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PTO-1595



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R SHEET U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

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

1 Name of conveying party(ies):

Yeur-Luen Tu
Chia-Shiung Tsai
Min-Hwa Chi

1-15-02

2 Name and address of receiving party(ies):

Taiwan Semiconductor Manufacturing Co. Ltd.
No. 121 Park Avenue 3
Science-Based Industrial Park
Hsin-Chu, Taiwan, R.O.C.

3 Nature of conveyance:

- Assignment Merger
- Security Agreement Change of Name
- Other:
Execution Date: November 26, 2001

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

J1017 U.S. PTO
10/053151
01/15/02

4 Application number(s) or patent number(s): 10,053151

If this document is being filed together with a new application, the execution date of the application is: 11-26-01

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:

RANDY W. TUNG
Tung & Associates
838 W. Long Lake Road
Suite 120
Bloomfield Hills, Michigan 48302

6 Total number of applications and patents involved:

1

7 Total fee (37 CFR 3.41) **\$40.00**

- Enclosed
- Authorized to charge credit card (w/filing fee)

8 Deposit Account Number: 50-0484

(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.

Randy W. Tung
Name of Person Signing
Registration No. 31,311

[Signature]
Signature

January 15, 2002
Date

Total number of pages including cover sheet, attachments, and document : 3

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

67,200-455

PATENT
REEL: 012511 FRAME: 0638

ASSIGNMENT

WHEREAS, we, YEUR-LUEN TU, CHIA-SHIUNG TSAI and MIN-HWA CHI have invented certain improvements in CAPACITOR UNDER BITLINE (CUB) MEMORY CELL STRUCTURE EMPLOYING AIR GAP VOID ISOLATION for which we are about to make application for Letters Patent of the United States; and

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. of No. 121, Park Avenue 3, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C, is desirous of acquiring the entire right, title and interest in and to said invention;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, we, YEUR-LUEN TU, CHIA-SHIUNG TSAI and MIN-HWA CHI, by these presents, do hereby sell, assign and transfer unto the said corporation and its assigns, for the territory of the United States of America and all foreign countries, the entire right, title and interest, including all priority rights under the International Convention associated with each country of the Union, in and to said invention as described in the patent application executed by us on the 26th day of November, 2001, preparatory to obtaining Letters Patent of the United States thereon, and in and to said application and any Letters

Patent that may be granted in pursuance of said application and any divisional, continuation or continuation-in-part application thereof, and in and to any reissue of any such patent, and in and to any patent applications which may be filed on said invention in countries foreign to the United States and any Letters Patent granted thereon.

We further authorize said corporation to apply for foreign patents on said invention in its own name or through its designees, including subsidiaries, related companies or assignees, under the International Convention or otherwise, and we further agree to execute all papers, including those required for the United States and foreign applications, and to perform such other proper acts as said corporation or its designees the rights herein assigned.


YEUR-LUEN TU


CHIA-SHIUNG TSAI


MIN-HWA CHI

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