Título:

Autor:

Editorial:

Tema:

Sinopsis

Precio: $1908.00

Año: 2006

Edición: 1ª

ISBN: 9781402049347

The technology trends of Microelectronics and Microsystems are mainly characterized by miniaturization down to the nano-scale, increasing levels of system and function integration, and the introduction of new materials, while the business trends are mainly characterized by cost reduction, shorter-time-to market and outsourcing. Combination of these trends leads to increasing design complexity, dramatically decreasing design margins and process windows, reducing product development and qualification times, increasing risks of failures, and increasing difficulties to meet quality, robustness and reliability requirements. Consequentially, thermo-mechanical related failures, accounting for more than 65% of the total reliability failures, become the bottleneck for both current and future product and technology developments.

From a mechanical engineering point of view, Microelectronics and Microsystems are multi-scale in both geometric and time domains, multi-process, multi-functionality, multi-disciplinary, multi-material/interface, multi-damage and multi-failure mode. Their responses in manufacturing, assembling, qualification tests and application conditions are strongly nonlinear and stochastic. Mechanics of Microelectronics is extremely important and challenging, in terms of both industrial applications and academic research.