

**PATENT ASSIGNMENT**

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|  |                      |                                   |  |               |             |
|--|----------------------|-----------------------------------|--|---------------|-------------|
| SUBMISSION TYPE:   |                      | NEW ASSIGNMENT                    | <b>APPLICATION NUMBER</b><br>11/162667 |               |             |
| NATURE OF CONVEYANCE:  |                      | ASSIGNMENT OF ASSIGNOR'S INTEREST |  |               |             |
| CONVEYING PARTY DATA   |                      |                                   |  |               |             |
| Name   |                      | Execution Date                    |  |               |             |
| Chien-Hua Huang  |                      | 2005-09-05                        |  |               |             |
| RECEIVING PARTY DATA   |                      |                                   |  |               |             |
| Name   | Street Address       | Internal Address                  | City                                   | State/Country | Postal Code |
| Taiwan Semiconductor Manufacturing Company, Ltd.   | No. 8, Li-Hsin Rd. 6 | Science-Based Industrial Park     | Hsinchu                                | TAIWAN        |             |
| CORRESPONDENCE DATA  |                      |                                   |  |               |             |
| FAX NUMBER: 2149783099<br><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i><br>When the customer number has been provided, the Office of Public Records will obtain the correspondence data from the official record on file at the USPTO.<br>CUSTOMER NUMBER: 044045 |                      |                                   |  |               |             |
| NAME OF PERSON SIGNING:  |                      | Brian C. McCormack                |  |               |             |
| DATE SIGNED:   |                      | 2005-09-19                        |  |               |             |
| Total Attachments: 3<br>source=Assignment1.tif<br>source=Assignment2.tif<br>source=Assignment3.tif   |                      |                                   |  |               |             |

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ASSIGNMENT

WHEREAS, we, the undersigned inventors of residences as listed, have invented certain new and useful improvements as below entitled, for which an application for United States Letters Patent is made, said applications having been designated as set forth below and filed on or about the date set forth below; and

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd. (hereinafter referred to as "Assignee"), a Taiwan corporation with an address of:

No. 8, Li-Hsin Rd. 6  
Science-Based Industrial Park  
Hsinchu, Taiwan R.O.C.

desires to acquire the entire right, title and interest in and to the invention, and in and to the said application and any Letters Patent(s) that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we assign to Assignee, all right, title and interest in and to said invention and in and to said applications and all patents which may be granted therefor, and all divisions, reissues, continuations, continuations-in-part and extensions thereof; and we authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as our interest is concerned, to Assignee.

We also assign to Assignee, all right, title and interest in and to the invention disclosed in said applications throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world, including all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and we further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such right, title and interest in Assignee.

We will communicate to Assignee any facts known to us respecting any improvements; and, at the expense of Assignee, we will testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, reissue and substitute applications, make lawful oaths and declarations, and generally do everything possible to vest title in Assignee and to aid Assignee to obtain and enforce proper protection for said invention in all countries.

This Assignment shall be binding on the parties' successors, assigns and legal representatives.

Invention Name: VOLTAGE TRANSFER CIRCUIT  
Serial No.: Initial Filing  
Date Filed: September 19, 2005

We hereby grant JOHN G. FLAIM, Registration No. 37,323, BRIAN C. McCORMACK, Registration No. 36,601, WILLIAM D. McSPADDEN, Registration No. 44,234, JAMES H. ORTEGA, Registration No. 50,554, RICHARD V. WELLS, Registration No. 53,757 and all practitioners with the firm of Baker & McKenzie LLP, with an office at 2001 Ross Avenue, Suite 2300, Dallas, TX 75201, and CHIEN CHOU, Registration No. 41,672, STEVEN LIU, Registration No. 43,756 and SIMON LU, Registration No. 51,974, (Customer Number 44045) the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

The undersigned further declares that all statements made herein of his/her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful and false statements may jeopardize the validity of the application or any patent issued thereon.

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**Signature of Inventor:** Chien-Hua Huang

**Inventor(s) Name:** **CHIEN-HUA HUANG**

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Hsin-Chu City 300  
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**Citizenship:** Taiwan

**Date:** Sep. 5, 2005

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