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	Factors and System Design of High Power LED Packaging; 2.5 Development Trends and Roadmap; 2.5.1 Technology Needs; 2.5.2 Packaging Types 2.6 SummaryReferences; 3 Optical Design of High Power LED Packaging Module; 3.1 Properties of LED Light; 3.1.1 Light Frequency and Wavelength; 3.1.2 Spectral Distribution; 3.1.3 Flux of Light; 3.1.4 Lumen Efficiency; 3.1.5 Luminous Intensity, Illuminance and Luminance; 3.1.6 Color Temperature, Correlated Color Temperature and Color Rendering Index; 3.1.7 White Light LED; 3.2 Key Components and Packaging Processes for Optical Design; 3.2.1 Chip Types and Bonding Process; 3.2.2 Phosphor Materials and Phosphor Coating Processes; 3.2.3 Lens and Molding Process; 3.3 Light Extraction 3.4 Optical Modeling and Simulation3.4.1 Chip Modeling; 3.4.2 Phosphor Location for White LED Packaging; 3.5.1 Phosphor Location for White LED Packaging; 3.5.2 Phosphor Thickness and Concentration for White LED Packaging; 3.5.3 Phosphor Thickness and Concentration for White LED Packaging; 3.6.1 Co-design of Surface Micro-Structures of LED Chips and Packages; 3.6.2 Application Specific LED Packages; 3.7 Summary; References; 4 Thermal Management of High Power LED Packaging Module; 4.1 Basic Concepts of Heat Transfer; 4.1.1 Conduction Heat Transfer 4.1.2 Convection Heat Transfer4.1.3 Thermal Radiation; 4.1.4 Thermal Resistance; 4.2 Thermal Resistance Analysis of Typical LED Packaging; 4.3 Various LED Packages for Decreasing Thermal Resistance; 4.3.1 Development of LED Packaging; 4.3.2 Thermal Resistance Decrease for LED Packaging; 5.1.1 Fundamentals of Reliability (DfR) and Reliability Engineering; 5.1.1 Fundamentals of Reliability (DfR) and Reliability Engineering; 5.1.1 Fundamentals of Reliability (DfR) and Reliability Engineering; 5.1.1 Fundamentals of Reliability Test
Sommario/riassunto	"This book provides quantitative methods for optical, thermal, reliability modelling and simulation so that predictive quantitative modelling can be achieved"