

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2022/0416728 A1 SOGA et al.

Dec. 29, 2022 (43) **Pub. Date:**

(54) **POWER AMPLIFIER CIRCUIT**

(71) Applicant: Murata Manufacturing Co., Ltd., Kyoto (JP)

Inventors: Takashi SOGA, Kyoto (JP); Tsutomu OONARO, Kyoto (JP)

Appl. No.: 17/808,624 (21)Filed: (22)Jun. 24, 2022

(30)Foreign Application Priority Data

(JP) 2021-106867

Publication Classification

(51) Int. Cl.

H03F 1/30 (2006.01)H03F 3/24 (2006.01)H03F 3/195 (2006.01) (52) U.S. Cl.

CPC H03F 1/302 (2013.01); H03F 3/245 (2013.01); H03F 3/195 (2013.01); H03F 2200/451 (2013.01)

(57)ABSTRACT

A power amplifier circuit includes: a transistor which is supplied at a base with a bias current, amplifies an input signal, and outputs a current; a transistor which is connected at a base to the base of the transistor and in which a current commensurate with the current is input to a collector; a transistor which outputs a bias control signal which controls supply of the bias current; and a control circuit which is connected to the collector of the transistor and a gate of the transistor and controls a bias control signal on the basis of a reference current based on a reference signal and the

