507460396 08/26/2022

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7507289

| SUBMISSION TYPE: | RESUBMISSION |
|-----------------------|--------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| RESUBMIT DOCUMENT ID: | 507399775 |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| YOSHIHIRO NABE | 03/24/2014 |
| HIROSHI ASAMI | 03/20/2014 |
| YUJI TAKAOKA | 04/02/2014 |
| YOSHIMICHI HARADA | 05/21/2014 |

RECEIVING PARTY DATA

| Name: | SONY CORPORATION |
|-------------------|------------------|
| Street Address: | 1-7-1 KONAN |
| Internal Address: | MINATO-KU |
| City: | TOKYO |
| State/Country: | JAPAN |
| Postal Code: | 108-0075 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 17712889 |

CORRESPONDENCE DATA

Fax Number: (303)863-0223

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 303-863-9700

Email: sony@sheridanross.com SHERIDAN ROSS P.C. **Correspondent Name:** Address Line 1: 1560 BROADWAY

Address Line 2: **SUITE 1200**

Address Line 4: DENVER, COLORADO 80202-5141

| ATTORNEY DOCKET NUMBER: | 6810-686-DIV-CON-5 (SC) |
|-------------------------|-------------------------|
| NAME OF SUBMITTER: | JOANNA MONTGOMERY/ |
| SIGNATURE: | /Joanna Montgomery/ |
| DATE SIGNED: | 08/26/2022 |

Total Attachments: 6 source=20220826_Executed-Assign-Dec_6810-686-DIV-CON-5#page1.tif

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Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office

August 25, 2022

PTAS

SHERIDAN ROSS P.C. 1560 BROADWAY SUITE 1200 DENVER, CO 80202-5141



507399775

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The enclosed document has been examined and found non-recordable by the Assignment Recordation Branch of the U.S. Patent and Trademark Office. The reason(s) for non-recordation are stated below:

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Documents being resubmitted for recordation must reflect the corrected information to be recorded, the Document ID number referenced above and all pages from this submitted document. The original date of filing of this assignment document will be maintained if resubmitted with the appropriate correction(s) by **Tuesday**, **October 25**, **2022**, as outlined under 37 CFR 3.51. The resubmitted document must include a stamp with the official date of receipt under 37 CFR 3. Applicants may use the certified procedures under 37 CFR 1.8 or 1.10 for resubmission of the returned papers if they desire to have the benefit of the date of deposit in the United States Postal Service.

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Document ID: 507399775

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ANDREA FREEMAN
ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

2313:1450 - WWW PATENT REEL: 060918 FRAME: 0881

507399775 07/22/2022

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7446702

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| YOSHIHIRO NABE | 03/24/2014 |
| HIROSHI ASAMI | 03/20/2014 |
| YUJI TAKAOKA | 04/02/2014 |
| YOSHIMICHI HARADA | 05/21/2014 |

RECEIVING PARTY DATA

| Name: | SONY CORPORATION |
|-------------------|------------------|
| Street Address: | 1-7-1 KONAN |
| Internal Address: | MINATO-KU |
| City: | TOKYO |
| State/Country: | JAPAN |
| Postal Code: | 108-0075 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 17712889 |

CORRESPONDENCE DATA

Fax Number: (303)863-0223

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 303-863-9700

Email: sony@sheridanross.com
Correspondent Name: SHERIDAN ROSS P.C.
Address Line 1: 1560 BROADWAY

Address Line 2: SUITE 1200

Address Line 4: DENVER, COLORADO 80202-5141

| ATTORNEY DOCKET NUMBER: | 6810-686-DIV-CON-5 |
|-------------------------|---------------------|
| NAME OF SUBMITTER: | JOANNA MONTGOMERY |
| SIGNATURE: | /Joanna Montgomery/ |
| DATE SIGNED: | 07/22/2022 |
| | |

