



Semiconductor Material and Device Characterization

Dieter K. Schroder

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This *Third Edition* updates a landmark text with the latest findings. The *Third Edition* of the internationally lauded *Semiconductor Material and Device Characterization* brings the text fully up-to-date with the latest developments in the field and includes new pedagogical tools to assist readers. Not only does the *Third Edition* set forth all the latest measurement techniques, but it also examines new interpretations and new applications of existing techniques.

Semiconductor Material and Device Characterization remains the sole text dedicated to characterization techniques for measuring semiconductor materials and devices. Coverage includes the full range of electrical and optical characterization methods, including the more specialized chemical and physical techniques. Readers familiar with the previous two editions will discover a thoroughly revised and updated *Third Edition*, including:

Updated and revised figures and examples reflecting the most current data and information
260 new references offering access to the latest research and discussions in specialized topics
New problems and review questions at the end of each chapter to test readers' understanding of the material
In addition, readers will find fully updated and revised sections in each chapter.

Plus, two new chapters have been added:

Charge-Based and Probe Characterization introduces charge-based measurement and Kelvin probes. This chapter also examines probe-based measurements, including scanning capacitance, scanning Kelvin force, scanning spreading resistance, and ballistic electron emission microscopy.

Reliability and Failure Analysis examines failure times and distribution functions, and discusses electromigration, hot carriers, gate oxide integrity, negative bias temperature instability, stress-induced leakage current, and electrostatic discharge.

Written by an internationally recognized authority in the field, *Semiconductor Material and Device Characterization* remains essential reading for graduate students as well as for professionals working in the field of semiconductor devices and materials.

An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department.

Semiconductor Material and Device Characterization Details

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Amna Riaz says

if it gets open then its great

Kyle says

Very comprehensive for semiconductor device MEASUREMENTS, much in the same way Sze is comprehensive for device theory.
