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Altri autori (Persone)	DuminD. J
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Nota di contenuto	<p>CONTENTS ; Foreword ; Oxide Wearout, Breakdown, and Reliability; 1. Introduction ; 2. Oxide Breakdown ; 3. Oxide Leakage Currents ; 4. Oxide Trap Generation ; 5. Statistics of Wearout and Breakdown ; 6. Reliability ; 7. Summary ; Reliability of Flash Nonvolatile Memories ; 1. Introduction</p> <p>2. Implications to Scaling and Reliability</p> <p>3. Dielectric Damage Caused by Program/Erase Cycling ; 4. Overerase Effects ; 5. Stress Induced Leakage Current and Post-Cycling Data Retention ; 6 Other Failure Mechanisms ; 7. Conclusions ; Physics and Chemistry of Intrinsic Time-Dependent Dielectric Breakdown in SiO<sub>2</sub> Dielectrics</p> <p>1. Introduction 2. Time-Dependent Dielectric Breakdown ; 3. Chemistry and Physics of Amorphous SiO<sub>2</sub> ; 4. Molecular Models for Dielectric Degradation ; 5. Electron and Hole Injection into SiO<sub>2</sub> ; 6. Role of Hole Capture in TDDB ; 7. Complementary Model for TDDB ; 8. Conditions Under Which the E and 1/E Models are Valid ; 9. Extension of the Complementary Model to Hyper-Thin SiO<sub>2</sub>; 10. Summary ; Breakdown Modes and Breakdown Statistics of Ultrathin SiO<sub>2</sub> Gate Oxides; 1. Introduction ; 2.</p>

Breakdown related to the generation of oxide defects  
; 3. Modeling the Breakdown Statistics  
4. Breakdown modes: Soft breakdown and Hard Breakdown  
5. Breakdown effectiveness, energy dissipation and device failure; 6.  
Conclusions ; MOSFET Gate Oxide Reliability: Anode Hole  
Injection Model and Its Applications  
; 1. Introduction ; 2. Development of the Anode Hole  
Injection Model ; 3. Recent  
Developments  
4. Gross-Defect Related Breakdown and Burn-in Model

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Sommario/riassunto

This book presents in summary the state of our knowledge of oxide reliability. The articles have been written by experts who are among the most knowledgeable in the field. The book will be an invaluable aid to reliability engineers and manufacturing engineers, helping them to produce and characterize reliable oxides. It can be used as an introduction for new engineers interested in oxide reliability, besides being a reference for engineers already engaged in the field.

*Contents:*

- Oxide Wearout, Breakdown, and Reliability (D J Dumin)
- Reliability of Flash Nonvol

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