

05-12-2004


P



INATION FORM COVER SHEET U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
**PATENTS ONLY**

102742649

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

<p>1 Name of conveying party(ies):</p> <p style="text-align: right; font-size: 2em;">5-5-04</p> <p>BOQ-KANG HWU CHUNG-SHI LIU CHEN-HUA YU</p>	<p>Name and address of receiving party(ies):</p> <p>Taiwan Semiconductor Manufacturing Co. Ltd. No. 8. Li-Hsin Rd. 6 Science-Based Industrial Park Hsin-Chu, Taiwan, R.O.C.</p>
<p>3 Nature of conveyance:</p> <p><input checked="" type="checkbox"/> Assignment      <input type="checkbox"/> Merger</p> <p><input type="checkbox"/> Security Agreement      <input type="checkbox"/> Change of Name</p> <p><input type="checkbox"/> Other:</p> <p>Execution Date:      March 15, 2004</p>	<p>Additional name(s) &amp; address(es) attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>4 Application number(s) or patent number(s):</p> <p style="text-align: center; font-size: 2em;">10840849</p> <p>If this document is being filed together with a new application, the execution date of the application is: 03/15/04</p>	
<p>A. Patent Application No(s).</p>	<p>B. Patent No(s)</p>
<p style="text-align: center;">Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>5 Name and address of party to whom correspondence concerning document should be mailed:</p>	<p>6 Total number of applications and patents involved:</p> <p style="text-align: center;">1</p>
<p>RANDY W. TUNG Tung &amp; Associates 838 W. Long Lake Road Suite 120 Bloomfield Hills, Michigan 48302</p>	<p>7 Total fee (37 CFR 3.41)      <b>\$40.00</b></p> <p><input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> <b>Authorized to charge credit card (w/filing fee)</b></p>
	<p>8 Deposit Account Number: (Attach duplicate copy of this page if paying by deposit account)</p>
<p style="text-align: center;"><b>DO NOT USE THIS SPACE</b></p>	
<p>9 Statement and signature.</p> <p><i>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.</i></p> <p>Randy W. Tung Name of Person Signing Registration No. 31,311</p> <p style="text-align: center;"> Signature</p> <p style="text-align: right;">5/5/04 Date</p>	
<p style="text-align: right;">Total number of pages including cover sheet, attachments, and document : 3</p>	

19270 U.S. PTO  
10/840049  
050504

67,200-763

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

05/10/2004 EHAILE1 00000024 10840049

02 FC:8021

40.00 DP

**PATENT**  
**REEL: 015307 FRAME: 0648**

**ASSIGNMENT**

WHEREAS, we, BOQ-KANG HWU, CHUNG-SHI LIU and CHEN-HUA YU,  
have invented certain improvements in  
METHOD FOR PREVENTING CU CONTAMINATION AND OXIDATION

IN SEMICONDUCTOR DEVICE MANUFACTURING

for which we are about to make application for Letters Patent of the United States; and

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. of  
No. 121, Park Avenue 3, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C, is desirous of  
acquiring the entire right, title and interest in and to said invention;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and  
valuable consideration, the receipt of which is hereby acknowledged, we, BOQ-KANG HWU,  
CHUNG-SHI LIU and CHEN-HUA YU, by these presents, do hereby sell, assign and transfer  
unto the said corporation and its assigns, for the territory of the United States of America and all  
foreign countries, the entire right, title and interest, including all priority rights under the  
International Convention associated with each country of the Union, in and to said invention as  
described in the patent application executed by us on the 15<sup>th</sup> day of March, 2004 and the 2<sup>nd</sup>,  
day of May, 2004, preparatory to obtaining Letters Patent of the United States thereon, and in  
and to said application and any Letters Patent that may be granted in pursuance of said

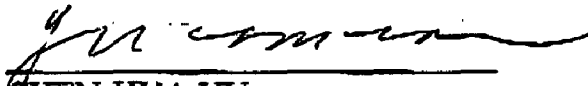
67,200-763  
2001-0870

divisional, continuation or continuation-in-part application thereof, and in and to any reissue of any such patent, and in and to any patent applications which may be filed on said invention in countries foreign to the United States and any Letters Patent granted thereon.

We further authorize said corporation to apply for foreign patents on said invention in its own name or through its designees, including subsidiaries, related companies or assignees, under the International Convention or otherwise, and we further agree to execute all papers, including those required for the United States and foreign applications, and to perform such other proper acts as said corporation or its designees the rights herein assigned.

  
\_\_\_\_\_  
BOQ-KANG HWU

  
\_\_\_\_\_  
CHUNG-SHI LIU

  
\_\_\_\_\_  
CHEN-HUA YU

**TUNG & ASSOCIATES**  
838 W. Long Lake Road  
Suite 120  
Bloomfield Hills, Michigan 48302