

## **Design for X in LED Design, Fabrication, and Packaging**

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### **Abstract**

Design for X (DFX) is an engineering and design methodology that prioritizes a specific key aspect of a product or process. It concentrates on the design activities that directly impact that aspect, aiming to achieve the desired outcome. In this talk, we will present a proposed popular methodology of design for electronic packaging, DFX, where X refers to manufacturing, assembly, testing, reliability, maintenance, environment, and even cost. The design methodology is being adjusted to meet the requirements of a full lifecycle, so called “concept/cradle-to-grave” product responsibilities. We will also show some successful applications of DFX in light-emitting diodes (LEDs), including MOCVD equipment manufacture, the heteroepitaxial growth of GaN-based epitaxial layers, LED packaging and solid-state lighting products.