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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Michelle K. Lee

Director of the United States Patent and Trademark Office



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(12) **United States Patent**
Wu et al.

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(54) **LED PACKAGE STRUCTURE WITH
STANDBY BONDING PADS FOR
INCREASING WIRE-BONDING YIELD AND
METHOD FOR MANUFACTURING THE
SAME**

(58) **Field of Classification Search** 257/E21.001,
257/E21.088, E33.055, E33.056
See application file for complete search history.

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Primary Examiner—Charles D Garber

Assistant Examiner—Mohsen Ahmadi

(74) *Attorney, Agent, or Firm*—Kile Goekjian Reed &
McManus PLLC

(75) **Inventors:** **Chao-Chin Wu**, Taipei (TW); **Shen-Ta Yang**, Taipei (TW)

(73) **Assignee:** **Paragon Semiconductor Lighting
Technology Co., Ltd.**, Taoyuan County
(TW)

(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
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H01L 21/00 (2006.01)
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438/23; 438/82; 257/E21.001; 257/E21.088;
257/E33.055; 257/E33.056

(57) **ABSTRACT**

An LED package structure with standby bonding pads for increasing wire-bonding yield includes a substrate unit, a light-emitting unit, a conductive wire unit and a package unit. The substrate unit has a substrate body and a plurality of positive pads and negative pads. The light-emitting unit has a plurality of LED chips. The positive electrode of each LED chip corresponds to at least two of the positive pads, and the negative electrode of each LED chip corresponds to at least two of the negative pads. Every two wires of the conductive wire unit are respectively electrically connected between the positive electrode of each LED chip and one of the at least two positive pads and between the negative electrode of each LED chip and one of the at least two negative pads. The package unit has a translucent package resin body on the substrate body to cover the LED chips.

8 Claims, 6 Drawing Sheets

