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Attorney Docket No. 158093

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1. A. Name of conveying parties:

[1] Yosuke OTA
[2] Yoshiro HIROSE
[3] Naonori AKAE
[4] Yushin TAKASAWA

B. Additional name(s) of conveying party(ies) attached?
☐ Yes ☒ No

2. A. Name and address of receiving party:

HITACHI KOKUSAI ELECTRIC INC.
14-1, SOTOKANDA 4-CHOME,
CHIYODA-KU, TOKYO
1018980 JAPAN

B. Additional name(s) & address(es) attached?
☐ Yes ☒ No

3. A. Nature of conveyance:

☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

B. Execution Date: [1] - 07/17/2013;
[2] - 07/18/2013; [3] - 08/08/2013 and
[4] - 07/29/2013

4. A. Patent Application No. 13/976,673

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

C. Title of Application: METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE,
METHOD OF PROCESSING SUBSTRATE AND SUBSTRATE
PROCESSING APPARATUS

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: James A. Oliff

Address: **OLIFF & BERRIDGE, PLC**
P.O. Box 320850
Alexandria, VA 22320-4850
Phone Number: 703-836-6400
Fax Number: 703-836-2787
Email: email@oliff.com

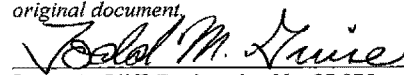
6. Total number of applications and patents involved: 1

7. Please charge Deposit Account No. 15-0461 the total fee (37 CFR 3.41) in the amount of \$40.00.

8. Credit any overpayment or charge any underpayment to deposit account number 15-0461.

9. **Statement and signature.**

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.



James A. Oliff, Registration No. 27,075
Todd M. Guise, Registration No. 46,748
Roane T. Noel, Registration No. 63,004

Date: August 27, 2013

PATENT

ASSIGNMENT

(1-8)	Insert Legal Name(s) of Inventor(s)	(1) <u>Yosuke OTA</u> (3) <u>Naonori AKAE</u> (5) _____ (7) _____	(2) <u>Yoshiro HIROSE</u> (4) <u>Yushin TAKASAWA</u> (6) _____ (8) _____
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In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, each undersigned agrees to assign, and hereby does assign, transfer and set over to

(9)	Insert Name of Assignee	(9) <u>HITACHI KOKUSAI ELECTRIC INC.</u>
(10)	Insert Address of Assignee	(10) <u>14-1, Sotokanda 4-chome, Chiyoda-ku, Tokyo 1018980 Japan</u>

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

(11)	Insert Identification such as Title, Case Number, or Foreign Application Number	(11) <u>METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE, METHOD OF PROCESSING SUBSTRATE AND SUBSTRATE PROCESSING APPARATUS</u> (Attorney Docket No. <u>158093</u>), filed on even date herewith or as
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(12)	Alternative Identification for filed applications	(12) U.S. Application Number <u>13/976,673</u> filed <u>August 27, 2013</u>
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- 1) Each undersigned agrees to execute all papers necessary in connection with any application and/or patent for the invention and also to execute separate assignments in connection with such applications and patents as the Assignee may deem necessary.
- 2) Each undersigned agrees to execute all papers necessary in connection with any interference or post-grant proceeding which may be declared concerning any application or patent for the invention and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or post-grant proceeding.
- 3) Each undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.
- 5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.
- 6) Each undersigned hereby grants the firm of OLIFF & BERRIDGE, PLLC the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	<u>July 17, 2013</u>	Inventor Signature	<u>Yosuke OTA</u>	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)
Date	_____	Inventor Signature	_____	(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date	_____	Witness	_____
Date	_____	Witness	_____

ASSIGNMENT

Insert	(1) Yosuke OTA	(2) Yoshiro HIROSE
(1-8) Legal Name(s)	(3) Naonori AKAE	(4) Yushin TAKASAWA
of Inventor(s)	(5) _____	(6) _____
	(7) _____	(8) _____

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(9) Insert Name of Assignee	(9) HITACHI KOKUSAI ELECTRIC INC.
(10) Insert Address of Assignee	(10) 14-1, Sotokanda 4-chome, Chiyoda-ku, Tokyo 1018980 Japan

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

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	filed August 27, 2013

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4) Each undersigned agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to the Assignee.

5) Each undersigned authorizes and requests the Commissioner of the U.S. Patent and Trademark Office to issue any and all patents resulting from said application(s) to the said Assignee, as Assignee of the entire interest, and covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed, and will not execute, any agreement(s) in conflict herewith, and agrees that this assignment is binding on Assignor and Assignor's heirs, successors, assigns and legal representatives.

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In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date _____	Inventor Signature _____ (SEAL)
Date <u>July 18, 2013</u>	Inventor Signature <u>Yoshiro Hirose</u> (SEAL)
Date <u>August 8, 2013</u>	Inventor Signature <u>Naonori Akae</u> (SEAL)
Date _____	Inventor Signature _____ (SEAL)
Date _____	Inventor Signature _____ (SEAL)
Date _____	Inventor Signature _____ (SEAL)
Date _____	Inventor Signature _____ (SEAL)
Date _____	Inventor Signature _____ (SEAL)

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Date _____	Witness _____
Date _____	Witness _____

ASSIGNMENT

Insert (1) Yosuke OTA (2) Yoshiro HIROSE
 (1-8) Legal Name(s) (3) Naomori AKAE (4) Yushin TAKASAWA
 of Inventor(s) (5) (6)
 (7) (8)

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(9) Insert Name of Assignee (9) HITACHI KOKUSAI ELECTRIC INC.
 (10) Insert Address of Assignee (10) 14-1, Sotokanda 4-chome, Chiyoda-ku, Tokyo 1018980 Japan

(hereinafter designated as the Assignee) and Assignee's heirs, successors, assigns and legal representatives, the entire right, title and interest for the United States of America as defined in 35 U.S.C. §100, in the invention, and in all applications for patent including any and all provisional, non-provisional, divisional, continuation, international, substitute and reissue application(s), and all Letters Patent, extensions, reissues and reexamination certificates that may be granted on the invention known as

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In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date <u>July 29 - 2013</u>	Inventor Signature <u>Yushin Takasawa</u>	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)
Date _____	Inventor Signature _____	(SEAL)

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. (b) a U.S. Consul if outside the U.S.A. If neither, then it should be signed before at least two witnesses who also sign here:

Date _____	Witness _____
Date _____	Witness _____

PATENT

RECORDED: 08/27/2013

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