

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0235505 A1 SEJC et al.

Jul. 11, 2024 (43) **Pub. Date:**

(54) CIRCUIT FOR DEVICE TEMPERATURE **PROTECTION**

- (71) Applicant: ams-OSRAM Asia Pacific Pte. Ltd., Singapore (SG)
- Inventors: Ivan SEJC, Graz (AT); Cheng ZHANG, Graz (AT)
- 18/563,890 Appl. No.:
- PCT Filed: May 27, 2022 (22)
- (86) PCT No.: PCT/SG2022/050359

§ 371 (c)(1),

(2) Date: Nov. 23, 2023

(30)Foreign Application Priority Data

(GB) 2107532.0

Publication Classification

(51) Int. Cl. H03F 3/45 (2006.01)H03F 1/26 (2006.01)

U.S. Cl. CPC H03F 3/45968 (2013.01); H03F 1/26 (2013.01); H03F 2200/468 (2013.01)

(57)**ABSTRACT**

A circuit for device temperature protection is disclosed. The circuit comprises a Proportional-To-Absolute-Temperature (PTAT) voltage generator. The circuit also comprises at least one comparator. The PTAT voltage generator is configured to apply offset cancellation in a first clock phase. The at least one comparator is configured to evaluate an output of the PTAT generator in a second clock phase. A method of temperature protection of a device is also disclosed.

