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FORM PTO-1595

EET

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(Rev. 10/02)

OMB No. 0651-0027 (exp. 6/30/2005)



102950856

To the Honorable Commissioner of Patents and Trademarks and original documents or copy thereof.

1. Name of conveying part(ies):

- (1) Chun-Lin TSAI
- (2) Denny D. TANG
- (3) Chih-Min CHIANG
- (4) Kuan-Lun CHANG
- (5) Tsyr SHYANG
- (6) Ruey-Hsin LIU

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

2. Name and address of receiving party(ies)

Name: Taiwan Semiconductor Manufacturing Co., Ltd.

Street Address: No. 8, Li-Hsin Rd. 6
Science-Based Industrial park
Hsin-Chu, Taiwan 300-77, R.O.C.

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

3. Nature of conveyance:

- Assignment
- Security Agreement
- Other:
- Merger
- Change of Name

Execution Date: (1) December 23, 2004; (2, 4, 6) December 20, 2004; (3, 5) December 21, 2004

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

A. Patent application No.(s)
10/406,120

B. Patent No.(s)

Additional numbers attached? Yes No

FEB 17 AM 7:55
OP/FINANCE

50-41.8

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

Daniel R. McClure
Thomas, Kayden, Horstemeyer & Risley, L.L.P.
100 Galleria Parkway, Suite 1750
Atlanta, Georgia 30339-5948

6. Total number of applications/patents involved: [1]

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

- Enclosed
- Authorization to charge credit card (attached)

8. Deposit Account Number:

20-0778
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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.

Daniel R. McClure

Feb 15, 2005

Typed Name

Signature

Date

Docket #: 252016-1430

Total number of pages including cover sheet, attachments, and document: [6]

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Director of U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

03/01/2005 6TON11 00000085 10406120

01 FC:0021

40.00 DP

PATENT
REEL: 016305 FRAME: 0105

ASSIGNMENT

WHEREAS, Chun-Lin TSAI, Denny D. TANG, Chih-Min CHIANG and Kuan-Lun CHANG, Tsyr SHYANG and Rusey-Hsin LTU 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: ELIMINATION OF IMPLANT DAMAGE DURING MANUFACTURE OF HBT

Filed: April 3, 2003 Serial No. 10/406,120

Executed on: December 23, 2004

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.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

Chun-Lin Tsai

Chun-Lin TSAI

Dec - 23, 2004
Date:

Denny D. TANG

Date:

TSMC2001-1615/0503-A30758US

LOCATION:

RX TIME 12/28 '04 02:05

PATENT
REEL: 016305 FRAME: 0106

ASSIGNMENT

WHEREAS, Chun-Lin TSAI, Denny D. TANG, Chih-Min CHIANG and Kuan-Lun CHANG, Tsyrr SHYANG and Ruey-Hsin LIU 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: ELIMINATION OF IMPLANT DAMAGE DURING MANUFACTURE OF HBT
Filed: April 3, 2003 Serial No. 10/406,120
Executed on: December 20, 2004

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.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

Chun-Lin TSAI

Date:

✓ Denny D. Tang
Denny D. TANG

✓ Dec 20, 2004
Date:

TSMC2001-1615/0503-A30738US

✓ Chih-Min Chiang
Chih-Min CHIANG

✓ Dec/21/2004
Date:

Kuan-Lun CHANG

Date:

✓ Tsyrr-shyang
Tsyrr SHYANG

✓ Dec/21/2004
Date:

Ruey-Hsin LIU

Date:

TSMC2001-1615/0503-A30758U5

LOCATION:

RX TIME 12/28 '04 02:05

PATENT
REEL: 016305 FRAME: 0108

Chih-Min CHIANG

Date:

Kuan-Lun Chang

2004. 12. 20

Kuan-Lun CHANG

Date:

Teyr SHYANG

Date:

Ruey-Hsin LIU

Date:

TSMC2001-1615/0503-A30758US

LOCATION:

RX TIME 12/28 '04 02:05

PATENT
REEL: 016305 FRAME: 0109

Chih-Min CHIANG

Date:

Kuan-Lun CHANG

Date:

Tsyf SHYANG

Date:

Ruey-Hsin LIU

Ruey-Hsin LIU

12/20/04

Date:

TSMC2001-1615/0503-A30758US

LOCATION:

RX TIME 12/28 '04 02:05

RECORDED: 02/17/2005

PATENT
REEL: 016305 FRAME: 0110