



US 20220385265A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0385265 A1**
(43) **Pub. Date: Dec. 1, 2022**
YAMADERA et al.(54) **BONDED BODY**(71) Applicant: **NGK Insulators, Ltd.**, Nagoya-City
(JP)(72) Inventors: **Takahiro YAMADERA**, Nagoya-City
(JP); **Saki NAKAYAMA**,
Fujiyoshida-City (JP)(73) Assignee: **NGK Insulators, Ltd.**, Nagoya-City
(JP)(21) Appl. No.: **17/818,762**(22) Filed: **Aug. 10, 2022****Related U.S. Application Data**(63) Continuation of application No. PCT/JP2021/
042542, filed on Nov. 19, 2021.(30) **Foreign Application Priority Data**

Mar. 10, 2021 (JP) 2021-038022

Publication Classification(51) **Int. Cl.****H03H 9/02** (2006.01)**H03H 3/08** (2006.01)**H03H 9/25** (2006.01)(52) **U.S. Cl.**CPC **H03H 9/02574** (2013.01); **H03H 3/08**
(2013.01); **H03H 9/02559** (2013.01); **H03H**
9/25 (2013.01)

(57)

ABSTRACT

A bonded body has a supporting substrate composed of silicon, piezoelectric material substrate, and a bonding layer provided on a bonding surface of the supporting substrate and composed of a metal oxide. An amount of aluminum atoms on the bonding surface of the supporting substrate is 1.0×10^{11} to 1.0×10^{15} atoms/cm².

