**PATENT ASSIGNMENT COVER SHEET**

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

### CONVEYING PARTY DATA

<table>
<thead>
<tr>
<th>Name</th>
<th>Execution Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>JHON-JHY LIAW</td>
<td>07/30/2015</td>
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</tbody>
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### RECEIVING PARTY DATA

<table>
<thead>
<tr>
<th>Name</th>
<th>TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Address</td>
<td>NO. 8, LI-HSIN ROAD 6</td>
</tr>
<tr>
<td>Internal Address</td>
<td>SCIENCE-BASED INDUSTRIAL PARK</td>
</tr>
<tr>
<td>City</td>
<td>HSIN-CHU</td>
</tr>
<tr>
<td>State/Country</td>
<td>TAIWAN</td>
</tr>
<tr>
<td>Postal Code</td>
<td>300-77</td>
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### PROPERTY NUMBERS Total: 1

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<tr>
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<tr>
<td>Application Number</td>
<td>14617467</td>
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### CORRESPONDENCE DATA

- **Fax Number:** (214)651-5940
- **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:** 214-651-5000
- **Email:** ipdocketing@haynesboone.com
- **Correspondent Name:** HAYNES AND BOONE, LLP IP SECTION
- **Address Line 1:** 2323 VICTORY AVENUE
- **Address Line 2:** SUITE 700
- **Address Line 4:** DALLAS, TEXAS 75219

### ATTORNEY DOCKET NUMBER:

24061.1464US02

### NAME OF SUBMITTER:

LADONNA JOHNSON

### SIGNATURE:

/ LaDonna Johnson/

### DATE SIGNED:

08/29/2015

Total Attachments: 2

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ASSIGNMENT

WHEREAS, I,

(1) Jhon-Jhy Liaw of No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77

have invented certain improvements in

SEMICONDUCTOR DEVICE WITH IMPROVED CONTACT STRUCTURE
AND METHOD OF FORMING SAME

for which I have executed an application for Letters Patent of the United States of America,

_____ of even date filed herewith; and

X filed on 14/617,467 and assigned application number February 9, 2015; and

WHEREAS, I authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., (“TSMC”), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, Republic of China is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, I have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and I hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND I HEREBY covenant that I have full right to convey the entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.
Inventor Name: Jhon-Jhy Liaw
Residence Address: No. 8, Li-Hain Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77
Dated: July 30, 2015
Inventor Signature: Jhon-Jhy Liaw