Page 23: in Fig. 1-12a, you should read “boundary” conduction mode.
Contributed by Jason, May 2009

Page 40/41: in equation 1-83, I wrongly expressed the equality 1-83. The current starts from
\(-\Delta I_L/2\) and needs to go back to that value. Therefore, the correct equation should be:

\[-\frac{\Delta I_L}{2} = \frac{\Delta I_L}{2} - \frac{V_{out}}{L} t_{off}\]  \hspace{1cm} (1-83)

Re-arranging to extract \(\Delta I_L\) leads to

\[\Delta I_L = \frac{V_{out}}{L} t_{off}\]  \hspace{1cm} (1-84)

Substituting Eq. (1-84) in Eq. (1-82) gives

\[\Delta V = \frac{T_{sw} V_{out}}{8CL} t_{off}\]  \hspace{1cm} (1-85)

Knowing that \(t_{on} = DT_{sw}\) and \(t_{off} = (1 - D)T_{sw}\) gives us a chance to massage equation 1-85:

\[\Delta V = \frac{T_{sw} V_{out} (1 - D)}{8CL}\]  \hspace{1cm} (1-86)

Replacing \(LC\) in equation 1-86 and introducing \(F_{sw}\), the switching frequency, it gives:

\[\Delta V = \frac{\pi^2 T_{sw}^2 V_{out} f_0^2 (1 - D)}{2}\]  \hspace{1cm} (1-89)

To simplify this expression, a possibility exists to normalize the ripple to the output voltage, \(V_{out}\). Equation 1-89 can thus be updated as:

\[\frac{\Delta V}{V_{out}} = \frac{\pi^2 T_{sw}^2 f_0^2 (1 - D)}{2}\]  \hspace{1cm} (1-90)

Knowing that \(T_{sw} = \frac{1}{F_{sw}}\), it comes:
\[ \frac{\Delta V}{V_{out}} = \frac{\pi^2}{2} \left( \frac{f_0}{F_{in}} \right)^2 \left( 1 - D \right) \]  \quad (1-91)

Contributed by Wolfgang Kostorz, January 2011

**Page 50:** in Figure 1-34, the lower curve is incorrectly labelled \( \tau = 0.01 \) whereas it should be \( \tau = 0.1 \).
Contributed by Wolfgang Kostorz, January 2011

**Page 53:** in equation 1-126, the time “t” is missing in one of the terms. The correct equation should be:
\[
\frac{1}{C_0} \int_{t_0}^{t} I_c(t) \cdot dt = \frac{1}{C} \left[ \frac{\Delta I_L}{t_{off}} \left( t_{off} t - \frac{t^2}{2} \right) + \frac{V_{out}}{R_{load}} \left( \frac{1}{D} - 1 \right) t - \frac{\Delta I_L}{L} t \right]
\]  \quad (1-126)
Contributed by Jason Canaday, July 2009

**Page 53:** in equation 1-125, the resistor is \( R_{load} \), not \( R \). The correct equation should be:
\[ I_c(t) = \Delta I_L \left[ \frac{t_{off}}{t_{off}} - t \right] + \frac{V_{out}}{R_{load}} \left[ \frac{1}{D} - 1 \right] - \frac{\Delta I_L}{2} \]  \quad (1-125)
Contributed by Jason Canaday, July 2009

**Page 71:** on page 71, in Figure 1-52, the top graph should be labeled 150 \( \Omega \) and not 50 \( \Omega \).
Contributed by Michael Schutten, April 2010

**Page 83:** in step 4, you should read \( I_{ac} = 144 \text{ mA rms} \) and not 13 mA rms. Same correction in step 5 where the 13 mA term must be replaced by 144 mA.
Contributed by Hong Gu, June 2009

**Page 88:** in the definition of the \( A \) matrix, the coefficient \( a_{12} \) should be divided by \( C \) and not \( L \):
\[
A = \begin{bmatrix}
- \frac{R_3}{(R_2 + R_3) L} & - \frac{R_3}{(R_2 + R_3) L} \\
\frac{R_3}{(R_2 + R_3) C} & - \frac{1}{(R_2 + R_3) C}
\end{bmatrix}
\]
The output current susceptibility is also affected by a sign typo:
\[
T_{13}(s) = - \frac{R_3}{R_i + R_3} \frac{1 + sR_i C}{s^2 L C \left( \frac{R_1 + R_3}{R_i + R_3} \right) + s L + C \left( R_3 R_i + R_i R_3 + R_3 R_1 \right) \frac{1}{R_i + R_3} + 1}
\]
Contributed by Mitch Buchowiecki, Nov. 2009

**Page 109:** in Eq. 2-54a, the minus sign has disappeared, you should actually read:
\[
\dot{x}_i = - \frac{1}{L} \dot{x}_2 + \frac{D}{L} \dot{u}_1 + \frac{d}{L} \dot{u}_{10}
\]
Contributed by Johannes Eha, May 2009
Page 111: in Fig. 2-13, the right end of the x-axis should be labeled 100 kHz and not 110 kHz. Contributed by Thoralf Rosahl, Feb. 2009

