

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213404 A1 Zhang et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) LIGHT-EMITTING DEVICE AND METHOD FOR MANUFACTURING THE SAME

(71) Applicant: ENKRIS SEMICONDUCTOR, INC,

Suzhou (CN)

Inventors: Liyang Zhang, Suzhou (CN); Kai

Cheng, Suzhou (CN)

Assignee: ENKRIS SEMICONDUCTOR, INC, (73)

Suzhou (CN)

Appl. No.: 18/319,471

(22)Filed: May 17, 2023

(30)Foreign Application Priority Data

Dec. 23, 2022 (CN) 20221 1666760.7

Publication Classification

(51) Int. Cl. H01L 33/18 (2006.01)H01L 33/06 (2006.01)H01L 33/42 (2006.01) H01L 33/50 (2006.01)H01L 33/60 (2006.01)

U.S. Cl.

CPC H01L 33/18 (2013.01); H01L 33/06 (2013.01); H01L 33/42 (2013.01); H01L

33/502 (2013.01); H01L 33/60 (2013.01)

(57)**ABSTRACT**

A light-emitting device and a method for manufacturing a light-emitting device are provided. The light-emitting device includes: a substrate, provided with at least one light guide channel through the substrate, wherein each of the at least one light guide channel comprises a first opening and a second opening opposite to the first opening, an area of a section of the second opening is greater than an area of a section of the first opening, the substrate comprises a first substrate and a second substrate stacked, and the second substrate is configured to control a direction of light output through the light guide channel; and a light-emitting structure, provided at a side of the substrate where the first opening is located, wherein the light-emitting structure comprises at least one light-emitting unit, each of the at least one light guide channel corresponds to at least one lightemitting unit.

