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1.7.4. Determination of the oxidation parameters from experimental results1.7.5. Confrontation of the Deal and Grove theory with experimental results; 1.7.6. Conclusions on the Deal and Grove theory; 1.8. Theory of thermal oxidation under water vapor of silicon; 1.8.1. Concentration profiles expected for H2O; 1.8.2. Concentration profiles expected for the OH groups; 1.8.3. Concentration profiles expected for H2; 1.8.4. Concentration profiles expected for H; 1.8.5. Comparison of the expected and the experimental profiles; 1.8.6. Wolters theory
1.9. Kinetics of growth in O2 for oxide films < 30 nm1.9.1. Introduction; 1.9.2. Oxidation models of thin films; 1.9.3. Case of ultra-thin films (< 5 nm); 1.9.4. On line simulator; 1.9.5. Kinetics and models of SiC oxidation; 1.10. Fluctuations of the oxidation constants under experimental conditions; 1.10.1. Role of the pressure; 1.10.2. Role of the temperature; 1.10.3. Role of the crystal direction; 1.10.4. Role of doping; 1.11. Conclusion; 1.12. Bibliography; Chapter 2. Ion Implantation; 2.1. Introduction; 2.2. Ion implanters; 2.2.1. General description; 2.2.2. Ion sources
2.2.3. Mass analysis and beam optics

Sommario/riassunto

The main purpose of this book is to remind new engineers in silicon foundry, the fundamental physical and chemical rules in major Front end treatments: oxidation, epitaxy, ion implantation and impurities diffusion.