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**SHIROTORI et al.**(10) **Pub. No.: US 2024/0179839 A1**(43) **Pub. Date: May 30, 2024**(54) **WIRING SUBSTRATE**(71) Applicant: **SHINKO ELECTRIC INDUSTRIES**  
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**ABSTRACT**

A wiring substrate includes a first wiring layer, an insulation layer covering the first wiring layer, a first through hole extending through the insulation layer and exposing part of the upper surface of the first wiring layer, and a second through hole arranged adjacent to the first through hole. The second through hole extends through the insulation layer in the thickness-wise direction and exposes part of the upper surface of the first wiring layer. A bottom portion of the first through hole is in communication with a bottom portion of the second through hole through a communication hole. A via wiring fills the first through hole, the second through hole, and the communication hole. A second wiring layer is formed integrally with the via wiring on the insulation layer.

