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Sensitivity; 3.5 Small-Signal Loop Gain and Stability; 3.6 Example; 3.7 State Transition Technique; Chapter 4. Phase-Shifted Full-Bridge Converter; 4.1 Power-Stage Operation; 4.2 Current Doubler; 4.3 Steady-State Duty Cycle; 4.4 Steady-State Output Waveforms; 4.5 Steady-State Output Waveforms Example; Chapter 5. Current-Fed Push-Pull Converters; 5.1 Overlapping Continuous-Conduction Mode; 5.2 Overlapping Continuous Conduction, Steady State; 5.3 Overlapping Continuous Conduction, Example
5.4 Nonoverlapping Continuous-Conduction Mode 5.5 Load Current Sharing and Parallel Operation; 5.6 AC Small-Signal Studies Using State-Space Averaging; 5.7 State-Transition Technique; Chapter 6. Isolated Flyback Converters; 6.1 DCM Duty-Cycle Determination, Another Approach; 6.2 CCM Duty-Cycle Determination; 6.3 Critical Inductance; 6.4 Voltage-Mode DCM Closed Loop; 6.5 Voltage-Mode DCM Small-Signal Stability; 6.6 Voltage-Mode CCM Closed Loop; 6.7 Voltage-Mode CCM Small-Signal Stability; 6.8 Peak Current-Mode DCM Closed Loop; 6.9 Peak Current-Mode DCM Small-Signal Stability 6.10 Peak Current-Mode CCM Closed Loop 6.11 Peak Current-Mode CCM Small-Signal Stability; 6.12 Output Capacitor; 6.13 Accelerated Steady-State Output; 6.14 A Complete DCM Example; Chapter 7. Nonisolated Boost Converter; 7.1 Duty-Cycle Determination; 7.2 Critical Inductance; 7.3 Peak Current-Mode Closed-Loop Steady State in CCM; 7.4 Peak Current-Mode Small-Signal Stability in CCM; 7.5 Peak Current-Mode Closed-Loop Steady State in DCM; 7.6 Peak Current-Mode Small-Signal Stability in DCM; 7.7 DCM Output Capacitor Size; 7.8 CCM Output Capacitor Size; Chapter 8. Quasi-Resonant Converters 8.1 How Does It Work?

Sommario/riassunto

This book introduces an innovative, highly analytical approach to symbolic, closed-form solutions for switched-mode power converter circuits. This is a highly relevant topic to power electronics students and professionals who are involved in the design and analysis of electrical power converters. The author uses extensive equations to explain how solid-state switches convert electrical voltages from one level to another, so that electronic devices (e.g., audio speakers, CD players, DVD players, etc.) can use different voltages more effectively to perform their various functions. Most existing