Page 121: Figure 2-29, the parenthesis around \((R.d')\) are incorrect. As correctly indicated by 2-75 it should be \(R.(d')^2\). Contributed by Dennis Cote, October 2011

Page 129: In the text, “here we can read 335 mV or 33.5%” and not 419 mV or 41.9%. Contributed by Jie Yan, Feb. 2009

Page 129: the boost in CCM Bode plot does not include the ESR effects. The caption should then read: “Transfer function variations depending on the damping introduced by \(r_L f\) with zero ESR”. Contributed by Thoralf Rosahl, May 2009

Page 152: Equation 2-137 should be 
\[
(1)_{\text{L}} \frac{S_1 S_2}{S_1 S_2} dT = -L_s \Delta + ...
\]
rather than 
\[
(1)_{\text{L}} \frac{S_1 S_2}{S_1 S_2} dT = D_0 \frac{S_1 S_2}{S_1 S_2} \Delta = -L_s \Delta + ...
\]
Contributed by Alex Kim, August 2009

Page 159: Equation 2-173 should be 
\[
\frac{S_1}{D_0} = \frac{D_0}{S_1} \left( \frac{D_0}{S_1} \right)
\]
leading to an updated equation 2-174:
\[
S_s = \frac{S_s}{D_0} \left( D_0 - \frac{1}{2} \right)
\]
The conclusion in 2-175 is still correct.
Contributed by Ricard Takase, October 2011

Page 174: Equation 2-205: the unit should be \(s\) not \(\mu s\), 52.8 kV/s
Contributed by Hawk Shang, August 2009

Page 228: there are two small typos in equation (2A-9) and \(H_c\) definition:
\[
\frac{V_{out}}{V_{err}}(s) = F_n H_c \left( \frac{1 + \frac{s}{\omega_1}}{1 + \frac{s}{\omega_{p1}}} \right) \left( 1 + \frac{M}{2m_c - (2 + m_c)M} \right)
\]
and 
\[
H_c = \frac{2m_c V_{out}}{D} \left( \frac{1 - M}{2m_c - (2 + m_c)M} \right)
\]
Contributed by Hawk Shang, March 2010

Page 230: the definition for \(k_1\) features \(M(1-M)\). It should actually be \(M(M-1)\).
Contributed by Thoralf Rosahl, May 2009

Page 235: in bullet 2: …sense resistor \(R_i\) to the secondary side via \(R' = N R_i\).
Contributed by YangFu, January 2013

Page 245: In Fig. 3-5, the capacitor CoL should be 1 kF and not 1 kH.
Contributed by Aleksander Ansion, Feb. 2009

Page 256: the section header 3.5.5 should be better labeled “Type 2 Amplifier - Origin Pole plus Zero-Pole-Pair”
Contributed by Thoralf Rosahl, Feb. 2009

Page 264: in equation 3-27a, the compensator gain must be the opposite of that of the plant at the considered crossover frequency. Therefore, the equation must exhibit a minus sign in the exponent:
\[
G = 10^{\frac{G_c}{20}}
\]
(3-27a)
Page 308: In the text: …phase margin. And this IS an important point. The “is” is missing.
Contributed by Johannes Eha, July 2012

Page 349: Equation 3-29 is obviously missing the imaginary operator:
\[
\arg \left( T(f) \right) = \text{boost} = \arg \left[ \frac{1 + j \frac{f}{f_{p0}}}{1 + j \frac{f}{f_{p0}}} \right] = \tan^{-1} \left( \frac{f}{f_{p0}} \right) - \tan^{-1} \left( \frac{f}{f_{p0}} \right)
\]
Contributed by Johannes Eha, July 2012

Page 289: Figure 3-37 has swapped k_1/k_2 coefficients. k_1 and k_2 should respectively be -1 and 1. Fig. 3-39 is correct.
Contributed by Simon, May 2009

Page 312: “However, if the copper…” and not “it the copper…”
Contributed by Jie Yan, Feb 2009

Page 331: “…TL431’s ability…” and not “TL431’a ability…”
Contributed by Jie Yan, Feb 2009

Page 349: The in-line equation in 4.3 is wrong, as well as the reference in the text. It should be:

\[
B1 \ INT \ GND \ V=I(V_{dum}) < 1.5m \ ? \ ((V_{ref} + V_{in}) * 1m)
\]

IF the output current is less than 1.5 mA THEN the source delivers \( V_{ref} + V_{in} \times 1m \) in series
with a 2.5 \( \Omega \) resistor. The term \( V_{ref} + V_{in} \times 1m \) represents the –60 dB input susceptibility.
Contributed by Johannes Eha, July 2012

Page 353: The PSpice code reproduced at the right bottom of the page should be:

\[
GINT \ 0 \ INT \ and \ not \ BGINT \ 0 \ INT
\]
Contributed by Jie Yan, Feb 2009

Page 359: The netlist is supposed to be a PSpice netlist, the in-line equation for \( B_1 \) is actually an IsSpice code. The correct version should be: 

\[
E1 \ 4 \ 0 \ Value = \{ \ IF \ ( V(3,30)>5, \ 5, \ 0 \) \}
\]
Contributed by Jie Yan, Feb 2009

