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Charbonneau et al.(10) **Pub. No.: US 2022/0361320 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **BACKPLANE FOOTPRINT FOR HIGH SPEED, HIGH DENSITY ELECTRICAL CONNECTORS****Publication Classification**(51) **Int. Cl.***H05K 1/02* (2006.01)*H01R 12/70* (2006.01)*H01R 12/71* (2006.01)*H05K 1/11* (2006.01)*H05K 3/42* (2006.01)(52) **U.S. Cl.**CPC *H05K 1/0245* (2013.01); *H01R 12/7082*(2013.01); *H01R 12/716* (2013.01); *H05K**1/115* (2013.01); *H05K 1/0251* (2013.01);*H05K 3/429* (2013.01); *H05K 1/0219*(2013.01); *H05K 2201/09727* (2013.01); *H05K**1/0225* (2013.01); *H05K 2201/096* (2013.01);*H05K 2201/09845* (2013.01)(71) Applicant: **Amphenol Corporation**, Wallingford, CT (US)(72) Inventors: **Marc Robert Charbonneau**, Bedford, NH (US); **Jose Ricardo Paniagua**, Newmarket, NH (US)(73) Assignee: **Amphenol Corporation**, Wallingford, CT (US)(21) Appl. No.: **17/872,082**(22) Filed: **Jul. 25, 2022****Related U.S. Application Data**

(60) Continuation of application No. 17/218,335, filed on Mar. 31, 2021, which is a division of application No. 16/666,536, filed on Oct. 29, 2019, now Pat. No. 10,993,314, which is a division of application No. 16/214,298, filed on Dec. 10, 2018, now Pat. No. 10,485,097, which is a division of application No. 15/452,096, filed on Mar. 7, 2017, now Pat. No. 10,187,972.

(60) Provisional application No. 62/305,049, filed on Mar. 8, 2016.

(57)

ABSTRACT

A printed circuit board includes a plurality of layers including attachment layers and routing layers; and columns of via patterns formed in the plurality of layers, wherein via patterns in adjacent columns are offset in a direction of the columns, each of the via patterns comprising: first and second signal vias forming a differential signal pair, the first and second signal vias extending through at least the attachment layers; and at least one conductive shadow via located between the first and second signal vias of the differential pair. In some embodiments, at least one conductive shadow via is electrically connected to a conductive surface film.

