The United States of America

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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

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

(10) **Patent No.: US 9,433,103 B2**
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(54) **METHOD OF MANUFACTURING A MULTICHIP PACKAGE STRUCTURE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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See application file for complete search history.

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(57) **ABSTRACT**

A method of manufacturing a multichip package structure includes: providing a substrate body; placing a plurality of light-emitting chips on the substrate body, where the light-emitting chips are electrically connected to the substrate body; surroundingly forming surrounding liquid colloid on the substrate body to surround the light-emitting chips; naturally drying an outer layer of the surrounding liquid colloid at a predetermined room temperature to form a semidrying surrounding light-reflecting frame, where the semidrying surrounding light-reflecting frame has a non-drying surrounding colloid body disposed on the substrate body and a dried colloid outer layer totally covering the non-drying surrounding colloid body; and then forming a package colloid body on the substrate body to cover the light-emitting chips, where the semidrying surrounding light-reflecting frame contacts and surrounds the package colloid body.

5 Claims, 11 Drawing Sheets