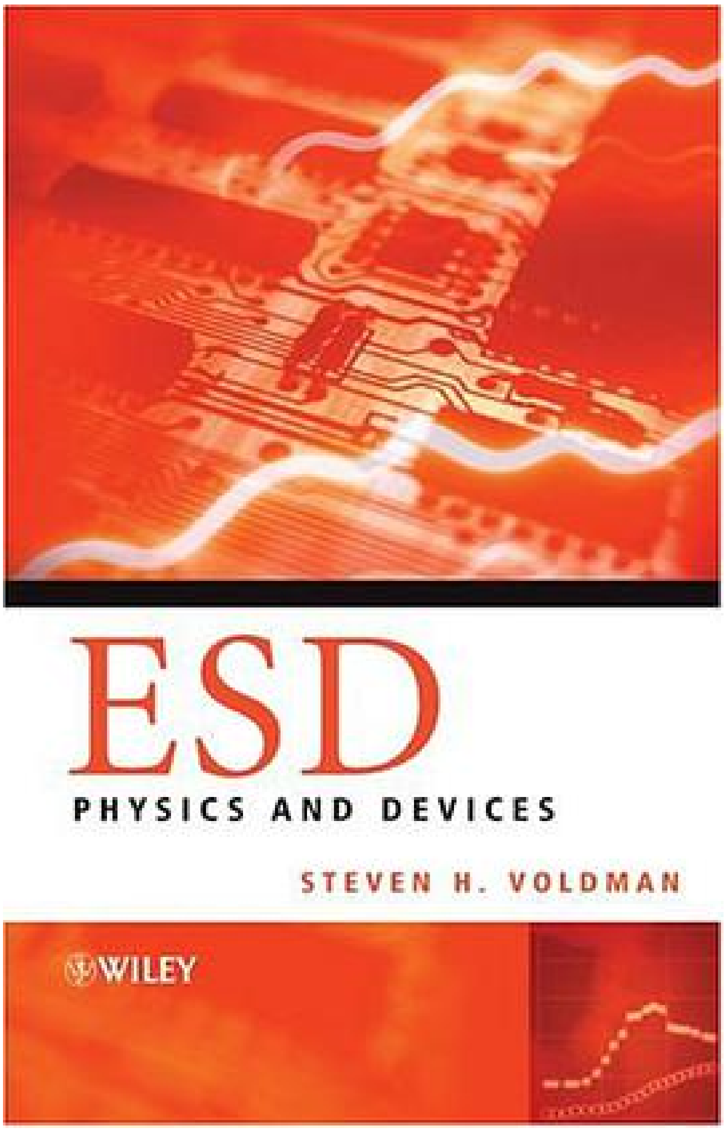
ESD Physics and Devices



著者:Dr. Steven H. Voldman

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This volume is the first in a series of three books addressing Electrostatic Discharge (ESD) physics, devices, circuits and design across the full range of integrated circuit technologies. ESD Physics and Devices provides a concise treatment of the ESD phenomenon and the physics of devices operating under ESD conditions. Voldman presents an accessible introduction to the field for engineers and researchers requiring a solid grounding in this important area. The book contains advanced CMOS, Silicon On Insulator, Silicon Germanium, and Silicon Germanium Carbon. In addition it also addresses ESD in advanced CMOS with discussions on shallow trench isolation (STI), Copper and Low K materials. Provides a clear understanding of ESD device physics and the fundamentals of ESD phenomena. Analyses the behaviour of semiconductor devices under ESD conditions. Addresses the growing awareness of the problems resulting from ESD phenomena in advanced integrated circuits. Covers ESD testing, failure criteria and scaling theory for CMOS, SOI (silicon on insulator), BiCMOS and BiCMOS SiGe (Silicon Germanium) technologies for the first time. Discusses the design and development implications of ESD in semiconductor technologies. An invaluable reference for EMC non-specialist engineers and researchers working in the fields of IC and transistor design. Also, suitable for researchers and advanced students in the fields of device/circuit modelling and semiconductor reliability.

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评论

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