



US 20240213199A1

(19) **United States**

(12) **Patent Application Publication**  
**PARK et al.**

(10) **Pub. No.: US 2024/0213199 A1**

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

(54) **SEMICONDUCTOR PACKAGE AND  
METHOD OF FABRICATING THE SAME**

(71) Applicant: **Samsung Electronics Co., Ltd.,**  
Suwon-si (KR)

(72) Inventors: **Sungwoo PARK**, Suwon-si (KR);  
**Yongjae KIM**, Suwon-si (KR);  
**Heonwoo KIM**, Suwon-si (KR);  
**Seung-Kwan RYU**, Suwon-si (KR)

(73) Assignee: **Samsung Electronics Co., Ltd.,**  
Suwon-si (KR)

(21) Appl. No.: **18/227,646**

(22) Filed: **Jul. 28, 2023**

(30) **Foreign Application Priority Data**

Dec. 23, 2022 (KR) ..... 10-2022-0183175

**Publication Classification**

(51) **Int. Cl.**  
**H01L 23/00** (2006.01)  
**H01L 23/498** (2006.01)  
**H01L 25/065** (2006.01)

(52) **U.S. Cl.**

CPC ..... **H01L 24/13** (2013.01); **H01L 23/49816**  
(2013.01); **H01L 24/16** (2013.01); **H01L 24/17**  
(2013.01); **H01L 25/0657** (2013.01); **H01L**  
**2224/13017** (2013.01); **H01L 2224/16225**  
(2013.01); **H01L 2224/1703** (2013.01); **H01L**  
**2225/06517** (2013.01); **H01L 2225/06544**  
(2013.01); **H01L 2924/37001** (2013.01)

(57)

**ABSTRACT**

The present disclosure provides semiconductor packages and methods of fabricating the same. In some embodiments, a semiconductor package includes a substrate including first and second regions, a first pad on the first region, a second pad on the second region, a first dielectric layer on the first region and including a first opening exposing the first pad, a second dielectric layer on the second region and including a second opening exposing the second pad, a first bump structure on the first pad and in the first opening, and a second bump structure on the second pad and in the second opening. A thickness of the first dielectric layer is greater than a thickness of the second dielectric layer. A distance between the substrate and an uppermost end of the first bump structure is longer than a distance between the substrate and an uppermost end of the second bump structure.

