US 20220368142A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0368142 A1**

Karczewski et al. (43) **Pub. Date: Nov. 17, 2022**

(54) **POWER SAVING CIRCUIT FOR EMBEDDED BATTERY APPLICATIONS**

(71) Applicant: **GoPro, Inc.**, San Mateo, CA (US)

(72) Inventors: **Casimir Karczewski**, Mountain View, CA (US); **Aaron O'Brien**, San Clara, CA (US); **Rajesh Madhur**, San Jose, CA (US); **Sameer Mysore Venugopal**, Milpitas, CA (US)

(21) Appl. No.: **17/875,686**

(22) Filed: **Jul. 28, 2022**

Related U.S. Application Data

(63) Continuation of application No. 16/229,846, filed on Dec. 21, 2018, now Pat. No. 11,404,889.

Publication Classification

(51) **Int. Cl.**

H02J 7/00	(2006.01)
H03K 17/687	(2006.01)
H03K 19/0185	(2006.01)

(52) **U.S. Cl.**

CPC ***H02J 7/0031*** (2013.01); ***H03K 17/687*** (2013.01); ***H03K 19/018507*** (2013.01)

(57) **ABSTRACT**

A battery-disconnect circuit may include a latch, a battery-disconnect subcircuit, and a power-enable subcircuit. The battery-disconnect subcircuit may be configured to control current leakage. The battery-disconnect subcircuit may be connected to the latch. The latch may be configured to maintain a power supply state of the battery-disconnect subcircuit, a no-power supply state of the battery-disconnect subcircuit, or both. The power-enable subcircuit may be connected to the battery-disconnect subcircuit. The power-enable subcircuit may be configured to switch the battery-disconnect subcircuit to the power supply state based on an enable signal. The power-enable subcircuit may be configured to switch the battery-disconnect subcircuit to the no-power supply state based on an off signal.