

09-21-1998

SHEET

U.S. DEPT. OF COMMERCE  
Patent and Trademark Office

Y

TS98-046

To the Honorable Commissioner of Pat.

100834092

Original documents or copy thereof.

1. Name of conveying party(ies):

CHIA-TA HSIEH, YAI-FEN LIN, HUNG-CHENG SUNG,  
JAUNG KE YEH, KUO-REAY PENG AND  
DI-SON KUOAdditional name(s) or conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance

- ☒ Assignment ☐ Merger
- ☐ Security Agreement ☐ Change of Name
- ☐ other \_\_\_\_\_

Execution Date: 7/21/98

2. Name and address of receiving party(ies):

Name: Taiwan Semiconductor Manufacturing Company

Internal Address:

Street Address:

121 Park Ave. 3  
Science-Based Industrial Park  
City: Hsin-Chu Zip:  
Country: Taiwan, R.O.C.

Additional name(s) & address(es) attached? Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: 7/21/98A. Patent Application No(s)B. Patent No(s)Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: GEORGE O. SAILE

Internal Address: \_\_\_\_\_

Street Address: 20 MCINTOSH DRIVECity: POUGHKEEPSIE State: NY ZIP: 126036. Total no. of applications and patents involved: 17. Total fee (37 CFR 3.41): \$ 40.00☐ Enclosed☒ Authorized to be charged to deposit acct.8. Deposit account number: 19-0033

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief the foregoing information is true and correct and any attached copy is a true copy of the original document

GEORGE O. SAILE

Name of Person Signing

George O. Saile

Signature

9/8/98

Date

09/21/1998 TT011 00000020 190033 09151154

01 FC:581

40.00 CH

Total number of pages comprising cover sheet: 3PATENT  
REEL: 9456 FRAME: 0477

For ☒ U.S. and/or ☒ Foreign Rights

For ☒ Application or ☐ U.S. Patent

By ☒ Inventor(s) or ☐ Present Owner

### ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

#### ASSIGNOR:

Chia-Ta Hsieh  
Type or print name of ASSIGNOR

No. 7, Lane 133, Tung-Fung Rd,  
Address

Tainan, Taiwan

Republic of China  
Nationality

HUNG-CHENG SUNG  
Type or print name of ASSIGNOR

No. 31, Alley 1, Lane 30, Fu-chjun st.  
Address

Hsin-chu, Taiwan

Republic of China  
Nationality

Yai-Fen Lin  
Type or print name of ASSIGNOR

No. 491, Ren Huok Rd, Taichung,  
Address

Taiwan

Republic of China  
Nationality

#### ASSIGNEE:

**Taiwan Semiconductor Manufacturing Co. Ltd.**  
**121 Park Ave. 3**  
**Science-Based Industrial Park**  
**Hsin-Chu, Taiwan, R.O.C.**  
**Taiwan, R.O.C.**  
Nationality

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

- ☒ the entire right, title and interest
- ☐ an undivided \_\_\_\_\_ percent (\_\_\_\_%) interest for the United States and its territorial possessions  
(check the following box if foreign rights are also to be assigned)
- ☒ and in all foreign countries

in and to any and all improvements which are disclosed in the invention entitled:

**A Method To Make Self-Aligned Source Etching Available In Split-Gate Flash**

For ☒ U.S. and/or ☒ Foreign Rights

For ☒ Application or ☐ U.S. Patent

By ☒ Inventor(s) or ☐ Present Owner

### ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

#### ASSIGNOR:

Jung-Ke Yeh  
Type or print name of ASSIGNOR

No. 98-101, Fan-ze Po, Tai-Ho Le  
Address

Chu-Pei, Hsin-Chu, Taiwan

Republic of China  
Nationality

Di-Son Kuo  
Type or print name of ASSIGNOR

P.O. Box 19-296  
Address

Hsinchu, Taiwan

USA  
Nationality

Kao-Reay Peng  
Type or print name of ASSIGNOR

No. 49, Lane 15, Bin-San Street  
Address

Tung-San, Taiwan, R.O.C.

R.O.C.  
Nationality

#### ASSIGNEE:

**Taiwan Semiconductor Manufacturing Co. Ltd.**

**121 Park Ave. 3**

**Science-Based Industrial Park**

**Hsin-Chu, Taiwan, R.O.C.**

**Taiwan, R.O.C.**

Nationality

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

☒ the entire right, title and interest

☐ an undivided \_\_\_\_\_ percent (\_\_\_\_%) interest for the United States and its territorial possessions

(check the following box if foreign rights are also to be assigned)

☒ and in all foreign countries

in and to any and all improvements which are disclosed in the invention entitled:

**A Method To Make Self-Aligned Source Etching Available In Split-Gate Flash**

and which is found in

- (a) ☒ U.S. patent application executed on even date herewith  
(b) ☐ U.S. patent application executed on \_\_\_\_\_  
(c) ☐ U.S. application serial no. \_\_\_\_\_ filed on \_\_\_\_\_  
(d) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_  
(e) ☐ and any legal equivalent thereof in a foreign country, including the right to claim priority

(also check (e) if foreign application(s) is also being assigned)

and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I / We have signed this

July 21, 1998 (Date of signing)

WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.

Chia-Ja Hsieh  
Signature of ASSIGNOR(S)  
Yai-Fen Lin  
Hezychey Sung

If ASSIGNOR is a legal entity complete the following information

\_\_\_\_\_  
Type or print the name of the above person authorized to sign on behalf of ASSIGNOR

\_\_\_\_\_  
Title

Note: No witnessing, notarization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facie evidence (35 USC 261). Use next page if notarization is desired.

\_\_\_Notarization of Legalization Page Added.

and which is found in

- (a) ☒ U.S. patent application executed on even date herewith
- (b) ☐ U.S. patent application executed on \_\_\_\_\_
- (c) ☐ U.S. application serial no. \_\_\_\_\_ filed on \_\_\_\_\_
- (d) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_  
(also check (e) if foreign application(s) is also being assigned)
- (e) ☐ and any legal equivalent thereof in a foreign country, including the right to claim priority

and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I / We have signed this

July 21, 1998 (Date of signing)

**WARNING** Date of signing must be the same as the date of execution of the application if item (a) was checked above.

Jimmy Lee Yeh  
Signature of ASSIGNOR(S)  
Kuo-Beang Peng  
Dr. Lon Kuo

If ASSIGNOR is a legal entity complete the following information

\_\_\_\_\_  
Type or print the name of the above person authorized to sign on behalf of ASSIGNOR

\_\_\_\_\_  
Title

Note: No witnessing, notarization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facie evidence (35 USC 261). Use next page if notarization is desired.

\_\_\_\_ Notarization of Legalization Page Added.