 12.4.1 – Fig. 12.4.1(b) should be as follows:



(b) Highpass

10. Page 738 – "End of solution sign" should occur below line 12 below "Example 12.5 (Design)".
11. Page 739 – delete "End of solution sign" above "Exercise 12.10".
12. Page 743 – Line 13 – "…because band width is…" should read "…because bandwidth is…".
13. Page 752 – Line 4 from the bottom – "…using (12.7.8)" should be "…using (12.7.8)."
14. Page 757 – Equation (12.7.25) – "$H(s)$]" should be "$H(s)$".
15. Page 759 – Line 2 below Fig. 12.7.12 – "…simulation whether…" should read "…simulation to verify whether…".
16. Page 760 – Lines 5&6 – "…to meet the manufacturer's recommended value for the specific CFA." should read "…to compensate for the non-ideal properties of the CFAs."
17. Page 777 – Fig. 12.9.5 – "A_1" and "A_2" are missing in the op-amp symbols.
18. Page 780 – Problem 12.24 – Lines 4 & 5 – "frequency" should read "frequencies".
19. Page 782 – Problem 12.47 – Line 4 – "…the design Eq. (12.7.13)" should read "…the design Equations of (12.7.13)".