

07-18-2003



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

1. Name of conveying party(ies): 7-7-03 Ruei-Hung Jang Chun-Li Fang Wen-Hung Tseng Tsung-Chi Hsieh Shih-Shiung Chen Additional name(s) of conveying party(ies) attached? Yes No

2. Name and address of receiving party(ies) Name: Taiwan Semiconductor Manufacturing Co., Ltd. Internal Address: Street Address: No. 6, Li-Hsin Rd. 6 City: Hsin-Chu, Taiwan State: ROC Zip: 300 Additional name(s) & address(es) attached? Yes No

3. Nature of conveyance: [X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other Execution Date: June 16, 2003, June 16, 2003, June 16, 2003 June 16, 2003, and June 18, 2003

4. Application number(s) or patent number(s): 10614564 If this document is being filed together with a new application, the execution date of the application is: June 16, 2003 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: David M. O'Dell Internal Address: Haynes and Boone, LLP Street Address: 901 Main Street, Suite 3100 City: Dallas State: TX Zip: 75202

6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41) \$ 40.00 [X] Enclosed [X] Authorized to be charged to deposit account 8. Deposit account number: 08-1394 Haynes and Boone, LLP

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9. Signature. 07/17/2003 01 FC:0021 6TDN11 00000102 10614564 40.00 David M. O'Dell Name of Person Signing Signature Date 7-7-03

Total number of pages including cover sheet, attachments, and documents: 4

Mail documents to be recorded with required cover sheet information to: Mail Stop Assignment, Commissioner of Patent, P.O. Box 1450 Alexandria, VA 22313-1450

17467 U.S. PTO 10/614564

07/07/03

ASSIGNMENT

WHEREAS, we

- (1) Ruei-Hung Jang of Singhuang City
Taiwan, R.O.C.
- (2) Chun-Li Fang of Pingjhen City
Taiwan, R.O.C.
- (3) Wen-Hung Tseng of Juochiao Town
Taiwan, R.O.C.
- (4) Tsung-Chi Hsieh of Tamshui Town
Taiwan, R.O.C.
- (5) Shih-Shiung Chen of Hsin-Chu City
Taiwan, R.O.C.

have invented certain improvements in

METHOD AND APPARATUS FOR FILTERING CONTAMINANTS

for which we have executed an application for Letters Patent of the United States of America, of even date herewith; and

WHEREAS, Taiwan Semiconductor Manufacturing Company, Inc., ("TSMC"), No. 6, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States

Patent / Docket No.: 24061.13/TSMC2002-0894
Customer No. 27683

of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

First Inventor Name:
Residence Address:

Ruei-Hung Jang

Dated:

✓ 2003. 6. 16

Inventor Signature

✓ Ruei-Hung Jang

Dated: _____

Witness Signature
Witness Name: _____

Second Inventor Name:
Residence Address:

Chun Li-Fang

Dated:

✓ 2003. 6. 16

Inventor Signature

✓ Chun Li-Fang

Dated: _____

Witness Signature
Witness Name: _____

Patent / Docket No.: 24061.13/TSMC2002-0894
Customer No. 27683

Third Inventor Name:
Residence Address:

Wen-Hung Tseng

Dated: 2003. 6. 16

Wen-Hung Tseng
Inventor Signature

Dated: _____

Witness Signature
Witness Name: _____

Fourth Inventor Name:
Residence Address:

Tsung-Chi Hsieh

Dated: 2003. 6. 16

Tsung-Chi Hsieh
Inventor Signature

Dated: _____

Witness Signature
Witness Name: _____

Fifth Inventor Name:
Residence Address:

Shih-Shiung Chen

Dated: 18. Jun - 2003

Shih-Shiung Chen
Inventor Signature

Dated: _____

Witness Signature
Witness Name: _____