



Ultra-Low-Power CMOS Sigma-Delta Modulator for Cardiac Pacemakers

By Yelin Wang

LAP Lambert Academic Publishing Jul 2014, 2014. Taschenbuch. Book Condition: Neu. 220x150x7 mm. This item is printed on demand - Print on Demand Neuware - For modern biomedical implantable devices, lowering power consumption as much as possible is critical to extend the active time of the battery, which is not feasible to be replaced frequently. Introduced in the 1950s, implantable cardiac pacemakers are used to treat bradyarrhythmia. For a pacemaker, long (over 15 years) service time is the most critical design objective. Analog-to-digital converter (ADC) is an indispensable module in any pacemaker. The book presents the design of a low-power CMOS Sigma-Delta () modulator, which can be employed for implementation of the ADC. The entire design process, from system definition and synthesis to transistor-level circuit implementation, is elaborated. Important design considerations are also discussed in each design phase. This book can serve as a quick and detailed top-down design guide for the readers who are interested in the area, as well as for the university students who are in the early stage of their research. 120 pp. Englisch.



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