Total Attachments: 4

Alterney Dischel No.: 09792909-9168 Sony Ref. No.: SP232112US02

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

| Title of Invention | SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME |
|--|--|
| As the below r | numed inventor, I hershy declare that: |
| This declaration is directed to: | Off The attached application, or |
| | United States application or PCT international application number 14/199,124 filed on March 6, 2014 |
| The above-ide | mtified application was made or authorized to be made by me. |
| WHEREAS. | sm the original inventor or an original joint inventor of a claimed invention in the application. SONY CORPORATION , with offices at \$15.50. MINATOLVII, TONYO, 109,0075, JAMAN. |
| endinistick aars | NAN, MINATO-KU, TOKYO, 108-0075, JAPAN (hereinafter referred to as ASSIGNEE), is decisions of interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar in which may be granted therefor in the United States and in any and all foreign countries; |
| of which are his begal represent in and to any a any and all pri- Convention Be adheres, and to United States : | FORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sofficiency hereby acknowledged. I by these presents do hereby assign, sell and transfer unto said ASSIGNEE, its successors, assigns, and tatives, the entire right, title and interest in said invention, said application, including any divisions and commissions thereof, and and all Letters Patent of the United States, and countries livreign thereto, which may be granted for said invention, and in and to iority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American clating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America of any other benefits accurating or to accurate to use with respect to the filing of applications for patents or securing of patents in the and countries fireign thereto, and I hereby authorize and request the Commissioner of Patents to issue said United States Letters ASSIGNEE, as the assignee of the whole right, title and interest thereto: |
| designee, as / remuneration, | agree to execute all necessary or desimble and lowful future documents, including assignments in favor of ASSIGNEE or its ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of uses and countries foreign thereto; |
| application for | agree to properly execute and deliver and without further remuneration, such necessary or desirable and lassful papers for a foreign patents, for filling subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters may be granted for my alinessaid invention, as said ASSIGNEE thereof shall hereafter require and prepare at its own expense; |
| -application, sa | agree that ASSIGNEE will, upon its request, be provided primptly with all pertinent facts and documents relating to said and invention and said Letters Patent and legal equivalents in fureign countries as may be known and accessible to me and will a same in any interference or litigation related thereto; |
| And I hereby o this assignmen | covensus that no axisgment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with it and sale. |
| I bereby acknows than | owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of five (5) years, or both. |
| | E OF INVENTOR |
| Inventor: | Yoshihiro Nabe |
| Signature: | Yoshahiro Nabe |

Attorney Docket No.: 09792909-9168 Sony Ret. No.: SP232112US02

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

| Title of Invention | SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME |
|---|---|
| As the below | numed inventor, I benshy declare that: |
| This declarate is directed to: | on The attached application, or |
| | Ented States application or PCT international application number 14/199,124 |
| | filed as March 6, 2014 |
| The above-ide | attified application was made or authorized to be made by asc. |
| WHEREAS, | t am the original inventor or an original joint inventor of a claimed invention in the application. SONY CORPORATION , with offices at |
| *************************************** | NAN, MINATO-KU, TOKYO, 108-0075, JAPAN (becomafter referred to as ASSIGNEE), is desirous of |
| acquiring all i legal protects | interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar in which may be granted therefor in the United States and in any and all foreign countries; |
| of which are legal represent in and to any any and all pr Convention B adheres, and t United States Patent to said | FORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency hereby acknowledged. I by these presents do hereby assign, sell and transfer unto said ASSIGNEE, its successors, assigns, and tatives, the entire right, title and interest in said invention, said application, including any divisions and continuations thereof, and and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to iority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American clating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America o any other benefits accruing or to accrue to me with respect to the filing of applications for patents or securing of patents in the and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue said United States Letters ASSIGNEE, as the assignee of the whole right, title and interest thereto: |
| designee, as remuneration | agree to execute all necessary or desimble and lowful future documents, including assignments in favor of ASSIGNEE or its ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of uses and countries fineign thereto; |
| -application fo | agree to properly execute and deliver and without further remuneration, such necessary or desirable and fawful papers for a foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters may be granted for my aforesaid invention, as said ASSIGNEE thereof shall hereafter require and prepare at its own expense; |
| application, x | agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and logal equivalents in foreign countries as may be known and accessible to me and will a same in any interference or litigation related thereto; |
| And I hereby this assignme | covernment than no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with and sale. |
| | owledge that my willful false statement made in this declaration is punishable under 18 U.S.C. 1601 by fine or impresonment of five (5) years, or both |
| | IE OF INVENTOR |
| Inventor: | Hiroshi Asami Date March 20 , 26/4 |
| Signature: | <u> </u> |

