

純合金屬反射層之電流阻障層應用於氮化鎵發光二極體之研究

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摘要

近年來隨著發光二極體(Light-Emitting Diode, LED)技術成熟，發光二極體進軍照明市場儼然成為未來趨勢，如何製作出高亮度白光發光二極體為主要的課題。磊晶技術的提升，使得發光二極體的亮度與效率大幅度的增加，表面粗糙化技術也成功地增加內部出光效率。針對應用的需求，逐漸朝向大面積元件發展，但一般結構的大面積元件，容易造成p型電極下方的光會被電極本身吸收，加上會形成電流擁擠效應，造成光輸出功率的損耗。為了解決上述問題，本論文將討論具有反射之金屬材質配合電流阻障層應用於磊晶粗化之基板，比較於一般結構之粗化基板，本論文成功的提升光輸出功率10.8%。

關鍵詞：電流阻障層、反射層、磊晶表面粗化

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