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4.2 Switched-Capacitor DC-DC Converters; 4.3 Switching DC-DC Converters; 4.3.1 Operation of a Buck Converter; 4.3.2 Power Reduction Techniques for Switching DC-DC Converters; 4.4 Summary; Chapter 5 Buck Converters for On-Chip Integration; 5.1 Circuit Model of a Buck Converter; 5.1.1 MOSFET-Related Power Losses; 5.1.2 Filter Inductor-Related Power Losses; 5.1.3 Filter Capacitor-Related Power Losses; 5.1.4 Total Power Consumption of a Buck Converter; 5.2 Efficiency Analysis of a Buck Converter
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Sommario/riassunto

This book presents an in-depth treatment of various power reduction and speed enhancement techniques based on multiple supply and threshold voltages. A detailed discussion of the sources of power consumption in CMOS circuits will be provided whilst focusing primarily on identifying the mechanisms by which sub-threshold and gate oxide leakage currents are generated. The authors present a comprehensive review of state-of-the-art dynamic, static supply and threshold voltage scaling techniques and discuss the pros and cons of supply and threshold voltage scaling techniques.