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

FORM PTO-1595 (Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005) 102724489 To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 2. Name and address of receiving party(ies) 1. Name of conveying part(ies): Name: Taiwan Semiconductor Manufacturing (3) Yen-Ming CHEN Rong-Hui KAO (2) Chang-Sheng TSAO (4) Lin-June WU Additional name(s) of conveying party(ies) attached? ☐Yes ☒No Street Address: No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, 3. Nature of conveyance: R.O.C. Merger Assignment Assignment Additional name(s) & address(es) attached? ☐ Yes ☒ No Security Agreement Change of Name Other: Execution Date: March 22, 2004 Application number(s) or patent number(s): 10821438 If this document is being filed together with a new application, the execution date of the application is: March 22, 2004 B. Patent No.(s) A. Patent application No.(s) Additional numbers attached? ☐ Yes ☒No 5. Name and address of party to whom correspondence 6. Total number of applications/patents involved: [1] concerning document should be mailed: 7. Total fee (37 CFR 3.41) \$40.00 Enclosed Daniel R. McClure Authorization to charge credit card (attached) Thomas, Kayden, Horstemeyer & Risley, L.L.P. 100 Galleria Parkway, Suite 1750 Atlanta, Georgia 30339-5948 8. Deposit Account Number: 2004 STEUMELI 00000029 10821438 8081 40.00 DD 20-0778 (Attach duplicate copy of this page if paying by Deposit Account) DO NOT USE THIS SPACE 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 Signature Typed Name Total number of pages including cover sheet, attachments, and document: [3] Docket #: 252011-2210

> Mail documents to be recorded with required cover sheet information to: Mail Stop Assignment Recordation Services Director of U.S. Patent and Trademark Office

P.O. Box 1450

Alexandria, VA 22313-1450

ASSIGNMENT

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WHEREAS, Rong-Hui KAO, Chang-Sheng TSAO, Yen-Ming CHEN and Lin-June WU 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: SIDEWALL SPACER FOR SEMICONDUCTOR DEVICE AND FABRICATION METHOD THEREOF			
Filed: Serial No Executed on:March_22, 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. Rong-HuickAO Date:			
Chang-Sheng Jsao Date			

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>n - M	ling CHEN	

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RECORDED: 04/09/2004

PATENT REEL: 015207 FRAME: 0719