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JC978 U.S. PTO 10/068055 02/05/02

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

CHIH-YANG PAI, BI-LING CHEN, MIN-HWA CHI

02/05/02

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) or conveying party(ies) attached?  Yes  No

3. Nature of conveyance

- Assignment  Merger  Security Agreement  Change of Name  other

Execution Date: 10/12/01

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: 10/12/01

A. 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 DRIVE

City: POUGHKEEPSIE State: NY ZIP: 12603

6. Total no. of applications and patents involved: 1

7. 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)

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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

STEPHEN B. ACKERMAN

Name of Person Signing

Signature

2/5/02

Date

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:

**CHIH-YANG PAI**  
Type or print name of ASSIGNOR  
4F, NO.12, Alley 64, Lane 271, Wookin Rd.  
Address  
Hsin-chu, Taiwan  
Republic of China, Taiwan  
Nationality

**BI-LING CHEN**  
Type or print name of ASSIGNOR  
1F, No. 7, Alley 2, Lane 437, Sec. 1,  
Address  
Neihu Rd., Neihu Chin, Taipei, Taiwan 114  
R.O.C., Republic of China, Taiwan  
Nationality

**MIN-HWA CHI**  
Type or print name of ASSIGNOR  
No. 27, 6F-27, Shih-Ping Rd.,  
Address  
Hsin-chu, Taiwan.  
U.S.A.  
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/f 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 Of Forming Shallow Trench Isolation With Rounded Corners And Divot-Free By Using In-Situ Formed Spacers**

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

Oct. 12, 2001 (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.

Chih - Yang Pai  
 SIGNATURE OF ASSIGNOR(S)  
Min-Hua Chiu  
Bi-Liang Chen

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.