Page 402: in equation 4B-11, the word open as slipped, it should be put besides and the primary of course.
Contributed by Jie Yan, Feb 2009

Page 402: in equation 4B-12, the A should be \( A^2 \)

\[
L_n = L_1 - \sqrt{L_2 - L_3 L_1 - L_2} + L_1^2 + \frac{L_1 L_3 - L_2 L_2}{A^2} = 58.5 \mu \text{H}
\]
Contributed by the author
Page 445: the first term of the formula 5-63 is wrong, the formula should be:

\[ f_0 = \frac{1}{2\pi \sqrt{LC}} = \frac{1-D}{2\pi \sqrt{LC}} \]

Contributed by Jie Yan, Feb. 2009

Page 460: in the sentence, the *and* is wrong: “we display the input current at low input voltage” and not “…*and* low input voltage.”

Contributed by Jie Yan, Feb. 2009

Page 513: in equation 6-59, the *rms* subscript is missing:

\[ P_{in,apparent} = \sum_{n=1}^{\infty} I_{n, rms}^2 = V_{i, rms} I_{rms} \]

Contributed by Jie Yan, Feb. 2009

Page 514: “…extracting \( k_d \) from eq. (6-66)” and not (6-67).

Contributed by Jie Yan, Feb. 2009

Page 588: “…the equation affecting the plot n°3 in figure 7-4c should be: …+ \( V_{in} \) + \( V_{ leak} \) and not \( V_{ leak} \).”

Contributed by Mohammad Monfared, Nov. 2009

Page 623: equation 7-79 should be: \( V_{DS} = V_{in} + \frac{V_{sw}}{N} + V_{leak} \)

Contributed by Mohammad Monfared, Nov. 2009

Page 623: in equation 7-80, the right term must be multiplied by \( F_{sw} \):

\[ V_{DS} = V_{in, max} + \frac{V_{sw}}{N} + \frac{2L_{max} P_{max} F_{sw}}{\eta V_{n, max} D_{max} (1-D_{min})} \]

Contributed by Zaikin Denis, Dec. 2009

Page 623: in equation 7-88, the right term must be multiplied by \( F_{sw} \):

\[ V_{C_{swing, max}} = V_{in} + \frac{V_{f_{L}}}{N} + \frac{2L_{max} P_{max} F_{sw}}{\eta V_{n, max} D_{max} (1-D_{min})} = 19 + 1 + \frac{2 \times 20 \times 76 \times 65 k}{0.166 \times 0.85 \times 0.236 \times (0.764)} = 124 \text{ V} \]

Contributed by Zaikin Denis, Dec. 2009

Page 646: the notation for the current is misleading. Rather than \( I_{C_{V_c}} \) it should be \( I_{CV_{c}} \)

Contributed by Jie Yan, Feb. 2009

Page 647: in equation 7-116 it should be \( V_{ac,peak} \) and not \( V_{act} \)...

Contributed by Mohammad Monfared, Nov. 2009

Page 651: in equation 7-127, the term \( V_{bulk, max} \) is missing in the middle of the equation. It should be: \( P_{loss} = I_{cv} V_{bulk, max} = (I_{s} + Q_{c} F_{sw}) V_{bulk, max} = \ldots \)

Contributed by Mohammad Monfared, Nov. 2009

Page 660: in figure 7-52, the label on the upper left corner should be \( L_s \) and not \( L_{aux} \).

Contributed by Mohammad Monfared, Nov. 2009
Page 663: after (see Early effect). With an output…
Contributed by Mohammad Monfared, Nov. 2009

Page 663: “…if the controller hosts…” and not …it the controller…
Contributed by Jie Yan, Feb. 2009

Page 705: In Fig. 7-85, the emitter U1 (the optocoupler) should of course go the primary ground and not the secondary one!
Contributed by Aleksander Anision, Feb. 2009

Page 712: Below equation 7-252: … selecting a 860 µH inductor and not indicator…
Contributed by Simon Buchwald, June. 2009

Page 713: Figure 7-90 vertical axis: $P_{out}$ must be replaced by $P(W)$
Contributed by Boris Popov, December 2012

Page 726: bullet 1, …for a given printed circuit board (pcb) area.
Contributed by Mohammad Monfared, Nov. 2009

Page 809: in fig. 8-50, the label in the right bottom should be $(1-d)T_{on}$ and not $(1-d)dT_{on}$.
Contributed by Jie Yan, Feb. 2009

Page 810: in fig. 8-51, the label in the lower left side be $N_n = \frac{N_{s}}{n}$ and not $N_n = nN_{s}$.
Contributed by John Tsinetakes, Dec. 2011

Page 838: the formula 8-137 has to be updated since eq. 8-125C delivers 235 mW and not 470 mW: $P_{tot} = P_{cond} + P_{SW.on} + P_{SW.off} = 1+0.235+0.48 \approx 1.715 W$
Contributed by Jie Yan, Feb. 2009