

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213285 A1 MORITA et al.

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

(54) SEMICONDUCTOR DEVICE AND **APPARATUS**

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(21)Appl. No.: 18/389,964

(22)Filed: Dec. 20, 2023

(30)Foreign Application Priority Data

Dec. 26, 2022 (JP) 2022-208801

Publication Classification

(51) Int. Cl. H01L 27/146 (2006.01) (52) U.S. Cl. CPC .. H01L 27/14636 (2013.01); H01L 27/14603 (2013.01)

(57)**ABSTRACT**

A semiconductor device is provided. The device includes a semiconductor layer which forms a part of first and second surfaces respectively, a wiring structure arranged on the second surface, and a pad. An opening portion for exposing the pad is provided in the first surface. The pad is arranged between the first surface and a wiring layer closest to the second surface among wiring layers arranged in the wiring structure, and has a third surface which partially exposed by the opening portion. An insulating portion forming a part of the second surface is embedded in the semiconductor layer. An outer edge of the insulating portion is arranged so as to surround an outer edge of the pad. A wall surface of the opening portion is formed by the semiconductor layer and the insulating portion, or formed by the insulating portion.

