

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | |
|--|--|----------------|---------------------|------------|----------------|------------|--|
| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | |
| CONVEYING PARTY DATA | | | | | | | |
| <table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Tzu-Hsuan Hsu</td><td>04/12/2007</td></tr><tr><td>Dun-Nian Yaung</td><td>04/12/2007</td></tr></tbody></table> | Name | Execution Date | Tzu-Hsuan Hsu | 04/12/2007 | Dun-Nian Yaung | 04/12/2007 | |
| Name | Execution Date | | | | | | |
| Tzu-Hsuan Hsu | 04/12/2007 | | | | | | |
| Dun-Nian Yaung | 04/12/2007 | | | | | | |
| RECEIVING PARTY DATA | | | | | | | |
| Name: | Taiwan Semiconductor Manufacturing Company, Ltd. | | | | | | |
| Street Address: | No. 8, Li-Hsin Rd. 6 | | | | | | |
| Internal Address: | Science-Based Industrial Park | | | | | | |
| City: | Hsin-Chu | | | | | | |
| State/Country: | TAIWAN | | | | | | |
| Postal Code: | 300-77 | | | | | | |
| PROPERTY NUMBERS Total: 1 | | | | | | | |
| <table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>11624568</td></tr></tbody></table> | Property Type | Number | Application Number: | 11624568 | | | |
| Property Type | Number | | | | | | |
| Application Number: | 11624568 | | | | | | |
| CORRESPONDENCE DATA | | | | | | | |
| Fax Number: | (214)200-0853 | | | | | | |
| <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> | | | | | | | |
| Phone: | 972-739-8635 | | | | | | |
| Email: | denise.wilson@haynesboone.com | | | | | | |
| Correspondent Name: | Haynes and Boone, LLP | | | | | | |
| Address Line 1: | 901 Main Street, Suite 3100 | | | | | | |
| Address Line 4: | Dallas, TEXAS 75202 | | | | | | |
| ATTORNEY DOCKET NUMBER: | 24061.785 | | | | | | |
| NAME OF SUBMITTER: | David M. O'Dell | | | | | | |
| Total Attachments: 2 source=assignment#page1.tif source=assignment#page2.tif | | | | | | | |

CH \$40.00 11624568

PATENT

500266556

REEL: 019221 FRAME: 0984

ASSIGNMENT

WHEREAS, we,

- | | | | |
|-----|----------------|----|---|
| (1) | Tzu-Hsuan Hsu | of | No. 72, Gangshan Central Street, Cianjhen District Kaohsiung City 806, Taiwan, R.O.C. |
| (2) | Dun-Nian Yaung | of | 4F., No. 15, Lane 130, Wansheng Street, Wunshan District Taipei City 116, Taiwan, R.O.C. |

have invented certain improvements in

SPECTRALLY EFFICIENT PHOTODIODE FOR BACKSIDE ILLUMINATED SENSOR

for which we have executed an application for Letters Patent of the United States of America,

 of even date filed herewith; and
 X filed on January 18, 2007 and assigned application number 11/624,568; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., ("TSMC"), No. 8, 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 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,

Docket No.: 2005-0253 / 24061.785
Customer No.: 42717

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.

Inventor Name: Tzu-Hsuan Hsu

Residence Address: No. 72, Gangshan Central Street, Cianjhen District
Kaohsiung City 806, Taiwan, R.O.C.

Dated: 4/12 '07

Tzu - Hsuan Hsu
Inventor Signature

Inventor Name: Dun-Nian Yaung

Residence Address: 4F., No. 15, Lane 130, Wansheng Street, Wunshan District
Taipei City 116, Taiwan, R.O.C.

Dated: 4/12 '07

Dun - Nian Yaung
Inventor Signature