

08-17-2006



DEPARTMENT OF COMMERCE  
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To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies):**

Yi-ching LIN (5/5/2006), Chun-Yao CHEN  
(5/5/2006), Chen-Jong WANG (5/5/2006), Shou-  
Gwo WUU (5/5/2006),

Additional name(s) of conveying party(ies) attached? ☒ Yes ☐ No

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s): in parentheses after inventor name

- ☒ Assignment ☐ Merger ☐ Change of Name  
☐ Security Agreement ☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other

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

Name: TAIWAN SEMICONDUCTOR MANUFACTURING CO.,  
LTD.

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

Street Address: \_\_\_\_\_

No. 8, Li-Hsin Rd. 6  
Science-Based Industrial Park

City: Hsin-Chu

State: \_\_\_\_\_

Country: Taiwan ROC Zip: 300-77

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

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

A. Patent Application No.(s)

11/437,673

☐ This document is being filed together with a new application.

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

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

Name: Joe McKinney Muncy  
BIRCH, STEWART, KOLASCH & BIRCH,  
LLP

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Fax Number: (703) 205-8050

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**6. Total number of applications and patents involved:**

1

**7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00**

- ☐ Authorized to be charged by credit card  
☐ Authorized to be charged to deposit account  
☒ Enclosed  
☐ None required (government interest not affecting title)

**8. Payment Information**

- a. Credit Card Last 4 Numbers \_\_\_\_\_  
Expiration Date \_\_\_\_\_  
b. Deposit Account Number \_\_\_\_\_  
Authorized User Name \_\_\_\_\_

**9. Signature:**

Signature

Joe McKinney Muncy - 32,334

Name of Person Signing

August 14, 2006

Date

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

5

08/16/2006 DBYRNE 00000112 11437673

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( 40.00 OP )

RECORDATION FORM COVER SHEET  
(continued)

## Additional Conveying Party(ies)/Execution Date(s) (1. Continued):

Chung S. WANG (5/8/2006), Chien-Hua HUANG (5/8/2006), Kun-Lung CHEN (5/8/2006), and Ping YANG (8/8/2006)

## Additional Assignees (2. Continued):

Assignee Name: \_\_\_\_\_

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

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_ Zip: \_\_\_\_\_

Assignee Name: \_\_\_\_\_

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

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_ Zip: \_\_\_\_\_

Assignee Name: \_\_\_\_\_

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

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_ Zip: \_\_\_\_\_

## Additional Applications and/or Patents (4. Continued):

Additional Patent Application Numbers

4A. Continued:

Additional Patent Numbers

4B. Continued:

Additional numbers attached?

☐

Yes

☐

No

## ASSIGNMENT

WHEREAS, Yi-Ching LIN, Chun-Yao CHEN, Chen-Jong WANG, Shou-Gwo WUU, Chung S. WANG, Chien-Hua HUANG, Kun-Lung CHEN and Ping YANG hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

Title 1T MIM Memory for Embedded RAM Application in SoC

Filed: May 22, 2006 Serial No. 11/437,673

Executed on: May 5, 2006, May 8, 2006 and August 8, 2006

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd. of No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, R.O.C. hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignor had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

TSMC2005-0363/0503-A31801US

Yi-Ching Lin  
Yi-Ching LIN

May 5, 2006  
Date:

Chun-Yao Chen  
Chun-Yao CHEN

May 5, 2006  
Date:

Chen-Jong Wang  
Chen-Jong WANG

May 5, 2006  
Date:

Shou-Gwo WU  
Shou-Gwo WU

May 5, 2006  
Date:

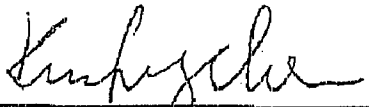
Chung S. WANG  
Chung S. WANG

May 8, 2006  
Date:

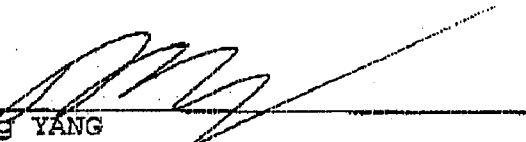
Chien-Hua HUANG  
Chien-Hua HUANG

May 8, 2006  
Date:

TSMC2005-0363/0503-A31801US

  
Kun-Lung CHEN

May 8, 2006  
Date:

  
Ping YANG

8/3/2008  
Date:

TSMC2005-0363/0503-A31801US

TOTAL P.08

PATENT

RECORDED: 08/14/2006

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