



US 20240213887A1

(19) **United States**(12) **Patent Application Publication**  
**MATSUOKA et al.**(10) **Pub. No.: US 2024/0213887 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **POWER CONVERSION DEVICE****Publication Classification**(71) Applicant: **DENSO CORPORATION**, Kariya-city (JP)(72) Inventors: **Tetsuya MATSUOKA**, Kariya-city (JP); **Yuta HASHIMOTO**, Kariya-city (JP); **Masataka DEGUCHI**, Kariya-city (JP); **Tatsuya MURAKAMI**, Kariya-city (JP); **Yoshinori HAYASHI**, Kariya-city (JP)(73) Assignee: **DENSO CORPORATION**, Kariya-city (JP)(21) Appl. No.: **18/594,127**(22) Filed: **Mar. 4, 2024****Related U.S. Application Data**

(63) Continuation of application No. PCT/JP2022/036294, filed on Sep. 28, 2022.

(30) **Foreign Application Priority Data**

Oct. 15, 2021 (JP) ..... 2021-169738

(51) **Int. Cl.****H02M 7/537** (2006.01)**H02M 7/00** (2006.01)**H05K 7/20** (2006.01)(52) **U.S. Cl.**CPC ..... **H02M 7/537** (2013.01); **H02M 7/003** (2013.01); **H05K 7/20927** (2013.01)

(57)

**ABSTRACT**

In a power conversion device, first-phase semiconductor modules are successively arranged in a first direction to form a part of a first row. Second-phase semiconductor modules are successively arranged in the first direction to form a part of a second row while facing the first-phase semiconductor modules. Third-phase semiconductor modules are arranged in a second direction so that one of the third-phase semiconductor modules forms a part of the first row and another of the third-phase semiconductor modules forms a part of the second row. The first row and the second row have surfaces facing each other and from which output terminals protrude. Each of output conductors extends from a connected portion of an output terminal in a direction away from the third-phase semiconductor modules.

