

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT3554678

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHIN-YUAN TSENG	06/24/2015
CHI-CHENG HUNG	06/24/2015
CHUN-KUANG CHEN	06/24/2015
RU-GUN LIU	06/24/2015
TSAI-SHENG GAU	06/24/2015
WEI-LIANG LIN	06/24/2015
DE-FANG CHEN	07/10/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
<b>Street Address:</b>	NO. 8, LI-HSIN ROAD 6,
<b>Internal Address:</b>	SCIENCE-BASED INDUSTRIAL PARK
<b>City:</b>	HSIN-CHU
<b>State/Country:</b>	TAIWAN
<b>Postal Code:</b>	300-77
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14689288
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(214)651-5940
<i>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.</i>	
<b>Phone:</b>	214-651-5000
<b>Email:</b>	ipdocketing@haynesboone.com
<b>Correspondent Name:</b>	HAYNES AND BOONE, LLP IP SECTION
<b>Address Line 1:</b>	2323 VICTORY AVENUE
<b>Address Line 2:</b>	SUITE 700
<b>Address Line 4:</b>	DALLAS, TEXAS 75219
<b>ATTORNEY DOCKET NUMBER:</b>	24061.3082US01
<b>NAME OF SUBMITTER:</b>	LADONNA JOHNSON
<b>SIGNATURE:</b>	/LaDonna Johnson/

PATENT

<b>DATE SIGNED:</b>	10/02/2015
<b>Total Attachments: 5</b> source=3082US01_Assignment#page1.tif source=3082US01_Assignment#page2.tif source=3082US01_Assignment#page3.tif source=3082US01_Assignment#page4.tif source=3082US01_Assignment#page5.tif	

Docket No.: P20141353US00/24061.3082US01  
Customer No.: 000042717

# ASSIGNMENT

WHEREAS, we,

- |     |                 |    |                                |
|-----|-----------------|----|--------------------------------|
| (1) | Chin-Yuan Tseng | of | Hsinchu, Taiwan, R.O.C.        |
| (2) | Chi-Cheng Hung  | of | Miaoli County, Taiwan, R.O.C.  |
| (3) | Chun-Kuang Chen | of | Hsinchu County, Taiwan, R.O.C. |
| (4) | De-Fang Chen    | of | Hsinchu City, Taiwan, R.O.C.   |
| (5) | Ru-Gun Liu      | of | Zhubei City, Taiwan, R.O.C.    |
| (6) | Tsai-Sheng Gau  | of | Hsinchu City, Taiwan, R.O.C.   |
| (7) | Wei-Liang Lin   | of | Hsinchu City, Taiwan, R.O.C.   |

have invented certain improvements in

## LITHOGRAPHIC TECHNIQUE INCORPORATING VARIED PATTERN MATERIALS

for which we have filed an application for Letters Patent of the United States of America on April 17, 2015, as U.S. Serial No. 14/689,288; and

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

Docket No.: P20141353US00/24061.3082US01

Customer No.: 000042717

AND WE HEREBY further covenant and agree that we 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.

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Inventor Name: Chin-Yuan TsengResidence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.Dated: 2015/06/24Chin-Yuan Tseng  
Inventor Signature

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Inventor Name: Chi-Cheng HungResidence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.Dated: 2015/06/24Chi-Cheng Hung  
Inventor Signature

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Inventor Name: Chun-Kuang ChenResidence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.Dated: 2015/06/24Chun-Kuang Chen  
Inventor Signature

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Inventor Name: De-Fang ChenResidence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: \_\_\_\_\_ ✓

\_\_\_\_\_  
Inventor Signature

Docket No.: P20141353US00/24061.3082US01  
Customer No.: 000042717

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Inventor Name: Ru-Gun Liu

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: 24 June 2015

Ru-Gun Liu  
Inventor Signature

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Inventor Name: Tsai-Sheng Gau

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: 6/24 2015

Tsai-Sheng Gau  
Inventor Signature

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Inventor Name: Wei-Liang Lin

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: 06/24/2015

Lin, Wei-Liang  
Inventor Signature

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| (4) | De-Fang Chen    | of | Hsinchu City, Taiwan, R.O.C.   |
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NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we 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 we 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 WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

Docket No.: P201413531-800/24061-30823-801

Customer No.: 000012117

AND WE HEREBY further covenant and agree that we 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: Chin-Yuan Tseng

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Inventor Signature

Inventor Name: Chi-Cheng Hung

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Inventor Signature

Inventor Name: Chun-Kuang Chen

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Inventor Signature

Inventor Name: De-Fang Chen

Residence Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park  
Hsin-Chu 300-77, Taiwan, R.O.C.

Dated: Jul. 10, 2015

*De-Fang Chen*  
Inventor Signature

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RECORDED: 10/02/2015

REEL: 036720 FRAME: 0049