

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213218 A1 Chen et al.

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

(54) PACKAGE STRUCTURE AND METHOD FOR FORMING THE SAME

(71) Applicant: Taiwan Semiconductor

Manufacturing Company, Ltd.,

Hsinchu (TW)

(72) Inventors: Wei-Yu Chen, Hsinchu City (TW);

Chien-Hsun Lee, Hsin-chu County

(73) Assignee: Taiwan Semiconductor

Manufacturing Company, Ltd.,

Hsinchu (TW)

(21) Appl. No.: 18/167,095

(22) Filed: Feb. 10, 2023

Related U.S. Application Data

(60) Provisional application No. 63/435,325, filed on Dec. 26, 2022.

Publication Classification

(51) Int. Cl.

(2006.01)H01L 25/065

H01L 21/56 (2006.01) H01L 23/00 (2006.01)H01L 23/498 (2006.01)H01L 23/538 (2006.01)

(52) U.S. Cl.

CPC H01L 25/0657 (2013.01); H01L 21/565 (2013.01); H01L 23/49811 (2013.01); H01L 23/49838 (2013.01); H01L 23/5389 (2013.01); H01L 24/05 (2013.01); H01L 23/49827 (2013.01); H01L 2224/05569 (2013.01)

ABSTRACT (57)

A package structure including a first semiconductor die, at least one second semiconductor die conductive terminals and an insulating encapsulation is provided. The at least one second semiconductor die is stacked on and electrically connected to the first semiconductor die. The conductive terminals are disposed on and electrically connected to the first semiconductor die. The insulating encapsulation laterally encapsulates the first semiconductor die, the at least one second semiconductor die and the conductive terminals, wherein the conductive terminals protrude from a surface of the insulating encapsulation. Furthermore, a method for forming the above-mentioned is also provided.

