

11/12/04

11-19-2004

RECORDATION  
PAT



TSM03-0178

To the Director of the U.S. Patent and Trademark Office

102884993

Address(es) below.

1. Name of conveying party(ies)/Execution Date(s):

Chao-Yuan Su  
Chen-Der Huang  
Pei-Haw Tsao  
Chuen-Jye Lin

Execution Date(s) November 2, 2004

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

3. Nature of conveyance:

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

2. Name and address of receiving party(ies)

Name: Taiwan Semiconductor Manufacturing Company, Ltd.

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

Street Address: No. 8, Li-Hsin Rd. 6

Science-Based Industrial Park

City: Hsin-Chu

State: Taiwan

Country: ROC Zip: 300-77

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

4. Application or patent number(s):

A. Patent Application No.(s)

☒ 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: Steven H. Slater

Slater & Matsil, L.L.P.

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Suite 1000

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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 50-1065

Authorized User Name Steven H. Slater

9. Signature: \_\_\_\_\_

Signature

November 12, 2004

Date

Roger C. Knapp, Reg. No. 46,836

Name of Person Signing

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

2

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

11/19/2004 6TDM11 00000097 501065 10988100

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40.00 DA

PATENT  
REEL: 015990 FRAME: 0425

## ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below; and



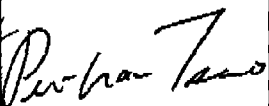
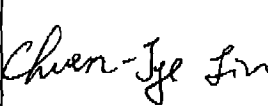
WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd. (TSMC), a corporation organized and existing under the laws of Taiwan, the Republic of China, with its principal office at No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, R.O.C., is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon in the United States and all other countries throughout the world;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said TSMC, its successors and assigns, my entire right, title and interest in and to the said invention and in to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner for Patents to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TSMC, as assignee of my entire right, title and interest. I declare that I have not executed and will not execute any agreement in conflict herewith.

I also hereby sell and assign to TSMC, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including, but not limited to, the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said TSMC, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention or the file history thereof, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TSMC, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

**IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year:**

TITLE OF INVENTION	<b>Substrate Design to Improve Chip Package Reliability</b>			
SIGNATURE OF INVENTOR AND NAME	 Chao-Yuan Su	 Chen-Der Huang	 Pei-Haw Tsao	 Chuen-Jye Lin
DATE	11/2/04	11/2/04	11/2/04	11/2/04
RESIDENCE (City, County, State)	Koahsiung City, Taiwan R.O.C.	Hsin-Chu, Taiwan R.O.C.	Tai-Chung, Taiwan R.O.C.	Taichung City, Taiwan R.O.C.