



(11)

EP 3 018 696 B8

(12) **CORRECTED EUROPEAN PATENT SPECIFICATION**

(15) Correction information:
Corrected version no 1 (W1 B1)
Corrections, see
Bibliography INID code(s) 72, 73

(48) Corrigendum issued on:
22.12.2021 Bulletin 2021/51

(45) Date of publication and mention
of the grant of the patent:
17.11.2021 Bulletin 2021/46

(21) Application number: **14820214.6**

(22) Date of filing: **03.07.2014**

(51) Int Cl.:
H01L 21/18^(2006.01) H01L 21/20^(2006.01)
H01L 21/762^(2006.01) H01L 29/16^(2006.01)

(86) International application number:
PCT/JP2014/067777

(87) International publication number:
WO 2015/002266 (08.01.2015 Gazette 2015/01)

(54) **MANUFACTURING METHOD FOR SEMICONDUCTOR SUBSTRATE**
VERFAHREN ZUR HERSTELLUNG EINES HALBLEITERSUBSTRATS
PROCÉDÉ DE FABRICATION D'UN SUBSTRAT SEMI-CONDUCTEUR

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR

(30) Priority: **05.07.2013 JP 2013142151**

(43) Date of publication of application:
11.05.2016 Bulletin 2016/19

(73) Proprietors:
• **SICOXS CORPORATION**
Tokyo, 101-8629 (JP)
• **National Institute of Advanced Industrial Science**
and Technology
Tsukuba-shi, Ibaraki 3058564 (JP)

(72) Inventors:
• **IMAOKA Ko**
Kariya-shi,
Aichi, 4488671 (JP)
• **KOBAYASHI Motoki**
Tokyo, 101-8629 (JP)
• **UCHIDA Hidetsugu**
Tokyo, 101-8629 (JP)
• **YAGI Kuniaki**
Tokyo, 101-8629 (JP)

- **KAWAHARA Takamitsu**
Tokyo, 101-8629 (JP)
- **HATTA Naoki**
Tokyo, 101-8629 (JP)
- **MINAMI Akiyuki**
Tokyo, 101-8629 (JP)
- **SAKATA Toyokazu**
Tokyo, 101-8629 (JP)
- **MAKINO Tomoatsu**
Tokyo, 101-8629 (JP)
- **TAKAGI Hideki**
Tsukuba-shi,
Ibaraki 3058564 (JP)
- **KURASHIMA Yuuichi**
Tsukuba-shi,
Ibaraki 3058564 (JP)

(74) Representative: **Winter, Brandl - Partnerschaft**
mbB
Alois-Steinecker-Straße 22
85354 Freising (DE)

(56) References cited:
JP-A- 2000 091 176 JP-A- 2004 503 942
JP-A- 2005 252 550 JP-A- 2009 117 533
JP-A- 2010 541 230 US-A1- 2003 008 475

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 3 018 696 B8

- | | |
|--|--|
| <ul style="list-style-type: none"> • HIDEKI TAKAGI ET AL: "Transmission Electron Microscope Observations of Si/Si Interface Bonded at Room Temperature by Ar Beam Surface Activation", JAPANESE JOURNAL OF APPLIED PHYSICS, PART 1 (REGULAR PAPERS, SHORT NOTES & REVIEW PAPERS), vol. 38, no. 3A, 1 March 1999 (1999-03-01) , pages 1589-1594, XP055342121, • ESSIG S ET AL: "Fast atom beam-activated n-Si/n-GaAs wafer bonding with high interfacial transparency and electrical conductivity", JOURNAL OF APPLIED PHYSICS, AMERICAN INSTITUTE OF PHYSICS, US, vol. 113, no. 20, 28 May 2013 (2013-05-28) , pages 203512-203512, XP012174192, ISSN: 0021-8979, DOI: 10.1063/1.4807905 [retrieved on 2013-05-28] | <ul style="list-style-type: none"> • None |
|--|--|