

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
HAK-LAY CHUANG	04/28/2014
CHENG-CHENG KUO	04/28/2014
CHING-CHE TSAI	04/28/2014
MING ZHU	04/05/2014
BAO-RU YOUNG	04/28/2014
RECEIVING PARTY DATA	
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address:	NO. 8, LI-HSIN ROAD 6
Internal Address:	SCIENCE-BASED INDUSTRIAL PARK
City:	HSIN-CHU
State/Country:	TAIWAN
Postal Code:	300-77
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	14837016
CORRESPONDENCE DATA	
Fax Number:	(214)200-0853
<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>	
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Correspondent Name:	HAYNES AND BOONE, LLP IP SECTION
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Address Line 4:	DALLAS, TEXAS 75219
ATTORNEY DOCKET NUMBER:	20111007US3/24061.2830US3
NAME OF SUBMITTER:	ERIC Q. LI
SIGNATURE:	/Eric Q. Li/
DATE SIGNED:	08/27/2015

Total Attachments: 4

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Docket No.: 2011-1007-D / 24061.2830
Customer No.: 42717

ASSIGNMENT

WHEREAS, we,

- | | | | |
|-----|-----------------|----|---|
| (1) | Hak-Lay Chuang | of | 51 Paya Lebar Crescent
Singapore 536191 |
| (2) | Cheng-Cheng Kuo | of | 7F., No. 127, Puding 3 rd Rd., East District
Hsinchu City, Taiwan, R.O.C. 300 |
| (3) | Ching-Che Tsai | of | 15F, No. 93, Shengli 1st Road, Hsinchu County
Zhubei City, Taiwan, R.O.C. 302 |
| (4) | Ming Zhu | of | Block 688F, #13-74, Woodlands Drive 75
Singapore 736688 |
| (5) | Bao-Ru Young | of | No. 7, Lane 1, Liujia 2nd Street, Hsinchu County
Zhubei City, Taiwan, R.O.C. 302 |

have invented certain improvements in

N/P BOUNDARY EFFECT REDUCTION FOR METAL GATE TRANSISTORS

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

 of even date filed herewith; and
 X filed on April 1, 2014 and assigned application number 14/231,809; 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.

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: Hak-Lay Chuang

Residence Address: 51 Paya Lebar Crescent
Singapore 536176

Dated: 4-28-2014


Inventor Signature

Inventor Name: Cheng-Cheng Kuo

Residence Address: 6F, No. 37, Guancian Road, Hsinchu County
Zhubei City, Taiwan, R.O.C. 308

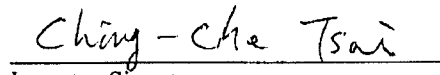
Dated: 4-28-2014


Inventor Signature

Inventor Name: Ching-Che Tsai

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Zhubei City, Taiwan, R.O.C. 302

Dated: 4-28-2014


Inventor Signature

Docket No.: 2011-1007-D / 24061.2830
Customer No.: 42717

Inventor Name: Ming Zhu

Residence Address: Block 688F, #13-74, Woodlands Drive 75
Singapore 736688

Dated: 2014/4/5


Inventor Signature

Inventor Name: Bao-Ru Young

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Zhubei City, Taiwan, R.O.C. 302

Dated: _____

Inventor Signature

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Customer No.: 42717

Inventor Name: Ming Zhu

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Singapore 736688

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Dated: 4-28-2014

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Inventor Signature