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(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0352822 A1**
(43) **Pub. Date:** **Nov. 3, 2022**(54) **SWITCHED-MODE, HIGH BANDWIDTH,
HIGH IMPEDANCE POWER SUPPLY**5/24 (2013.01); *H02M 1/007* (2021.05);
H02M 3/003 (2021.05)(71) Applicant: **Keysight Technologies, Inc.**, Santa
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Marko Vulovic, Columbia, NJ (US)(21) Appl. No.: **17/246,619**(22) Filed: **May 1, 2021****Publication Classification**(51) **Int. Cl.***H02M 3/158* (2006.01)*H02M 1/00* (2006.01)*G01R 19/165* (2006.01)*H03K 5/24* (2006.01)*H02M 3/00* (2006.01)(52) **U.S. Cl.**CPC *H02M 3/1584* (2013.01); *H02M 1/0009*
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(57)

ABSTRACT

A switching converter has a first converter output for connection to a user load and a second converter output for connection to the user load. A first direct current rail power negative terminal has a first positive output and a first negative output connected to the second converter output. A second direct current rail power negative terminal has a second negative output and a second positive output connected to the first positive output. A first switch has a first positive terminal connected to the first positive output, a first negative terminal and a first control terminal. A second switch has a second positive terminal connected to the first negative terminal, a second negative terminal connected to the second negative output, and a second control terminal. A pulse width modulator has a first modulator output connected to the first control terminal, and a second modulator output connected to the second control terminal. An inductance is connected between the first converter output and the first negative terminal. A comparator controls the first pulse width modulator based on a voltage difference between a current measurement voltage that varies based on current through the inductance and a first set point voltage.

