# PATENT ASSIGNMENT COVER SHEET

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

**CONVEYING PARTY DATA**

| Name | Execution Date |
|---|---|
| TORU YUMOTO | 02/10/2016 |
| TOSHIYUKI HIRANO | 02/12/2016 |
| TAKAHIRO SAWAMURA | 02/16/2016 |
| AKIRA WATANABE | 02/02/2016 |

**RECEIVING PARTY DATA**

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| **City:** | TOKYO |
| **State/Country:** | JAPAN |
| **Postal Code:** | 101-8101 |
| **Name:** | TOHOKU UNIVERSITY |
| **Street Address:** | 1-1, KATAHIRA 2-CHOME, AOBA-KU, SENDAI-SHI |
| **City:** | MIYAGI |
| **State/Country:** | JAPAN |
| **Postal Code:** | 980-8577 |

**PROPERTY NUMBERS Total: 1**

| Property Type | Number |
|---|---|
| **Application Number:** | 15022317 |

**CORRESPONDENCE DATA**

**Fax Number:** (202)739-3001

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| **ATTORNEY DOCKET NUMBER:** | 100116-5079 |
| **NAME OF SUBMITTER:** | MARY JANE BOSWELL |

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|---|---|
| **SIGNATURE:** | /Mary Jane Boswell/ |
| **DATE SIGNED:** | 03/16/2016 |

**Total Attachments: 4**
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source=100116-5079_Assignments_03152016#page4.tif

# ASSIGNMENT

WHEREAS WE, the below named inventors, (hereinafter referred to as "Assignors"), have made an invention entitled:

SOLAR CELL, MANUFACTURING METHOD THEREFOR,
SEMICONDUCTOR DEVICE, AND MANUFACTURING METHOD THEREFOR

for which WE filed an application for United States Letters Patent on ____________, (Application No ____________); and

WHEREAS, **ASAHI KASEI KABUSHIKI KAISHA and TOHOKU UNIVERSITY,** whose post office address is **1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan ,and 1-1, Katahira 2-chome, Aoba-ku, Sendai-shi,Miyagi 980-8577 Japan** (hereinafter referred to as "Assignee") is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application of United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, WE, as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and WE hereby authorize and request the Director of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent of this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that WE have the full right to convey the interest assigned by this Assignment, and WE have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that WE will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to US respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set my hands.

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|---|---|
| Full Name of first Assignor | Toru YUMOTO |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | Toru Yumoto |
| Date | February 10, 2016 |
| Full Name of second Assignor | Toshiyuki HIRANO |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | Toshiyuki Hirano |
| Date | Feb. 12 2016 |

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| Full Name of third Assignor | Takahiro SAWAMURA |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | Takahiro Sawamura |
| Date | Feb. 16. 2016 |
| Full Name of fourth Assignor | Akira WATANABE |
| Address | c/o TOHOKU UNIVERSITY,1-1, Katahira 2-chome, Aoba-ku, Sendai-shi, Miyagi 980-8577 Japan |
| Signature | |
| Date | |

# ASSIGNMENT

WHEREAS WE, the below named inventors, (hereinafter referred to as "Assignors"), have made an invention entitled:

SOLAR CELL, MANUFACTURING METHOD THEREFOR,
SEMICONDUCTOR DEVICE, AND MANUFACTURING METHOD THEREFOR

for which WE filed an application for United States Letters Patent on ____________, (Application No ____________); and

WHEREAS, **ASAHI KASEI KABUSHIKI KAISHA and TOHOKU UNIVERSITY**, whose post office address is **1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan ,and 1-1, Katahira 2-chome, Aoba-ku, Sendai-shi,Miyagi 980-8577 Japan** (hereinafter referred to as "Assignee") is desirous of securing the entire right, title, and interest in and to this invention in all countries throughout the world, and in and to the application of United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from Assignee is hereby acknowledged, WE, as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof; and WE hereby authorize and request the Director of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent of this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, WE HEREBY covenant that WE have the full right to convey the interest assigned by this Assignment, and WE have not executed and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that WE will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to US respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

IN TESTIMONY WHEREOF, WE have hereunto set my hands.

| | |
|---|---|
| Full Name of first Assignor | Toru YUMOTO |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | |
| Date | |
| Full Name of second Assignor | Toshiyuki HIRANO |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | |
| Date | |

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|---|---|
| Full Name of third Assignor | Takahiro SAWAMURA |
| Address | 1-105, Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan |
| Signature | |
| Date | |
| Full Name of fourth Assignor | Akira WATANABE |
| Address | c/o TOHOKU UNIVERSITY,1-1, Katahira 2-chome, Aoba-ku, Sendai-shi, Miyagi 980-8577 Japan |
| Signature | Akira Watanabe |
| Date | Feb. 2, 2016 |