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第三代半导体材料在LED产业上的发展和应用

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摘要 LED产业目前发展非常迅速,LED白光照明和全色显示的前景被普遍看好。宽禁带半导体在LED产业中的应用是推动LED产业向前发展的一个重要动力,并已成为很多国家研究和开发的热点。目前宽禁带半导体在LED产业中发展很快,其应用越来越广泛,相关技术也日渐成熟。综述了几种具有代表性的第三代半导体材料在LED产业中的发展和应用以及各自面临的问题。

关键词 宽禁带半导体材料 SiC GaN ZnO 金刚石 发光二极管

中图分类号: TN312.8; TN304

Development and Application of the 3rd-generation-semiconductors in LED Industry

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Abstract LED industry is developing very fast now. It's widely thought that the white illumination and full color display with LED have a bright future. Wide-band gap semiconductor is a significant impulse in pushing LED industry forward, which has been a hot spot of research and development in many countries. Now it is developing fast in LED industry with wider application and more perfect technology skills concerned. In this paper the development and application of several kinds of representative 3rd-generation-semiconductors in LED industry as well as the respective problems occurred subsequently are reviewed.

Key word wide-band gap semiconductor, SiC, GaN, ZnO, diamond, LED

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