

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Chih Hung Hsueh</td> <td>03/14/2013</td> </tr> <tr> <td>Wei-Te Wang</td> <td>03/14/2013</td> </tr> <tr> <td>Shao-Yu Chen</td> <td>03/14/2013</td> </tr> <tr> <td>Chun-Liang Fan</td> <td>03/14/2013</td> </tr> <tr> <td>Kuan-Chi Tsai</td> <td>03/14/2013</td> </tr> </tbody> </table>		Name	Execution Date	Chih Hung Hsueh	03/14/2013	Wei-Te Wang	03/14/2013	Shao-Yu Chen	03/14/2013	Chun-Liang Fan	03/14/2013	Kuan-Chi Tsai	03/14/2013
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<table border="1"> <tr> <td>Name:</td> <td>Taiwan Semiconductor Manufacturing Co., Ltd.</td> </tr> <tr> <td>Street Address:</td> <td>No. 8, Li-Hsin Rd. 6</td> </tr> <tr> <td>Internal Address:</td> <td>Hsin-Chu Science 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> </tr> </table>		Name:	Taiwan Semiconductor Manufacturing Co., Ltd.	Street Address:	No. 8, Li-Hsin Rd. 6	Internal Address:	Hsin-Chu Science Park	City:	Hsin-Chu	State/Country:	TAIWAN	Postal Code:	300-77
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CORRESPONDENCE DATA													
Fax Number: 2165020601 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 212-502-0600 Email: docketing@eschweilerlaw.com Correspondent Name: Eschweiler & Associates, LLC. Address Line 1: 629 Euclid Avenue, Suite 1000 Address Line 2: National City Bank Building Address Line 4: Cleveland, OHIO 44114													
ATTORNEY DOCKET NUMBER:	TSMCP251US												

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NAME OF SUBMITTER:	Thomas G. Eschweiler
Signature:	/Thomas G. Eschweiler/
Date:	04/03/2013
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U.S. Patent Appln. No.

Docket No. TSMCP251US

Filing Date:

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s):

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Assignee:

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Republic of China

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AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled
"PROCESS OF ULTRA THICK TRENCH ETCH WITH MULTI-SLOPE PROFILE"
 for which:

a non-provisional application for United States Letters Patent:

☒ was executed on even date preparatory to filing (each inventor should sign this
 Assignment on the same day as he/she signs the Declaration and Power of
 Attorney); or

☐ was filed on _____ and accorded U.S. Serial No. _____; or

☐ will be filed without this executed PATENT ASSIGNMENT. ASSIGNOR hereby
 authorizes and requests ASSIGNEE'S legal representatives, the attorneys
 associated with Customer No. _____, to insert below in this document this
 APPLICATION's U.S. Serial Number and filing date, when known:

U.S. Serial No. _____,

filed on _____.

WHEREAS, ASSIGNEE (listed above), a corporation of the Republic of China is
 desirous of acquiring the entire right, title and interest in and to the invention and in and to
 any letters patent that may be granted therefore in the United States and in any and all
 foreign countries;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of
 which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto
 ASSIGNEE its successors and assigns, the entire right, title and interest in and to said
 invention and improvements, said application and any and all letters patent which may be
 granted for said invention in the United States of America and its territorial possessions and
 in any and all foreign countries, and in any and all divisions, reissues, re-examinations and

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continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

2013.3.14
Date

Chih Hung Hsueh
Name 1st Inventor Chih Hung Hsueh

TSMC Docket No. TSMC2012-1360

U.S. Patent Appln. No.

Docket No. TSMCP251US

Filing Date:

2017.7.14
Date

Wei-Te Wang
Name ^{2nd} Inventor Wei-Te Wang

U.S. Patent Appln. No.

Filing Date:

TSMC Docket No. TSMC2012-1360

Docket No. TSMCP251US

2013.3.14
Date

Shao-Yu Chen
Name 3rd Inventor Shao-Yu Chen

U.S. Patent Appln. No.

Filing Date:

2013.3.14

Date

Chun-Liang Fan

Name 4th Inventor Chun-Liang Fan

TSMC Docket No. TSMC2012-1360

U.S. Patent Appln. No.

Docket No. TSMCP251US

Filing Date:

3/12/2013
Date

Kuan-Chi Tsai
Name 5th Inventor Kuan-Chi Tsai