

International Conference on Optics and Photonics in Taiwan, OPT'08, Taiwan, 2008
年 12 月 5-6 日: Fri-P1-302

Flip-Chip LED Design Based on PSO Algorithm

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Abstract

This study presents a modified flip-chip LED package for use in short-distance POF (Plastic Optical Fiber)-based communication systems. Furthermore, the proposed design is based on the PSO (Particle Swarm Optimization) algorithm to optimize a coupling efficiency in flip-chip LED design. Simulation results show that a maximum light coupling efficiency of 77.58% can be achieved with an underfill's refractive index of 1.53.

Key words : LED design;Communication;POF;PSO