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FILE NO. A32963

U.S. DEPARTMENT OF COMMERCE

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To the Honorable Commissioner of Patents and Ti

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d documents or copy thereof.

1. Name of conveying party(ies): Jian-Hsing Lee, Yi-Hsun Wu, Shui-Hung Chen and Jiaw-Ren Shih

Additional name(s) of conveying party(ies) attached?

[] Yes [X] No

3. Nature of conveyance:

[X] Assignment [] Merger
[] Security Agreement [] Change of Name

[] Other _____

Execution Date: January 10, 2000

2. Name and address of receiving party(ies)

Name: Taiwan Semiconductor Manufacturing Co., Ltd.

Address: No. 9, Creation Rd. 1, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.

City: _ State: _ Zip: _

Additional name(s) and address(es) attached?

[] Yes [X] No

JC690 U.S. PRO

09/494682



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 January 10, 2000

A. Patent Application No.(s)

B. Patent No.(s)

09/494682

Additional numbers attached?

[] Yes [X] No

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

Name: Ronald B. Hildreth

BAKER BOTTS L.L.P.

Address: 30 Rockefeller Plaza - 44 Fl.

City: New York State: NY Zip: 10112

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):

\$ 40.00

[X] Enclosed

[] Authorized to be charged to deposit account

8. Deposit account number:

02-4377

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9. Statement and signature

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

Ronald B. Hildreth, PTO# 19,498

Name of Person Signing

Signature

January 31, 2000

Date

Total number of pages including cover sheet, attachments and document:

3

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PATENT
REEL: 010575 FRAME: 0945

ASSIGNMENT

A 32 963

This assignment agreement is applicable to an invention entitled (Invention Title) _____
NOVEL N-TYPE STRUCTURE FOR N-TYPE PULL-UP AND DOWN I/O
PROTECTION CIRCUIT

The PATENT RIGHTS referred to in this agreement are:

(check one) ☐ a patent application for this invention, executed by the ASSIGNOR(S)
concurrently with this assignment.

☐ U.S. patent application Serial No. _____, filed _____

☐ a U.S. patent application based on PCT International Application
No. _____ filed on (date) _____ (U.S. patent application
Serial No. _____, if known).

☐ U.S. patent No. _____, issued _____.

The PATENT RIGHTS also include all divisions reissues, continuations and extensions of the
patents and patent applications identified above.

The PATENT RIGHTS assigned under this agreement are:

(check one) ☐ U.S. patent rights only.

☐ Worldwide patent rights. In this case, the assignee shall have the right to
claim the benefit of the filing date of any U.S. or foreign patent application
for this invention.

The ASSIGNOR(S) referred to in this agreement is (or are) the inventor(s) whose signatures
appear on page 2 of this Assignment and any Supplemental Sheet(s).

The ASSIGNEE referred to in this agreement is:

(Name of Assignee) TAIWAN, SEMICONDUCTOR MANUFACTURING CO., LTD.

(Address) NO. 9, CREATION RD. 1, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU,
TAIWAN, R.O.C.

The ASSIGNEE is:

(check one) ☐ An individual.

☐ A Partnership.

☐ A Corporation of TAIWAN, R.O.C. (specify state or country)

☐ (other) _____

The ASSIGNOR(S), in consideration of \$10.00 paid by the ASSIGNEE, and other good and
valuable consideration, receipt of which is acknowledged, hereby assign(s) the following
rights to the ASSIGNEE, its successors and assigns:

the full and exclusive right to the invention;

the entire right, title and interest in and to the PATENT RIGHTS;

the right to sue and recover for any past infringement;

the right to claim priority under 35 USC 119, 35 USC 120, or any other applicable provisions,
based on any earlier patent applications for this invention.

PATENT

REEL: 010575 FRAME: 0946

THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO
ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
INVENTION TITLE: NOVEL N-TYPE STRUCTURE FOR N-TYPE PULL-UP
AND DOWN I/O PROTECTION CIRCUIT

As to all U.S. patent applications assigned under this agreement, the ASSIGNOR(S) hereby authorize(s) and request(s) the Commissioner of Patents and Trademark to issue all Letters Patent to the ASSIGNEE as the assignee of the entire right, title and interest, for the sole use and enjoyment of said ASSIGNEE, its successors and assigns.

Further, the ASSIGNOR(S) agree(s) to communicate to said ASSIGNEE, or its representatives, any fact known to the ASSIGNOR(S) with respect to said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and all Letter Patent to be issued to said ASSIGNEE, make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention.

The ASSIGNOR(S) authorize(s) the attorneys and agents who have the power of attorney in this application to check any appropriate boxes and to insert the Serial Number and filing date in this document after it has been excuted.

<u>Jian-Hsing LEE</u>	<u>Jian-Hsing Lee</u>	<u>1/10/2000</u>
Name of sole or first inventor	Signature	Date
<u>Yi-Hsun WU</u>	<u>Yi-Hsun Wu</u>	<u>1/10/2000</u>
Name of second inventor, if any	Signature	Date
<u>Shui-Hung CHEN</u>	<u>Shui-Hung Chen</u>	<u>1/10/2000</u>
Name of third inventor, if any	Signature	Date
<u>Jiaw-Ren SHIH</u>	<u>Jiaw-Ren Shih</u>	<u>1/10/2000</u>
Name of fourth inventor, if any	Signature	Date
_____	_____	_____
Name of fifth inventor, if any	Signature	Date
_____	_____	_____
Name of sixth inventor, if any	Signature	Date
_____	_____	_____
Name of seventh inventor, if any	Signature	Date
_____	_____	_____
Name of eighth inventor, if any	Signature	Date