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PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Ya Hui Chang	04/27/2012

RECEIVING PARTY DATA

Name:	Taiwan Semiconductor Manufacturing Company, Ltd.	
Street Address:	No. 8, Li-Hsin Rd. 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:	13460971

CORRESPONDENCE DATA

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US Mail.

Correspondent Name: Haynes and Boone LLP
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Address Line 4: Dallas, TEXAS 75219

ATTORNEY DOCKET NUMBER:	24061.2030/2011-1288
NAME OF SUBMITTER:	David M. O'Dell

Total Attachments: 2

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PATENT REEL: 028494 FRAME: 0959 OF \$40.00 15460971

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Docket No.: 2011-1288 / 24061.2030

Customer No.: 42717

ASSIGNMENT

WHEREAS, I

Ya Hui Chang

of

12F-5, No. 419-1, Sec. 2, Gongdao 5th Road, East District Hsinchu City 300, Taiwan, R.O.C.

has invented certain improvements in

METHODS FOR FORMING TRENCHES

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

X of even date filed herewith; and filed on May 1, 2012 and assigned application number 13/460,971; 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, 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.

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Docket No.: 2011-1288 / 24061.2030

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Inventor Name:

Ya Hui Chang

Residence Address:

12F-5, No. 419-1, Sec. 2, Gongdao 5th Road, East District

Hsinchu City 300, Taiwan, R.O.C.

Dated: >0 12 / 4 / 27

<u>) に 内 に;</u> Inventor Signature

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RECORDED: 07/05/2012