

05-07-2004

PTO-1595

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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>JUNG-CHIH TSAO, CHI-WEN LIU, SI-KUA CHENG, CHE-TSAO WANG, STEVEN LIN, HSIEN-PIN FENG, CHENG-PENG FAN</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: Execution Date: <u>March 17, 2004</u></p>	<p>Additional name(s) & address(es) attached <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>4 Application number(s) or patent number(s): <u>10835315</u></p> <p>If this document is being filed together with a new application, the execution date of the application is: <u>03/17/04</u></p>	
<p>A. Patent Application No(s).</p>	<p>B. Patent No(s)</p>
<p>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: <u>1</u></p>
<p>RANDY W. TUNG Tung & Associates 838 W. Long Lake Road Suite 120 Bloomfield Hills, Michigan 48302</p>	<p>7 Total fee (37 CFR 3.41) \$40.00</p> <p><input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to charge credit card (w/filing fee)</p>
	<p>8 Deposit Account Number: (Attach duplicate copy of this page if paying by deposit account)</p>


17497 U.S. PTO
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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.

Randy W. Tung  Apr. 28/04
Name of Person Signing Signature Date
Registration No. 31,311

Total number of pages including cover sheet, attachments, and document : 3

67,200-1279

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

05/04/2004 HALI11 00000023 10835315

01 FD:1001
02 FC:8021

730.00 OP
40.00 OP

PATENT
REEL: 015289 FRAME: 0676

ASSIGNMENT

WHEREAS, we, JUNG-CHIH TSAO, CHI-WEN LIU, SI-KUA CHENG, CHE-TSAO WANG, STEVEN LIN, HSIEN-PIN FENG, FENG-CHENG PENG, have invented certain improvements in

METHOD FOR PREVENTING VOIDS IN METAL INTERCONNECTS

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

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. of No. 8, Li-Hsin Rd. 6, 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, JUNG-CHIH TSAO, CHI-WEN LIU, SI-KUA CHENG, CHE-TSAO WANG, STEVEN LIN, HSIEN-PIN FENG, FENG-CHENG PENG, 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 17 day of March, 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 application and any 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.

Jung-chih Tsao
JUNG-CHIH TSAO

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CHI-WEN LIU

Hsi-kuei Cheng
SI-KUA CHENG

Che-Tsao Wang
CHE-TSAO WANG

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