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(19) **United States**(12) **Patent Application Publication****KIM et al.**(10) **Pub. No.: US 2022/0361339 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **SEMICONDUCTOR PACKAGE FOR IMPROVING POWER INTEGRITY CHARACTERISTICS**(71) Applicant: **SAMSUNG ELECTRONICS CO., LTD.**, Suwon-si (KR)(72) Inventors: **Junghwa KIM**, Seoul (KR); **Junso PAK**, Seongnam-si (KR); **Heeseok LEE**, Suwon-si (KR); **Moonseob JEONG**, Seongnam-si (KR); **Jisoo HWANG**, Hwaseong-si (KR)(21) Appl. No.: **17/591,734**(22) Filed: **Feb. 3, 2022**(30) **Foreign Application Priority Data**

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(57)

**ABSTRACT**

A semiconductor package including a circuit board including a first wiring region, a die mounting region surrounding the first wiring region, and a second wiring region surrounding the die mounting region; a plurality of wiring balls on the first wiring region and the second wiring region and spaced apart from one another, the plurality of wiring balls including a plurality of first wiring balls on the first wiring region and a plurality of second wiring balls on the second wiring region; a die on the die mounting region, the die including a plurality of unit chips spaced apart from one another, and a die-through region corresponding to the first wiring region and exposing the first wiring balls; and a plurality of die balls on the die and the die mounting region, the plurality of die balls being spaced apart from one another and electrically coupled to the circuit board.

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