Atturney Bucket No.: 09792909-9168 Sony Net. No.: SP232112US02

DECLARATION (37 CFR L63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR L76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

| Title of Invention | SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME | |
|--|---|--|
| As the below named inventor, I hereby declare that: | | |
| This declaration is directed to: | The attached application, or | |
| | Inited States application or PCT international application number14/199,124 | |
| | 6 ted 69 March 6, 2014 | |
| The above-identified application was made or authorized to be made by ms. | | |
| 1 believe that I am the original inventor or an original joint inventor of a daimed invention in the application. WHEBEAS, SONY CORPORATION | | |
| 3-7-1-KO | NAN, MINATO-KU, TOKYO, 108-0075, JAPAN (hereinalier relemed to as ASSIGNEE), is desirous of | |
| acquiring all interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar lagal protection which may be granted therefor in the United States and in any and all foreign countries. | | |
| NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged. I by these presents do hereby assign, sell and transfer unto said ASSIGNEE, its auccessors, assigns, and legal representatives, the entire right, title and interest in said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue said United States Letters Patent to said ASSIGNEE, as the assigner of the whole right, title and interest thereto: | | |
| And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuteration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries fireign thereto: | | |
| And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign papers, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters Patent which may be granted for my aforesaid invention, as said ASSIGNEE thereof shall hereafter require and prepare at its own expense; | | |
| And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or Hügatim related thereto: | | |
| And I hereby coverimt that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale. | | |
| I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of and states than five (3) years, or both. | | |
| LEGAL NAME OF INVENTOR | | |
| Inventor: | <u>/uji Takaoka</u> → Δργή <u>Σ ΔΣ/Κ</u> | |
| Signature: | <u> </u> | |

RECORDED: 07/22/2022

American Docket No.: 09792909-9168 Sony Ret. No.: SP232112US02

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT FOR SINGLE ASSIGNEE

| Fitte of Invention | SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME | |
|---|---|--|
| As the below named inventor, I hereby declare that: | | |
| This declaration is directed to: | 1 What interest is a superior of a superior of the state | |
| | United States application or PCT international application number 14/199,124 filed on March 6, 2014 | |
| The above-identified application was made or authorized to be made by me. | | |
| I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. WHEREAS, SONY CORPORATION , with offices at | | |
| 1-7-1 KO | SONY CORPORATION , with offices at NAN, MINATO-KU, TOKYO, 108-0075, JAPAN (hereinstiter referred to as ASSIGNEE), is desirant of referred to the ASSIGNEE). | |
| acquiring all interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar legal protection which may be granted therefor in the United States and in any and all foreign countries: | | |
| NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are bereby acknowledged, I by these presents do hereby assign, sell and transfer note said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patens of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accurately or to accurate to me with respect to the filling of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto; | | |
| And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto; | | |
| And I further agree to properly execute and deliver and without further remaneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining my reissue or reissues of any Letters Patent which may be granted for my aforesaid invention, as said ASSIGNEE thereof shall hereafter require and prepare in its own expense; | | |
| And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinem facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto; | | |
| And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale. | | |
| I havely acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (3) years, or both. | | |
| LEGAL NAME OF INVENTOR | | |
| Inventor: Yoshimichi Harada Date: May, 2/, 20/4 | | |
| Signature: Yoshimichi Harada | | |