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**Park et al.**(10) **Pub. No.: US 2024/0213875 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **MULTI-PHASE POWER CONVERTER AND  
CONTROL METHOD THEREOF****Publication Classification**(51) **Int. Cl.****H02M 1/084** (2006.01)**H02M 1/00** (2006.01)(52) **U.S. Cl.****CPC** ..... **H02M 1/084** (2013.01); **H02M 1/0019**  
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**ABSTRACT**

A multi-phase power converter and a control method thereof according to a preferred embodiment of the present disclosure can minimize a temperature deviation between switches by varying the magnitude of current to be handled by a power conversion module of the multi-phase power converter based on the temperature of the switch.

